Sunset Review: Evaluation of the State Board of Waterworks and Waste Systems Operators

Department of Legislative Services

October 2009

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Department of Legislative Services
Office of Policy Analysis
Annapolis, Maryland

October 2009

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DEPARTMENT OF LEGISLATIVE SERVICES
OFFICE OF POLICY ANALYSIS
MARYLAND GENERAL ASSEMBLY

Karl S. Aro
Executive Director

Warren G. Deschenaux
Director

October 30, 2009

The Honorable Thomas V. Mike Miller, Jr.
The Honorable Michael E. Busch
Honorable Members of the General Assembly

Ladies and Gentlemen:

The Department of Legislative Services (DLS) has completed its evaluation of the State Board of Waterworks and Waste Systems Operators as required by the Maryland Program Evaluation Act. This evaluation process is more commonly known as "sunset review" because the agencies subject to review are usually subject to termination; typically, legislative action must be taken to reauthorize them.

This evaluation has focused primarily on the impact, if any, on public health and safety posed by the significant number of waterworks and waste systems lacking certified operators. This report has been prepared to assist the committees designated to review the board – the Senate Education, Health, and Environmental Affairs Committee and the House Environmental Matters Committee – in making their recommendations to the full General Assembly. The board is scheduled to terminate on July 1, 2011.

DLS finds that the board is effective in its review of applications for certification and in its handling of complaints and disciplinary matters. Nevertheless, DLS has found a number of statutory and regulatory deficiencies, as well as several resource constraints, that are hindering the board from fulfilling the duties set forth in statute. Thus, we make several recommendations regarding upgrades of the board's administrative database and web site and the development of a wastewater enforcement database within the Maryland Department of the Environment (MDE). These information technology-based recommendations should resolve many of the issues identified in this report without affecting the routine operations of the board or requiring substantial new expenditures. To address the statutory deficiencies and ambiguity, we recommend that statute be amended to clarify the division of duties between the board and MDE. In addition, DLS recommends that the board and MDE consider and report on several issues relating to the enforcement of statute including whether certain facilities should be exempted from the requirement to employ a certified superintendent, whether MDE's existing penalty authority should be modified, and whether circuit riders are being employed appropriately.

It is expected that, with enhanced information technology resources and greater communication with Water Management Administration personnel at MDE, the board will be able to more effectively fulfill its statutory duties and further enhance its protection of public health and the environment. We therefore recommend that the board's termination date be extended by 10 years to July 1, 2021, and that the board and MDE report to the evaluation committees on or before October 1, 2011, regarding the implementation status of the nonstatutory recommendations contained in this report.

We would like to acknowledge the cooperation and assistance provided by the board, its staff, and MDE throughout the review process. The board was provided a draft copy of the report for factual review and comment prior to its publication; its written comments are included as an appendix to this report. In addition, draft legislation to implement the recommended statutory changes is included as an appendix.

Sincerely,

Warren G. Deschenaux
Director

WGD/EMI/mlm

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Executive Summary

Pursuant to the Maryland Program Evaluation Act, the Department of Legislative Services (DLS) has evaluated the State Board of Waterworks and Waste Systems Operators, the State entity charged with regulating the practice of water and wastewater treatment in Maryland. The 15 recommendations in this evaluation are summarized below.

Currently, statute governing the board does not specify who is responsible for ensuring that waterworks and waste systems employ certified operators and are under the responsible charge of a certified superintendent. However, officials from both the Maryland Department of the Environment (MDE) and the board agree that MDE is the entity most suitable to handle this responsibility.

Recommendation 1: Statute should be amended to clarify that MDE is the entity responsible for enforcement of the requirements that facilities have board-certified operators and are under the responsible charge of a certified superintendent.

One of the five types of certificates authorized in statute can no longer be issued since no one can qualify for a new certificate and the last renewal certificate expired a few years ago. The limited certificate was only authorized to be issued by the board following submission of an application before July 1, 1982.

Recommendation 2: Statute should be amended to repeal, as obsolete, provisions related to the issuance of a limited certificate.

Due to federal drinking water regulations, MDE and the board have developed a substantially greater ability to track the presence of certified operators at waterworks as compared to waste systems. MDE enforcement personnel should have the ability to identify all systems without certified operators.

Recommendation 3: MDE should develop a database for waste systems enforcement personnel with functionality similar to that possessed by officials in the Water Supply Program. This can be accomplished by expanding the license agreement with Oracle, procuring a new low-cost database, or utilizing existing information technology resources at MDE to develop a simple database. Any waste systems database that is created should be able to share data with the board's administrative database to facilitate greater communication between the board and MDE enforcement.

Just as federal law has caused MDE to develop greater resources for oversight of waterworks as compared with waste systems, the ability of MDE and the board to track the certification of operators is much greater than for superintendents. This is because the requirement that waterworks and waste systems be under the responsible charge of a superintendent comes from State law, which is decades older than the federal requirement pertaining only to operators.

Recommendation 4: MDE should ensure that its existing Oracle database, as well as any future database developed for tracking certified operators at waste systems, possesses the capability to also track the presence of superintendents among waterworks and waste systems.

Although it is advisable that MDE and the board develop the ability to track compliance with the superintendent requirements in State law, it may be neither necessary nor practical to continue requiring *all* waterworks and waste systems of all sizes and types to employ a superintendent. It is unclear whether it is the nature of the industry or the role of superintendents within the industry that has changed significantly since the 1950s. However, it is clear that, since the board's enabling statute was enacted, the industry the board regulates has been allowed to evolve in the absence of superintendents for a large share of facilities.

Recommendation 5: The board, in conjunction with MDE, should report to the Senate Education, Health, and Environmental Affairs Committee and the House Environmental Matters Committee on or before October 1, 2011, regarding whether to amend statute to exempt facilities of a certain size or type from the requirement to employ a certified superintendent.

One option for improving compliance with the operator certification requirement is promotion of the use of "circuit riders." Circuit riders are certified operators employed on a contractual basis by multiple waterworks or waste systems. Many states promote the use of circuit riders to ensure that smaller facilities that would otherwise not be financially capable of employing a full-time certified operator are able to afford professional oversight as required by law.

Recommendation 6: The board should encourage the development of circuit riders to address noncompliance with operator certification requirements and to assist waterworks and waste systems with difficult and worsening labor market conditions. The board's new web site should contain links to information for current circuit riders as well as recruiters, trade schools, and the general workforce about the business opportunities presented by waterworks and waste systems without certified operators.

Although circuit riders may prove to be very useful in ensuring that waterworks and waste systems employ certified operators, it would be counterproductive if many facilities were to opt to contract with circuit riders rather than employ full-time operators. Safety of Maryland's water is the board's primary concern, and the economic advantages of circuit riders should be used to bring formerly noncompliant facilities into compliance rather than reducing the presence of certified operators at larger facilities as a cost-reduction measure.

Recommendation 7: By tracking the employing facility as part of the certification process, the board should monitor the prevalence of circuit riders in Maryland to ensure that the promotion of circuit riders results in certified operator compliance at previously noncompliant facilities. The board should also monitor whether facilities that had been employing full-time certified operators are switching to the use of circuit riders

and whether such a practice poses a risk to water quality.

One factor that may impede the growth and availability of circuit riders in Maryland is lack of a clear policy from the board on how experience will be credited for individuals working at multiple facilities. The board has employed a reasonable internal policy regarding granting experience credits for circuit riders but has not yet implemented plans to adopt this policy into regulations.

Recommendation 8: The board should ensure that regulations establishing its circuit rider experience crediting policy are adopted promptly.

The age and limited functionality of the board's current administrative database hinder its ability to track and effectively communicate with operators and superintendents, applicants, system owners, and MDE Water Management Administration officials. An upgraded database would provide the oversight and transparency needed to ensure that facilities have the necessary superintendents and operators and would afford board staff more time to monitor and process certification information.

Recommendation 9: MDE should 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 both the operator and system owner. The upgraded administrative database should be compatible with both the board's upgraded web site and MDE enforcement databases such as the existing Oracle database used by the Water Supply Program and any new database to be used by waste system enforcement personnel, as recommended in this report.

MDE has indicated that the board's web site is scheduled to be upgraded. An upgraded web site can be a resource for recruiting new operators to the field. It can also be a resource for facility owners to provide information concerning facility requirements. Additionally, the new site is an opportunity to provide the public with information regarding the management of water and wastewater in the State.

Recommendation 10: The board should ensure that its web site upgrade allows the site to be an interactive, "one-stop shop" for operator certification information. The web site should include resources for current operators, prospective operators, facility owners, and the public.

Ensuring full compliance with the operator certification requirement also requires effective regulatory enforcement. Section 12-504 of the Environment Article states that any violation of Title 12 is a misdemeanor subject to a fine of $25 per day. This $25 fine has not been used. Merely informing waterworks and waste systems owners of the penalty for noncompliance is likely to spur an increase in compliance, especially if information about the low-cost service of circuit riders is made available to the owners.

Recommendation 11: MDE should begin using the penalty authority it has long possessed under § 12-504 of the

Environment Article. Once existing penalty authority is being used, MDE should evaluate the necessity of changes to that authority.

Examination pass rates in Maryland have averaged 35% over the past five years with no discernible trend indicating either an improvement or decline in this rate. One of the most successful efforts to improve examination performance has been the promotion of a week-long training course offered in a collegiate setting for examination candidates. Historically, the pass rates following this intensive short course have been above the overall average.

Recommendation 12: As the week-long short course offered by the Water and Waste Operators Association has historically resulted in higher examination pass rates, the board should continue to support this and similar training opportunities.

The administration of paper-based examinations is becoming an outdated testing format and may be a significant factor related to low pass rates. By currently offering only a limited number of paper-based examinations on certain dates throughout the year, applicants have found it somewhat difficult to schedule an examination at a time that is both convenient and follows a period of adequate study. Further under computer-based testing, the board staff person that currently spends significant time proctoring paper-based examinations can spend more time on issues related to operator outreach, training, test preparation, and other matters affecting the board.

Recommendation 13: The board should continue its current efforts to ensure that computer-based examinations are available beginning as early as January 2010. In addition to phasing out paper-based examinations, the board should also consider additional computer-based testing facilities, especially at locations near Western Maryland and the Eastern Shore.

The board faces a small but persistent gap between revenues and expenditures, as well as an expected decrease in future examination fee revenues assuming examination pass rates increase under computer-based testing. A $10 increase in the certificate renewal fee could generate an additional $75,000 over a three-year period. This amount should be sufficient to cover 100% of board expenditures each year for the next several years and account for any reduction in revenue resulting from the introduction of computer-based testing.

Recommendation 14: The board should continue its efforts to adjust its fees and should monitor whether new factors such as the introduction of computer-based testing or an increase in the number of certified operators at small facilities require further adjustments.

There is a continuing need for effective oversight of those responsible for delivering drinking water and treating wastewater in Maryland. Further, federal regulations require a program for operator certification at waterworks. And despite a number of issues facing the board as discussed in this evaluation, the board has shown a high level of efficiency and professionalism in considering these issues and has been proactive in response to the findings of the preliminary sunset evaluation.

Recommendation 15: Statute should be amended to extend the termination date of the State Board of Waterworks and Waste Systems Operators by 10 years to July 1, 2021. In addition, the board, in conjunction with MDE, should report to the Senate Education Health, and Environmental Affairs Committee and the House Environmental Matters Committee on or before October 1, 2011, regarding the implementation status of the nonstatutory recommendations contained in this report.

Chapter 1. Introduction

The Sunset Review Process

This evaluation was undertaken under the auspices of the Maryland Program Evaluation Act (§ 8-400 *et seq.* of the State Government Article), which establishes a process also known as "sunset review." The Maryland Program Evaluation Act, enacted in 1978, requires the Department of Legislative Services (DLS) to periodically evaluate certain State agencies according to a statutory schedule. Most of the agencies subject to review have a termination date in statute. The General Assembly must take action to reauthorize them or they will automatically terminate. The review process begins with a preliminary evaluation conducted on behalf of the Legislative Policy Committee (LPC). LPC decides whether to waive an agency from further (or full) evaluation. If waived, legislation to reauthorize the agency must be enacted. Otherwise, a full evaluation of the organization is completed the subsequent year.

The State Board of Waterworks and Waste Systems Operators is one of about 70 entities currently subject to evaluation. The board last underwent full evaluation as part of sunset review in 1989. However, preliminary evaluations were conducted in both 1998 and 2008. The 1998 preliminary evaluation recommended that the board be waived from full evaluation. Chapter 240 of 1999 extended the board's termination date by 10 years to July 1, 2011. The 2008 preliminary evaluation recommended that a full evaluation be conducted to examine the impact, if any, on health and safety posed by the significant number of uncertified operators – particularly at small facilities. LPC concurred with this recommendation. Thus, this full evaluation was undertaken to further examine the problem presented by facilities without certified operators and to provide the General Assembly with additional information in making the determination about whether to reauthorize the board and for what period of time.

Research Activities

DLS staff undertook several standard research activities to complete the full evaluation of the board. These activities included review of various documents such as annual reports and minutes from board meetings, certification data, Title 12 of the Environment Article, State and federal regulations, federal water quality data, literature from affiliated professional associations such as the American Water Works Association, prior sunset evaluations, and the operating budget of the board. Information about operator programs in other states was also reviewed. DLS staff attended monthly board meetings to gain a better understanding of the issues confronting the board. The Maryland Department of the Environment (MDE) process of inspecting wastewater facilities was also observed.

DLS staff conducted interviews with board members, the board secretary, and other MDE staff. These interviews focused primarily on deficiencies with the operator certification requirement among smaller facilities, development of greater wastewater facility monitoring, and

the financing of information technology resources. Responses were used to identify problems with current statutory authority and the relationship between the board and MDE enforcement personnel. In addition, DLS staff contacted relevant federal authorities at the Environmental Protection Agency.

Report Organization

This chapter provides a summary of the sunset review process and a list of the activities undertaken to complete this evaluation. **Chapter 2** contains a description of the board, its typical certification-related processes, and key trends. **Chapter 3** provides an analysis of the operations of the board and presents findings and recommendations.

As supplements to the report, **Appendix 1** contains a roster of current board members and staff. **Appendix 2** shows all facility classifications for which board certificates are issued. **Appendix 3** lists experience and renewal training requirements for operators, while **Appendix 4** lists these requirements for superintendents. **Appendices 5** and **6** demonstrate the ability of MDE to develop Geographic Information System maps using data from the department's existing Oracle database to track waterworks (but not waste systems) throughout the State. **Appendix 7** contains draft legislation to implement the statutory recommendations contained in the report. The board reviewed a draft of this report and provided the written comments included as **Appendix 8**. Appropriate factual corrections and clarifications have been made throughout the document; therefore, references in board comments may not reflect this published version of the report.

Chapter 2. Board Duties and Functions

The Practice of Water and Wastewater Treatment

According to the U.S. Department of Labor's Bureau of Labor Statistics, 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. Drinking water is pumped from wells, rivers, streams, and reservoirs to water treatment plants, where it is treated and distributed to customers. Wastewater travels through customers' sewer pipes to wastewater treatment plants, where it is treated and either returned to streams, rivers, and oceans or reused for irrigation and landscaping. Operators in both types of plants control equipment and processes that remove or destroy harmful materials, chemicals, and microorganisms and control pumps, valves, and other equipment that moves the water or wastewater. Water quality standards are largely set by two major federal environmental statutes: the Safe Drinking Water Act, which specifies standards for drinking water, and the Clean Water Act, which regulates the discharge of pollutants.

State Board of Waterworks and Waste Systems Operators

The State Board of Waterworks and Waste Systems Operators was created 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 the superintendents. An operator of either waterworks or waste systems participates in the control of the flow, treatment, or discharge of water or wastewater; a superintendent is certified as the individual who is in charge at the facility. By also certifying operators, the State intends to more adequately protect the public from the harmful effects of ill-treated water. It should be noted that Maryland established the board more than four decades before required by federal law and was certifying operators nearly two decades before the federal requirement.

The board operates under the provisions of Title 12 of the Environment Article and is housed within the Maryland Department of the Environment (MDE). Its general responsibilities include:

- reviewing and approving all initial applications for operator and superintendent certification and applications for certification renewal;
- preparing and giving examinations to qualified applicants for initial certification;
- hearing appeals concerning certification requirements;

- investigating all reports of fraud or deception in obtaining or using a certificate;
- investigating all reports of unsatisfactory performance in the operation or supervision of a waterworks, wastewater works, or industrial wastewater works facility;
- taking disciplinary action, including the reprimand of a certificate holder or suspension or revocation of a certificate; and
- recommending regulations for promulgation by the Secretary of the Environment.

The board consists of 11 members. The Secretary of the Environment appoints three members to the board: one engineer representative from MDE and two public members. With the advice and consent of the Senate and the Secretary of the Environment, the Governor appoints the other eight 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 Department of Natural Resources.

Members serve four-year terms, except for MDE's representative who serves at the pleasure of the Secretary. At the end of a term, a member appointed by the Governor continues to serve until a successor is appointed. Overall, the board has demonstrated that it is appropriately constituted as required under statute, represents ethnic and gender diversity in its membership, and is both professional and efficient.[1] **Appendix 1** contains a roster of current board members and staff.

Though the board is only required to meet at least once a year, in practice board meetings are held on the third Thursday of each month. The board currently has three authorized staff members, two of whom are shared with other boards.

[1]Currently, the board has one vacancy for the agriculture representative that it is now attempting to fill.

Board Issues a Variety of Certificates

The board oversees certification of operators and superintendents for five categories of facilities – two categories of waterworks and three categories of waste systems. Within these five broad categories are 24 classes of facilities, each with a unique certificate defined by process technology (see **Appendix 2**). In total, the board oversees about 3,600 certificate holders who hold approximately 7,500 certificates – with many individuals certified in multiple facility treatment technologies. Of these 7,500 certificates, about 36% are held by waterworks operators and superintendents, and about 64% by waste systems operators and superintendents. All certificates are renewable for three-year periods. As shown in **Exhibit 2.1**, five types of certificates are authorized under statute; however, the limited certificate is no longer issued.

To qualify for certification, all operators must have completed high school or the equivalent, possess a certain amount of experience based on the category and classification of the facility in which they work, and pass the appropriate examination. As shown in **Appendix 3**, the amount of experience required for operator certification ranges from six months to three years.

To qualify for a superintendent certificate, an individual must hold a valid operator certificate, obtain the required education and experience for a superintendent, be appointed as superintendent by an employer, and complete the mandatory superintendent training program. Experience requirements for superintendent certification, which are above the initial experience requirements for operator certification, range from no additional experience to two more years experience. **Appendix 4** lists the experience and renewal training requirements for superintendents.

The board is fair and efficient in its consideration of individual applicants such as in the determination of reciprocity credits for operators moving from other states. In crediting experience and considering the merits of various educational curricula, the board relies on precedent with the use of a log book of previous actions. The board also thoroughly investigates the quality of other states' certification decisions and details of individual applicants' backgrounds before issuing certificates.

While the board oversees the requirements for the certification of operators and superintendents, MDE enforcement personnel conduct facility inspections, which may include, but are not exclusively designed for, checking for the presence of certified operators and superintendents as required by law. Section 12-501 of the Environment Article prohibits a waterworks or wastewater works from operating both without a certified superintendent and unless all operators are certified. As discussed further in **Chapter 3**, there is statutory ambiguity regarding which entity is responsible for ensuring that waterworks and waste systems maintain certified operators, which, in conjunction with several other factors, has led to a significant number of facilities operating without certified operators in Maryland. Likewise, these facilities do not comply with the requirement to be under the responsible charge of a certified superintendent.

Exhibit 2.1
Types of Certificates and Facility Categories

Types of Certificates

Temporary Certificate: Issued to a newly hired operator or one transferring to a facility with a different classification. The temporary certificate holder must work under the direction of a holder of an operator or superintendent certificate.

Operator Certificate: Issued to an operator who has obtained the required education and experience and passed the appropriate examination.

Grandparented Certificate: Issued to a waterworks operator who was not required to be certified prior to February 5, 2001, and who meets the minimum education and experience requirements. The certificate is site-specific and also terminates if the facility changes to a different class.

Limited Certificate: Issued to an operator who, on or before July 1, 1982, submitted an application to the board and met the minimum education and experience requirements for the particular waterworks or wastewater facility; the certificate is site-specific and terminates if the facility changes to a different class. No new limited certificates have been issued since 1982. The last limited certificate expired prior to 2006.

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. These certificates are issued for a specific category and facility.

Facility Categories

Water Distribution

Water Treatment

Wastewater Treatment

Wastewater Collection

Industrial Wastewater Treatment

Source: Maryland Center for Environmental Training

Many Operators Are Temporarily Certified or Grandparented

An operator is granted a temporary certificate while undergoing training and obtaining the required experience for full operator certification. Some operators have also been issued a grandparented certificate if employed at a waterworks facility not required to employ certified operators prior to February 2001. **Exhibit 2.2** shows the three types of certificates granted for waterworks operators and the trends since 2002; note, however, that these statistics do not cover waste systems operators.[2] In 2001, regulations recognized grandparented certificates and governed their conferral and termination. Grandparented certificates ceased to be granted as of February 5, 2003; thus, the percentage of operators with grandparented certificates has steadily declined. However, because holders of a grandparented certificate may continue to renew their certificate indefinitely, it may be decades before the grandparented certificate is phased out completely.

Exhibit 2.2
Certified Waterworks Operators by Certificate Type
Calendar 2002-2008

Year	Temporary Certificate	Operator Certificate	Grandparented Operator
2002	31.1%	54.6%	14.3%
2003	30.8%	55.1%	14.1%
2004	32.4%	54.7%	13.0%
2005	36.4%	55.7%	7.8%
2006	38.1%	55.0%	6.9%
2007	38.1%	55.9%	6.0%
2008	40.3%	55.4%	4.3%

Note: Figures represent certificate holders at waterworks only and not waste systems.

Source: Maryland Department of the Environment Water Supply Program, *Maryland Operator Certification Annual Report* (to the U.S. Environmental Protection Agency), Annual Reports

The board has two reasons for allowing grandparented operators to renew their certificates without being required to take the examination necessary for full operator

[2]Although this historical data does not cover waste systems, based on recently obtained data for both waterworks and waste systems, during the summer of 2009, 54% of certificates held were operator certificates, while 36% were temporary certificates, and 9% were superintendent certificates.

certification as holders of temporary certificates must do. First, the board has determined that most grandparented certificate holders have a good understanding of the systems at which they are employed and the record of compliance with water-related regulations at their facilities is generally satisfactory. Second, the board has noted that the grandparented certificate is very limited in that the holder cannot transfer that certificate to another facility and the certificate terminates should the holder's facility change its classification. In 2005 the board undertook a campaign to instruct grandparented operators on how to maintain their certification status.

Temporary certificate holders are counted as operators when determining whether a facility is in compliance with the statutory requirement to employ certified operators. While it is preferable that each facility have an operator holding a full operator certificate, the temporary certificate is a practical necessity, in particular because of the difficulty of passing the operator certification examination and the importance of on-the-job experience. As shown in Exhibit 2.2, the percentage of operators holding temporary certificates has increased in recent years as a result of the board's continued effort to bring more waterworks and waste systems employees into compliance – attending training courses and taking examinations to become certified operators. Thus, the percentage of temporary certificates may continue to increase for several years as the board continues outreach to facilities without certified operators. However, it is expected that the share of temporary certificate holders will subsequently decrease as more pass the certification examinationand become fully certified operators. **Exhibit 2.3** shows the percentage of operators in July 2009 that held temporary certificates in each of the five facility categories.

Exhibit 2.3
Temporary Certificate Holders, by Facility Category
As of July 2009

Facility Category	Total Number of Certificates	Number of Temporary Certificates	Temporary Certificates As a % of Total
Water Distribution	603	251	41.6%
Water Treatment	2,091	773	37.0%
Wastewater, Industrial	822	405	49.3%
Wastewater Collection	759	313	41.2%
Wastewater Treatment	3,244	980	30.2%
Total	**7,519**	**2,722**	**36.2%**

Source: State Board of Waterworks and Waste Systems Operators; Department of Legislative Services

Board Has Closed Loophole Discovered in 1998 Preliminary Evaluation

The 1998 preliminary evaluation recommended that the board address a loophole in the certification process. This loophole allowed an operator holding a temporary certificate to obtain a new temporary certificate rather than renew the original certificate and have to comply with continuing education requirements, which are described in the next section of this chapter. The board indicated that the loophole could be closed through a regulatory change. Thus, in 2001 the board promulgated a new regulation that prohibits the issuance of a temporary certificate to a holder who could have renewed an existing certificate.

Certificate Renewal Process Includes Continuing Education Requirement

All certificates issued by the board are renewed on a triennial basis. As shown in Appendix 3 and Appendix 4, each operator and superintendent must obtain a minimum number of renewal training (or continuing education) units as a condition of renewal. Most operators must obtain 16 units every three years, while some operators at facilities with higher classification levels must obtain 30 hours. Temporary and grandparented certificate holders must obtain either 24 or 45 units, depending on the classification of the facility in which they work. These same requirements applied to limited certificate holders as well. All superintendent certificates (except Industrial Wastewater Treatment Classes 1 and 2) require seven units of "superintendent-approved" training review.

To facilitate the certificate renewal process, the board reviews and approves renewal training (or continuing education) courses. To further facilitate this process, the board established the Training Review and Evaluation (TRE) Committee. This committee presents recommendations at board meetings as to whether the board should approve training courses. In April 2006, MDE finalized regulations that adopted the board's policy requiring 50% of an operator's training to come from process-related courses. This change responded to the observation that many operators were satisfying the majority of their training requirements through the completion of federally mandated safety courses. Overall, the board is generally thorough in its review of training courses, and the establishment of the TRE Committee has been an effective means of carrying out this board mandate.

Few Complaints Have Been Filed with the Board

Another of the board's general responsibilities includes investigating reports of fraud or deception in obtaining a certificate and unsatisfactory performance in the operation or supervision of a waterworks or waste systems facility. On finding a violation, the board may reprimand any certificate holder or suspend, revoke, or deny a certificate for any of the following reasons:

- fraudulently or deceptively obtaining, or attempting to obtain, a temporary or permanent certificate by the certificate holder for himself or for another;

- professional incompetence;

- falsification of records;

- failure to submit required self-monitoring documents; or

- negligence in the operation and maintenance of the works.

Between 2002 and 2009, only 10 complaints were filed for investigation by the board. This compares with eight complaints filed in the five years preceding the 1998 preliminary evaluation. As shown in **Exhibit 2.4**, complaints have included multiple reports of falsification of records and failure to submit required documents. Disciplinary measures by the board have included both actions taken against the subject's certificate as well as referral to the MDE Environmental Crimes Unit or the Office of the Attorney General (OAG).

The relatively small number of complaints presented to the board 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, MDE enforcement staff, and others to report violations.

One-half of the cases investigated by the board involved a referral to the MDE Environmental Crimes Unit or legal action by OAG. These cases often take many months or even several years to complete. However, cases handled internally may be prosecuted within several months by the board. For example, one case in 2005 involving the falsification of records ended in the voluntary relinquishment of the operator's certificate within five months of being reported to the board.

Exhibit 2.4
Complaints Filed with the Board
Calendar 2002-2009

Year	Charge	Action
2002	(1) Falsification of records	Referral to MDE Environmental Crimes Unit
	(2) Mistaken grant of certificate	Temporary certificate issued
	(3) Failure to submit required documents and reports	Attorney General consent order
	(4) Failure to submit required documents and reports	Attorney General Consent Order
2003	(1) Falsification of records	Referral to MDE Environmental Crimes Unit
2004	(1) Falsification of records	Certification not renewed
	(2) Drug use	Reviewed sufficiency of relevant regulations
2005	(1) Falsification of records	Certificate relinquished
	(2) Falsification of records	Referred to MDE Environmental Crimes Unit
2006	No complaints filed	
2007	No complaints filed	
2008	(1) Falsification of records	Case pending as of October 2009
2009	No complaints filed	

Source: State Board of Waterworks and Waste Systems Operators

Chapter 3. Findings and Recommendations

Statutory Ambiguity Exists as to Responsibility for Enforcement of Certification Requirements

Section 12-501 of the Environment Article prohibits the operation of a waterworks, wastewater works, or industrial wastewater works unless the facility is under the responsible charge of a certified superintendent and all operators are certified. Since the preliminary evaluation of the board in 2008, the board has consistently maintained that it is the board's duty to ensure that all *persons* applying for superintendent and operator certification are properly examined, trained, and otherwise qualified, but that it is not the board's duty to ensure that all *facilities* in Maryland employ certified operators and are under the charge of a certified superintendent. The board does not have the resources to conduct facility inspections to verify that certified operators and superintendents are running the systems. Moreover, the board does not currently possess the resources to track certification compliance at all facilities. Instead, both Maryland Department of the Environment (MDE) officials and the board have agreed that this is the duty of enforcement personnel at MDE, which has the institutional capacity for facility inspection and enforcement of this statutory requirement. Notwithstanding this understanding of the board's limited role, the board does conduct outreach to notify facilities of their duty to be under the charge of a superintendent and ensure that operators are certified.

Recommendation 1: Statute should be amended to clarify that MDE is the entity responsible for enforcement of the requirements that facilities have board-certified operators and are under the responsible charge of a certified superintendent.

Statutory Authority for Limited Certificates Is Obsolete

Section 12-305(c) authorizes the board to issue a limited certificate to an uncertified operator employed at a waterworks or wastewater works. In order for an operator to obtain a limited certificate, an application had to be submitted on or before July 1, 1982. The board has indicated that no limited certificates have been issued since 1982 and that the last limited certificate expired prior to 2006.

Recommendation 2: Statute should be amended to repeal, as obsolete, provisions related to the issuance of a limited certificate.

Operator Certification Tracking at Waterworks

Federal Regulatory Requirements

The 1996 Federal Safe Drinking Water Act reauthorization required states to develop, implement, and enforce operator certification regulations for waterworks. The Code of Maryland Regulations (COMAR) for the Operator Certification Program was revised in January 2001 in response to subsequently released federal guidelines. The U.S. Environmental Protection Agency (EPA) approved Maryland's Operator Certification Program on July 13, 2001, and has reapproved it each year since. It should be noted that, because this requirement applies only to certified waterworks operators, EPA does not review the board's certification of operators at waste systems or its certification of superintendents at either waterworks or waste systems.

Pursuant to the federal regulations, each state must provide annual reports to EPA on the state's implementation of the Operator Certification Program. Included in the reports are the number and percentages of community water systems (CWS) and nontransient noncommunity water systems (NTNCWS) employing a certified operator. Submission of these reports is required to receive the full federal funding allocation from the Drinking Water State Revolving Fund. Allocation of this funding is not, however, contingent on the state ensuring that all or a certain percentage of waterworks employ certified operators. Therefore, it is possible for Maryland to continue to receive federal drinking water funding each year despite a significant percentage of waterworks operating without certified operators.

Community Waterworks in Maryland Are More Likely to Maintain Certified Operators

Public drinking water systems fall into three categories: CWS, NTNCWS, and transient noncommunity water systems (TNCWS). A CWS serves year-round residents, a NTNCWS serves the same consumers repeatedly at locations such as schools or daycare facilities, and a TNCWS serves different consumers each day, such as at a campground or restaurant.

As shown in **Exhibit 3.1**, the percentage of systems employing a certified operator is much greater among CWS than among NTNCWS. The percentage of certified operators at all water systems increased steadily from 72.7% in 2002 to 89.1% in 2005. However, this percentage declined dramatically to 68.7% in 2006. According to the board, this abrupt decline may be attributed in part to the lapse of a large number of grandparented operator certificates issued in 2003 to holders who generally ignored the requirements for certificate renewal. Nevertheless, the most recent report to EPA indicates that the percentage of systems employing certified operators has increased from 59% of waterworks in the 2001 baseline (the first year federal reporting began) to more than 86% of waterworks in 2008.

Exhibit 3.1
Operator Certification at Water System Facilities
Calendar 2002-2008

	2002	2003	2004	2005	2006	2007	2008
CWS	87.8%	88.8%	91.2%	99.2%	74.2%	86.2%	91.9%
NTNCWS	59.4%	70.0%	75.7%	80.3%	64.0%	74.4%	82.4%
Both Systems	**72.7%**	**78.8%**	**82.9%**	**89.1%**	**68.7%**	**79.9%**	**86.4%**

Source: Maryland Department of the Environment Water Supply Program, *Maryland Operator Certification Annual Report* (to EPA), Annual Reports

Small Systems Are Less Likely to Maintain a Certified Operator

The board notes a major discrepancy in the percentage of water systems employing a certified operator between large systems and systems serving fewer than 100 people. Board statistics show that, the larger the water system, the more likely it is to employ a certified operator. For example, all CWS serving 10,000 or more people have employed a certified operator each year since 2002. However, the percentage of systems employing an operator declines with system size. **Exhibit 3.2** shows operator certification at small water systems as compared with the average of all systems for both CWS and NTNCWS. **Appendices 5** and **6** show the geographic distribution of CWS and NTNCWS that lack certified operators throughout the State as tracked by MDE using its existing Oracle database for waterworks operators.

In conjunction with MDE, the board has focused significant attention on the failure of many small water systems to maintain certified operators. The board has requested assistance from the National Rural Water Association and has continued its campaign to notify operators at small systems in the State of their training and certification responsibilities. In 2008 and 2009, MDE contracted with Del Tech and the Maryland Center for Environmental Testing to provide additional training opportunities for waterworks operators on the Eastern Shore and throughout Maryland. MDE continues to provide funding to the Maryland Rural Water Association, which works with small systems in need of assistance. In addition, MDE has accepted the federal Operator Expense Reimbursement Grant. This multi-year grant is used to reimburse operators of small water systems for their certification expenses and to provide statewide training to assist small systems in educating operators. These efforts may be reflected in the increasing percentage of CWS and NTNCWS facilities with certified operators since federal reporting began in 2001. In 2008 more than 86% of facilities employed a certified operator, which is just below the peak in 2005 before the large number of grandparented operator certificates issued in 2003 expired.

Exhibit 3.2
Operator Certification at Water System Facilities Serving Fewer than 100 Persons
Calendar 2002-2008

	2002	2003	2004	2005	2006	2007	2008
Community Systems (CWS)							
Serving < 100 Persons	69%	73%	81%	97%	28%	66%	68%
All CWS	88%	89%	91%	99%	74%	86%	92%
Nontransient Noncommunity Systems (NTNCWS)							
Serving < 100 Persons	41%	55%	63%	61%	51%	49%	68%
All NTNCWS	59%	70%	76%	80%	64%	74%	82%

Source: Maryland Department of the Environment Water Supply Program, *Maryland Operator Certification Annual Report* (to EPA), Annual Reports

Comparison of Interstate Compliance Rates Not Useful

In reviewing waterworks operator certification compliance rates among states using information provided by EPA, the Department of Legislative Services (DLS) discovered that it is difficult, if not impossible, to draw a fair comparison between Maryland and other states. This is because there is no consistent or standard definition of the operator certification requirement among states and very little oversight of data quality by EPA. This assessment has been corroborated by discussions with regional EPA officials. Additionally, because federal regulations prohibit a state from "backsliding" on its laws and regulations, a state like Maryland, which had more stringent standards at the time federal regulations took effect, is prohibited from scaling down its requirements to the lesser federal standards. Thus, comparing operator certification compliance rates between states is not particularly useful for assessing Maryland's program.

Because reported compliance rates among states are not pursuant to a uniform recordkeeping procedure, it is not surprising that there is an apparent low correlation between operator certification compliance rates reported to EPA and EPA statistics on overall state drinking water quality. For example, although Maryland has one of the lowest reported operator certification compliance rates found among states responding to a DLS inquiry, it is nevertheless one of the best performing states with respect to health-based water violations as tracked in the

Federal Public Drinking Water Information System.[3] **Exhibit 3.3** displays a state-by-state ranking of the percentage of individuals served by a CWS found to have health-based violations in the drinking water supply.

Exhibit 3.3
Population Served by a CWS with Health-based Violations, by State
Federal Fiscal 2008

State	Population	Percent	State	Population	Percent
CT	25,993	1%	NC	442,555	6%
DE	6,545	1%	GA	534,113	7%
MD	**61,392**	**1%**	NJ	592,782	7%
AL	133,326	2%	AK	40,574	7%
CA	732,369	2%	TX	2,035,244	8%
IN	113,471	2%	MA	771,111	8%
NV	40,234	2%	KS	204,464	8%
ND	10,729	2%	MS	261,411	9%
WA	137,028	2%	KY	434,607	9%
WY	7,897	2%	MT	62,948	9%
CO	156,498	3%	NE	122,939	9%
HI	45,337	3%	WI	411,696	10%
MI	263,731	3%	WV	148,356	10%
OR	94,352	3%	NY	1,766,623	10%
SC	110,174	3%	LA	502,175	10%
IA	108,200	4%	NM	202,932	12%
OH	365,702	4%	NH	111,715	13%
AZ	249,333	4%	ID	152,408	14%
UT	142,129	5%	AR	385,605	15%
TN	297,600	5%	VA	74,056	16%
VT	317,076	5%	ME	115,222	17%
MN	245,075	6%	PA	2,106,509	20%
IL	776,385	6%	OK	829,146	24%
FL	1,136,883	6%	MO	1,542,646	30%
SD	38,404	6%	RI	314,514	32%

Source: U.S. Environmental Protection Agency, State Drinking Water Information System

This statistical disconnect should not be interpreted to mean that the lack of certified operators in Maryland is not a problem for water quality. First, because federal reporting of operator certification compliance rates among states is not uniform, Maryland's compliance rate may actually be much higher than it appears relative to other states – which would therefore

[3]Only the District of Columbia rated better than Maryland. However, all of the District of Columbia is served by one public water facility, similar to Baltimore City. See Exhibit 3.3.

result in a higher correlation between operator certification compliance rates and compliance with water quality standards. Second, notwithstanding statistical analysis, board members, MDE officials, and MDE inspectors nearly unanimously agree that the employment of a certified operator at a facility is a very important factor in protecting public health and the environment. One MDE inspector opined that, not only is the *presence* of operators at facilities important, but also facilities only employing uncertified technicians or operators who are not fully certified exhibit a greater number of problems and pose additional risk to water quality.

Operator Certification Tracking at Waste Systems Is Deficient

Although there is no distinction in the Maryland Annotated Code between the board's duties with regard to waterworks versus waste systems, the federal Safe Drinking Water Act has caused MDE to elevate its level of enforcement and oversight of waterworks without a corresponding level of enforcement and oversight for waste systems. In the absence of similar federal requirements for waste systems, MDE now has much greater resources for the tracking of operator certification compliance rates among waterworks than for waste systems. Moreover, the federal funding support available for the implementation of oversight of waterworks operators is not available for wastewater.

Wastewater compliance officials have no systematic means to monitor the status of operators at waste systems across the State. By contrast, engineers in the Water Supply Program at MDE work with an Oracle database developed to satisfy the annual federal reporting requirements of the federal Safe Drinking Water Act. This database allows MDE to track the status of operator certification at all water supply systems in the State and then sort by system type, size, or other attributes. An experienced waste systems inspector at MDE stated that it would be helpful to have a similar database if it could be procured or developed cost-effectively. Under current wastewater enforcement practices at MDE, checking for operator certification is not a priority. However, the ability to instantly determine wastewater operator certification status could improve enforcement practices.

Maryland is in a unique position due to its proximity to the Chesapeake Bay and the many industries in the State that rely on the bay as a resource. Maryland has made a substantial commitment to improving the health of the Chesapeake Bay. One factor contributing to the poor health of the bay is high nutrient loads from wastewater sources. At a minimum, without a useful system for tracking operator certification among waste systems, there is no way to assess the impact on State water quality of *not* having a certified operator as is possible for drinking water quality. More comprehensive data management for waste systems in Maryland would not only assist the board and MDE in ensuring that facilities have certified operators, it could also be used by other divisions within MDE and other entities in the State to monitor and address nutrient loads attributable to wastewater sources. In any event, it is difficult, if not impossible, for MDE to fulfill the statutory requirement to ensure that all wastewater systems in the State employ certified operators with current resources unless a database for tracking wastewater systems is developed.

Recommendation 3: MDE should develop a database for waste systems enforcement personnel with functionality similar to that possessed by officials in the Water Supply Program. This can be accomplished by expanding the license agreement with Oracle, procuring a new low-cost database, or utilizing existing information technology resources at MDE to develop a simple database. Any waste systems database that is created should be able to share data with the board's administrative database to facilitate greater communication between the board and MDE enforcement.

Retirement of Baby Boomers Will Exacerbate Difficulty in Maintaining and Improving Compliance with Operator and Superintendent Certification Requirements

The board has discussed on multiple occasions the difficulty in attracting and maintaining a sufficient number of individuals at waterworks and waste systems in the State. Maryland is not alone in facing this challenge. According to the most recent *State of the Industry* report from the American Water Works Association, "workforce concerns" are among the greatest issues facing the industry as identified by survey respondents. With about one-third of all supervisors and one-quarter of all operators expected to retire by 2013, the report noted that labor market conditions are expected to remain of concern to the industry. The U.S. Department of Labor's Bureau of Labor Statistics echoes this concern for both waterworks and waste systems, noting the disproportionately large number of baby boomers within the industry, which will add to the already difficult situation of employing certified operators and superintendents at all facilities as required by Maryland law.

As previously noted, operator certification is least prevalent among smaller and noncommunity systems. One likely reason for this is that systems supported by fewer consumers may not find it economically feasible to hire a full-time employee. According to the U.S. Department of Labor, the median annual salary for an operator is $36,070, a cost that is prohibitively expensive for many small systems. Further, as MDE enforcement focuses to a greater extent on larger and community systems, some small system owners may calculate that the risk of being penalized $25 per day is far less costly than hiring an operator and being under the responsible charge of a certified superintendent. This calculated risk is supported by the fact that the penalty has rarely, if ever, been levied by MDE.

Superintendent Certification Tracking Is Deficient at Waterworks and Waste Systems and Noncompliance Is Prevalent

Just as federal law has caused MDE to develop greater resources for the tracking and oversight of operator certification compliance at waterworks as compared with waste systems, the ability of MDE and the board to track the certification of operators is much greater than for

superintendents. When the board was established in 1957, the focus of its certification program was on the superintendents of waterworks and waste systems. As the industry has changed, along with the understanding of the industry by State and federal regulators, the focus of regulatory concern also changed from superintendents to operators. Thus, by 1982, the board added the requirement that all operators be certified and that all facilities employ certified operators. Likewise, when the federal Safe Drinking Water Act regulations were promulgated, they focused on certification of operators, not superintendents. Today, in order for EPA to approve the board as Maryland's operator certification entity, MDE and the board have to demonstrate the ability to track waterworks without certified operators but do not have to track superintendents.

Whether due to an over-reliance on federal drinking water regulations or to the changing nature and conditions of the industry, attention and resources are not devoted to ensuring that all waterworks and waste systems are under the control of certified superintendents as required by State law. Without the same effort to systematically report coverage of certified superintendents at waterworks and waste systems as currently exists for certified operators at waterworks, it is unclear how many facilities are not under the responsible charge of a certified superintendent. However, the gap may be significant since only slightly more than 700 individuals are certified as superintendents, and the number of facilities subject to regulation totals more than 1,200. Some superintendents may serve more than one facility.

Recommendation 4: MDE should ensure that its existing Oracle database, as well as any future database developed for tracking certified operators at waste systems, possesses the capability to also track the presence of superintendents among waterworks and waste systems.

Although it is advisable that MDE and the board develop the ability to track compliance with the superintendent requirements in State law, it may be neither necessary nor practical to continue requiring *all* waterworks and waste systems of all sizes and types to employ a superintendent. It is unclear whether it is the nature of the industry or the role of superintendents within the industry that has changed significantly since the 1950s. However, it is clear that, since the board's enabling statute was enacted, the industry the board regulates has been allowed to evolve in the absence of superintendents for a large share of facilities. As the importance of the role of operators has increased, first with recognition in State law in 1982 and later with the adoption of federal requirements for waterworks, focus on universal employment of superintendents has faded. One MDE Water Administration engineer has indicated that superintendents are essential at complex systems and are treated as such, but they are not necessary at smaller systems. Therefore, requiring that certified superintendents be employed by all waterworks and waste systems is not a desirable use of resources given the current difficulty of maintaining and attracting certified operators. Without a substantial change in the supply of trained workers in the water and wastewater industry or an extraordinary increase in resources expended by the State, ensuring that all facilities employ superintendents is not likely possible.

Recommendation 5: The board, in conjunction with MDE, should report to the Senate Education, Health, and Environmental Affairs Committee and the House Environmental Matters Committee on or before October 1, 2011, regarding whether to amend statute to exempt facilities of a certain size or type from the requirement to employ a certified superintendent.

Circuit Riders Offer a Cost-effective Solution for Increasing Operator Certification Compliance Rates

One option for improving compliance with the operator certification requirement is promotion of the use of "circuit riders." Circuit riders are certified operators who are employed on a contractual basis by multiple waterworks or waste systems. Many states promote the use of circuit riders – usually sole proprietors or small business employees – to ensure that smaller facilities that would otherwise not be financially capable of employing a full-time certified operator are able to afford professional oversight by a certified operator as required by law. Thus, a certified operator might be contracted by a handful or perhaps up to several dozen facilities and would rotate among his or her "circuit" of clients. These circuit riders would service enough facilities to support a full salary with perhaps a margin of profit as well.

In a review of state operator certification programs, DLS found that a significant number of states promote the use of circuit riders by offering information on their web sites about business opportunities and required circuit rider applications and certification procedures. In Maryland, a small number of private circuit riders as well as personnel at the Maryland Environmental Service, a quasi-State entity, provide circuit rider services. Federal Safe Drinking Water Act guidelines for state operator certification programs discuss the use of circuit riders and have approved them as a means of ensuring that operators are "available" and "in responsible charge" of waterworks under federal law. Promoting and utilizing circuit riders may be an efficient means of increasing the number of small waterworks and waste systems with certified operators. By encouraging the increased use of circuit riders, the State can promote private-sector employment in Maryland, generate opportunities for small business development, reduce the cost of retaining certified operators for small noncommunity water and waste systems owners, and most important, fulfill the statutory requirement that all facilities have a certified operator.

Recommendation 6: The board should encourage the development of circuit riders to address noncompliance with operator certification requirements and to assist waterworks and waste systems with difficult and worsening labor market conditions. The board's new web site should contain links to information for current circuit riders as well as recruiters, trade schools, and the general workforce about the business opportunities presented by waterworks and waste systems without certified operators.

Although circuit riders may prove to be very useful in ensuring that waterworks and waste systems employ certified operators, it would be counterproductive if many facilities were to opt to contract with circuit riders rather than employ full-time operators. One possible solution would be to adopt regulations as to which facilities may employ circuit riders. As it is more appropriate to use circuit riders for smaller systems where it may not be economically feasible or necessary to employ a full-time certified operator, system size may provide a suitable threshold for restrictions on use of circuit riders. Ideally, the number of facilities utilizing circuit riders should roughly equal the number of waterworks and waste systems that do not currently employ certified operators. Safety of Maryland's water is the board's primary concern, and the economic advantages of circuit riders should be used to bring formerly noncompliant facilities into compliance rather than reducing the presence of certified operators at larger facilities as a cost-reduction measure.

Recommendation 7: By tracking the employing facility as part of the certification process, the board should monitor the prevalence of circuit riders in Maryland to ensure that the promotion of circuit riders results in certified operator compliance at previously noncompliant facilities. The board should also monitor whether facilities that had been employing full-time certified operators are switching to the use of circuit riders and whether such a practice poses a risk to water quality.

One factor that may impede the growth and availability of circuit riders in Maryland is lack of a clear policy from the board on how experience will be credited for individuals working at multiple facilities. In order to become certified for a particular class of facility, an individual must have a sufficient level of experience at that class. There appears to be some confusion with regard to circuit riders and experience qualifications. As a circuit rider does not spend all of his or her work hours at one facility, it can be difficult to determine the amount of experience obtained at different classes of facilities. The board has a policy of crediting experience obtained by an operator in a higher-class facility category to the experience requirements for a lower-class facility as well. As long as one-third of an operator's experience is obtained at the higher-class facility, this experience would be credited toward the requirements for the lower class. This has been the board's policy for some time, yet it has not been formally incorporated into the board's regulations. The board has indicated that it plans to formalize the experience crediting policy in proposed regulations.

Recommendation 8: The board should ensure that regulations establishing its circuit rider experience crediting policy are adopted promptly.

Although promoting the use of circuit riders may be an effective solution to ultimately eliminating the modest number of waterworks and waste systems lacking certified *operators*, it is likely not necessary or prudent to continue to require the employment of *superintendents* at all facilities. Therefore, unless the board and MDE report to the General Assembly that the requirement for superintendents to be employed at all facilities should be maintained, it is not necessary for the board to pursue a circuit rider solution for superintendents.

Board Resources Are Outdated

Board Administrative Database Needs to Be Upgraded

The age and limited functionality of the board's current administrative database hinder its ability to track and effectively communicate with operators and superintendents, applicants, system owners, and MDE Water Management Administration officials. The board's Foxpro database was originally developed during the 1980s and is a primary obstacle to achieving many of the recommendations in this report. Information technology staff at MDE has stated that, once an ongoing project is finished in November 2009, work may be initiated on other projects including an upgrade of the board's database. The staff indicated that an upgrade of Foxpro would allow the database to share information with the upgraded board web site. An upgraded database could also be used for automated generation of board communication with individual operators, such as certificate renewal and continuing education requirement notices. Information about facilities and operators should be able to be seamlessly communicated between MDE and the board. This would provide the oversight and transparency needed to ensure that all facilities have certified superintendents and operators and also allow board staff more time to monitor and process certification information.

Recommendation 9: MDE should 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 both the operator and system owner. The upgraded administrative database should be compatible with both the board's upgraded web site and MDE enforcement databases such as the existing Oracle database used by the Water Supply Program and any new database to be used by waste system enforcement personnel, as recommended in this report.

Board Web Site Should Include Specific Functionality

MDE has indicated that the board's web site is scheduled to be upgraded. The board intends to make the new web site a "one-stop shop" for operators. The site will have links for various operator resources. An upgraded web site can be a resource for recruiting new operators to the field. It can also be a resource for facility owners to provide information concerning facility requirements. Additionally, the new site is an opportunity to provide the public with information regarding the management of water and wastewater in the State.

The new web site should be developed to communicate information with the board's upgraded database in order to provide valuable employment information to prospective operator applicants; circuit riders; system owners; recruitment firms; trade schools; the Department of Labor, Licensing, and Regulation; the Governor's Workforce Investment Board; and other interested parties about the career opportunities in this field, such as the current number of facilities without certified operators. The site should also offer contact information for both

circuit riders and waterworks and waste systems as a resource for bringing facilities without certified operators into compliance.

Recommendation 10: The board should ensure that its web site upgrade allows the site to be an interactive, "one-stop shop" for operator certification information. The web site should include resources for current operators, prospective operators, facility owners, and the public.

MDE Should Utilize Existing Penalty Authority for Noncompliance

Although a full-service board web site that is supported by effective tracking from board and MDE databases is necessary to promote a market-based solution to the current shortage of certified operators in the State, this market-based approach is not sufficient to ensure full compliance with the operator certification requirement absent effective regulatory enforcement. Section 12-504 of the Environment Article states that any violation of Title 12 is a misdemeanor subject to a fine of $25 per day. A facility operating without a certified superintendent or certified operators is subject to this penalty for each day of employment in violation.

According to recent MDE enforcement reports, this $25 fine has not been used. Most board members and MDE enforcement officials interviewed as part of this report were unfamiliar with the penalty. The fine has not been amended since 1987. As the board is not responsible for enforcement of the certification requirement at facilities and the penalty has not been used, MDE should begin informing facilities that it will levy fines if it becomes aware that facilities are not in compliance with the requirement. Merely informing waterworks and waste systems owners of the penalty for noncompliance is likely to spur an increase in compliance, especially if information about the low-cost service of circuit riders is made available to the owners. After the existing penalty authority has been used, MDE should evaluate whether an increase in the fine amount is needed to further facilitate compliance.

Recommendation 11: MDE should begin using the penalty authority it has long possessed under § 12-504 of the Environment Article. Once existing penalty authority is being used, MDE should evaluate the necessity of changes to that authority.

Operator Examinations

Examination Pass Rates Have Averaged 35% Since 2003

Temporary certificate holders are required to take and pass a board examination to become fully certified. As shown in **Exhibit 3.4**, examination pass rates in Maryland have averaged 35% over the past five years with no discernible trend indicating either an improvement or decline in this rate. According to the board, this pass rate is relatively low compared to other

states but is not necessarily of great concern. In fact, the board has on several occasions expressed suspicion at monthly pass rates that significantly exceeded this long-term average.

Exhibit 3.4
Examination Pass Rates
Calendar 2004-2008

	2004	2005	2006	2007	2008	Average
Average Examination Pass Rate	35%	33%	37%	36%	35%	35%

Source: State Board of Waterworks and Waste Systems Operators

As long as the examinations comprise questions that satisfy the "need-to-know" criteria established by the board and are consistent with national testing standards, then the relatively low pass rate is considered to be a private matter for applicants and the owner of the system at which the applicant is employed. Generally, system owners provide incentives to pass by either paying the examination fee for only one test or by providing a deadline for an employee to pass an examination within a certain number of attempts. These are ways in which system owners can handle matters of examination passage privately without involving the board.

The board has opined that the higher pass rates in other states may be due to the test preparation philosophy in which applicants are prepared by "teaching to the test." The board does not support this test preparation method and has stated that its principal concern is ensuring certified operators have the relevant knowledge to perform their jobs, rather than focusing training and preparation on the questions that appear on the tests. Further, DLS notes that one state in the Mid-Atlantic region with particularly high pass rates also ranks very low nationally in water quality as expressed in terms of the percentage of the state's population served by water systems with health-based violations reported to EPA. This should not be construed to imply that an increase in examination pass rates would not be beneficial for operator certification compliance or overall water quality in Maryland. However, it may support the board's position that its efforts to adequately train and examine operator applicants are more important than focusing solely on certain test preparation methods or on changing the testing curriculum.

One of the most successful efforts to improve examination performance has been a week-long training course offered in a collegiate setting for examination candidates. Historically, the pass rates following this intensive short course have been above the overall average. For example, the June 2009 pass rates after the short course were 46% for water and water distribution exams as opposed to 29% in May. The board believes that the traditionally higher pass rates after the short course confirms the idea that if examination applicants take enough time and avail themselves of the resources offered, examination passage in Maryland is attainable for a reasonable share of test takers.

Recommendation 12: As the week-long short course offered by the Water and Waste Operators Association has historically resulted in higher examination pass rates, the board should continue to support this and similar training opportunities.

Paper-based Examinations Likely Hinder Greater Pass Rates

The administration of paper-based examinations is becoming an outdated testing format and may be a significant factor related to low pass rates. The board currently offers only paper-based examinations, which are administered on certain dates throughout the year. Nationally, there is a trend toward upgrading to computer-based testing for operator certification. Although the board is well aware of this trend and has long considered offering computer-based testing, little progress had been made until recently. During this sunset evaluation period, the board contacted its examination developer and a computer-based testing vendor and initiated a process that is anticipated to result in the administration of computer-based examinations beginning early in calendar 2010.

The board has acknowledged that the examination process can be significantly improved by offering a more convenient test-taking environment. By currently offering only a limited number of examinations on certain dates throughout the year, applicants have found it somewhat difficult to schedule an examination at a time that is both convenient and follows a period of adequate study. Many applicants find that desired examination dates are fully booked, only to have registered applicants fail to appear or walk out on an examination. Many, if not all, of these issues can be resolved by upgrading to computer-based testing. Although paper examinations will still be offered for a few years to those applicants who are more comfortable with this format, the board has stated that a quickly growing majority of test takers each year seems to express a preference for computer-based testing.

There would be additional costs for applicants for computer-based testing. The computer-based testing facility charges between $42 and $59 for an electronic exam, depending on the amount of time allotted for the examination. It would be the responsibility of the applicant to pay this fee to the vendor in addition to the $75 examination fee due to the board. Currently, there is one location in Glen Burnie and one in the District of Columbia that would be available for electronic testing.

Recommendation 13: The board should continue its current efforts to ensure that computer-based examinations are available beginning as early as January 2010. In addition to phasing out paper-based examinations, the board should also consider additional computer-based testing facilities, especially at locations near Western Maryland and the Eastern Shore.

Computer-based Testing May Also Benefit Board Staff

One member of the board's staff spends a significant amount of time proctoring examinations. Once computer-based testing is offered, and as paper examinations are phased out, this staff person can spend more time on issues related to operator outreach, training, test preparation, and other matters affecting the board. The staff member should have more time available to dedicate to organizing training opportunities for operators such as the successful short course offered annually. This will, in turn, greatly facilitate the board's ability to fulfill its statutory duties and may also help raise examination pass rates in Maryland.

While the board contracts with a third party for its examination services, the board is still responsible for ensuring the examinations given adequately screen for qualified operator applicants. The board conducts periodic review of its examination questions and makes changes and updates to its examinations when needed. Under computer-based testing, the board would also have greater access through the vendor to testing data. It is anticipated that this would further aid the board in determining when changes to the examinations are necessary or appropriate.

Fiscal History of the Board

Board's Revenue Inconsistent in Covering Expenditures

The board is funded with State general funds, and board revenues from fees associated with certification are likewise credited to the general fund. Even though there is no requirement that the revenues generated by the board cover its expenditures, the General Assembly has a policy of regulatory boards and commissions being self-supporting to the extent possible. While unusual for boards funded through the general fund, the board has the authority to set fees in regulation. As noted in the 2008 preliminary evaluation of the board, after generating a surplus in fiscal 2003, the board's revenues failed to cover expenditures by a narrow margin from fiscal 2004 through 2008. Between fiscal 2004 and 2007 this gap was very stable at around 10% or between approximately $19,000 and $24,000. However, the gap narrowed to less than $5,000 in fiscal 2008, and most recently, the board generated a surplus of nearly $25,000 or roughly 12% in fiscal 2009, as shown in **Exhibit 3.5**.[4]

The 2008 preliminary evaluation of the board noted that waterworks and waste systems operators are generally public-sector employees and, generally, State boards that certify such employees are supported by a modest amount of general funds. Nevertheless, the board is considering a slight increase in fees to ensure board revenues more closely match its appropriations in the future. This is due in part to a recent increase in the examination scoring fee charged by the Association of Boards Certification (ABC), the service with which the board

[4]The recent surplus is related to cost containment measures taken in response to State budget shortfalls.

contracts.[5] According to the board secretary, the fee charged by ABC was increased from $22 to $29 beginning in fiscal 2009. The examination scoring fee is paid from revenues derived from the $75 board examination fee charged to each examinee. All examination fee revenues accrue to the general fund. Thus, "surplus" revenue derived from examination fees for upcoming fiscal years will be reduced by $7 per examination. In January through June of 2009, the board conducted 511 examinations corresponding to an increase in examination-related expenditures of $3,577.

Exhibit 3.5
Fiscal History of the State Board of Waterworks and Waste Systems Operators
Fiscal 2003-2009

	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Expenditures	$191,991	$206,926	$210,206	$232,972	$233,450	$232,554	$211,106
Revenues	227,759	188,030	191,109	208,636	213,415	227,759	236,015
Surplus/(Gap)	**$35,768**	**($18,896)**	**($19,097)**	**($24,336)**	**($20,035)**	**($4,795)**	**$24,909**
Coverage of Expenditures	118.6%	90.9%	90.9%	89.6%	91.4%	97.9%	111.8%

Source: State Board of Waterworks and Waste Systems Operators

In considering a regulatory change to increase the board's fees (shown in **Exhibit 3.6**), the board secretary and staff have also attempted to anticipate the fiscal effect of upgrading to computer-based testing. If computer-based testing results in a higher examination pass rate, then fewer examination-related fees would be collected by the board. Thus, in order to account for this future effect and to close the small gap which usually exists between revenues and expenditures, the board is considering raising one or more fees.

The board could increase revenues by raising the certificate renewal fee, which was last increased on January 1, 1997. The board currently issues about 7,500 certificates to 3,600 certified operators. Certificates are renewed every three years. A $10 increase in the certificate renewal fee would therefore generate an additional $75,000 over a three-year period. This amount should be sufficient to cover 100% of board expenditures each year for the next several years and account for any reduction in revenue resulting from the introduction of

[5]ABC provides testing services in the areas of water and waste systems operator certification for a number of states and Canadian provinces.

computer-based testing. Operators holding multiple certificates, which many operators do, will be affected more by such an increase, but because certificates are renewed triennially, the $10 increase amounts to an additional $3.33 per year, per certificate.

Exhibit 3.6
Current Fee Schedule
State Board of Waterworks and Waste Systems Operators

	Types of Certificates			
Service	**Operator**	**Temporary**	**Superintendent**	**Grandparented/ Limited**
Examination	$75	N/A	N/A	N/A
Certificate (Initial and Renewal)	75	75	75	75
Replacement Certificate	25	25	25	25
Reciprocity	75	N/A	N/A	N/A
Replacement Renewal Card	15	15	15	15
Late Renewal	150	150	150	150
Reinstatement	150	N/A	N/A	N/A

Source: Code of Maryland Regulations, 26.06.01.07

The recommendations made in this report regarding the upgrade of various information technology resources for the board and MDE may also assist the board in setting fees appropriately. More comprehensive and accurate tracking of the number of facilities and certificates in Maryland will allow the board to assess the total number of operators needed in Maryland based on the number and size of Maryland facilities. This enhanced oversight will allow the board to recognize key trends and make necessary adjustments to its various fees through regulation.

Recommendation 14: The board should continue its efforts to adjust its fees and should monitor whether new factors such as the introduction of computer-based testing or an increase in the number of certified operators at small facilities require further adjustments.

Conclusion

There is a continuing need for effective oversight of those responsible for delivering drinking water and treating wastewater in Maryland. Federal regulations require a program for operator certification at waterworks. The board has been effective in ensuring certified operators meet the standards for protecting water quality in Maryland, and Maryland's process for certifying operators has consistently been approved by EPA as compliant with the federal regulations.

The board faces a number of challenges including encouraging the certification of operators at small water systems, tracking compliance with the operator certification requirement at waste systems facilities, tracking compliance with the superintendent certification requirement for waterworks and waste systems, transitioning to computer-based testing, and consistently generating revenue to approximate general fund appropriations. However, the board has shown a high level of efficiency and professionalism in considering these issues and has been proactive in response to the findings of the preliminary sunset evaluation.

Recommendation 15: Statute should be amended to extend the termination date of the State Board of Waterworks and Waste Systems Operators by 10 years to July 1, 2021. In addition, the board, in conjunction with MDE, should report to the Senate Education, Health, and Environmental Affairs Committee and the House Environmental Matters Committee on or before October 1, 2011, regarding the implementation status of the nonstatutory recommendations contained in this report.

Appendix 1. Board Membership and Staff

Board Members

Governor Appointees

William Shreve (Chairman) – Wastewater Supervision
Joseph Haxton – Sanitary Commissions
Rene Javier – County Government
Joseph Johnson – Waterworks Supervision
Nancy Hausrath – Municipal Government
Vacant – Agriculture
Dominic Deludos Jr. – Industrial Superintendent
Jerry Wheeler – Department of Natural Resources

Secretary of the Environment Appointees

Nancy Reilman – Engineer
James Stewart – at large Public Member
Russell Kelley – at large Public Member

Staff

Lee Haskins – Secretary
Lawrence Robinson – Staff
Pat Kratochvil – Staff

Appendix 2. Classification of Facilities

Water Treatment Plants

Class of Plants	Type of Treatment Systems	Typical Processes Included in the System
1	Disinfection	Chlorination
2	Chemical Treatment	Chlorination, pH control, and fluoridation
3	Simple Iron Removal	Chlorination, pH control, fluoridation, filtration, and iron removal utilizing ion exchange or contact oxidation processes
4	Complete Treatment	Chlorination, pH control, fluoridation, aeration, coagulation, sedimentation, filtration, and complex iron removal
5	Site Specific	Site specific: any alternative technological plants not covered under the classification system
G	No Chemical Treatment	Well, storage tanks, UV disinfection

Water Distribution Systems (one class only)

Industrial Wastewater Treatment Plants

Class of Plants	Type of Treatment Systems	Typical Processes Included in the System
1	Basic Treatment	Petroleum base oil separators, liquid cooling, and pH control
2	Physical Treatment	Sedimentation, screening, pH control, and solids removal
3	Land Treatment	Primary treatment, sedimentation, solids removal, pumping, and land treatment

Class of Plants	Type of Treatment Systems	Typical Processes Included in the System
4	Biological Lagoons	Aerobic or anaerobic waste stabilization lagoons, disinfection, and chemical addition
5	Activated Sludge	Primary treatment, sedimentation, activated sludge, and sludge handling
6	Physical Chemical Treatment	Reduction of chemical and toxic substances including but not limited to cyanide and chromium, acid-alkali neutralization, coagulation, and flocculation
7	Site Specific	Plants other than the first six types covered under these regulations

Wastewater Treatment Plants

Class of Plants	Type of Treatment Systems	Typical Processes Included in the System
1	Lagoons	Aerated or nonaerated lagoons, filtration, disinfection, and land or wetland treatment
2	Physical/Biological	Primary treatment, sand filter, land or wetland treatment, and disinfection
3	Package Activated Sludge Plants	Screening, activated sludge, sedimentation, filtration, disinfection, chemical addition, sludge handling, pumping, and land or wetland treatment
4	Trickling Filters Rotating Biological Filters (RBC)	Preliminary treatment, primary treatment, sedimentation, trickling filters, RBC, chemical addition, disinfection, sludge handling, and pumping
5	Activated Sludge	Preliminary treatment, primary treatment, sedimentation, activated sludge, oxidation ditches, filtration, chemical addition, disinfection, sludge handling, and pumping

Class of Plants	Type of Treatment Systems	Typical Processes Included in the System
6	Site Specific	Other alternative technology systems not covered under this classification system
S	Solids Handling	Chemical conditioning, sludge thickening, sludge digestion, thermal treatment, chlorine treatment, filtration, dewatering, incineration, composting, and land application
A	Advanced Wastewater Treatment	Filtration, activated carbon adsorption, nitrification, denitrification, phosphorus removal, ammonia stripping, chemical feeding and conditioning, coagulation, and flocculation

Wastewater Collection Systems

Class	Type of Collection Systems
1	Gravity Flow
2	Gravity Flow and Pumped or Vacuum Flow

Source: Laws of Maryland; Code of Maryland Regulations

Appendix 3. Experience and Renewal Training Requirements for Operators

Category and Classification	Experience *	Operator Certificate Renewal Training Units**	Temporary, Limited, and Grandparented Certificate Renewal Training Units**
Water Distribution	1 year	16	24
Wastewater Collection			
1	1 year	16	24
2	2 years	16	24
Water Treatment			
1	1 year	16	24
2	1 year	16	24
3	2 years	30	45
4	3 years	30	45
5	as determined by board	as determined by board	as determined by board
G	not specified	16	24
Wastewater Treatment			
1	1 year	16	24
2	1 year	16	24
3	2 years	30	45
4	3 years	30	45
5	3 years	30	45
6	as determined by board	as determined by board	as determined by board
S	3 years	16	24
A	3 years	16	24

Category and Classification	Experience *	Operator Certificate Renewal Training Units**	Temporary, Limited, and Grandparented Certificate Renewal Training Units**
Industrial Wastewater Treatment			
1	6 months	0	0
2	6 months	0	0
3	6 months	16	24
4	1 year	16	24
5	3 years	30	45
6	2 years	16	24
7	as determined by board	as determined by board	as determined by board

Education Requirement – All operators must have completed high school or equivalency.

* For most classifications, 1,800 hours of actual work experience are equal to one calendar year of experience. The following operator classifications have special requirements that do not use this equivalency:

Industrial Wastewater Treatment
Class 1, 2, and 3: 250 hours or 6 months, based on 1 hour / day operation.
Class 4: 500 hours or 1 year, based on 2 hours / day operation.

Water Treatment
Class 1 and 2: 500 hours or 1 year, based on 2 hours / day operation.
Class 3: 1,800 hours or 2 years, based on 3.5 hours / day operation.

Wastewater Treatment
Class 1 and 2: 500 hours or 1 year, based on 2 hours / day operation.
Class 3: 1,800 hours or 2 years, based on 3.5 hours / day operation.

**Training unit equivalencies = 1 unit per 1 hour training or 1.5 units per 1 hour training with successfully completed final examination

Note: To be consistent with facility classifications, "G" has been included with water treatment facilities rather than wastewater treatment facilities.

Source: Laws of Maryland; Code of Maryland Regulations

Appendix 4. Education and Experience Requirements for Superintendents

Category and Classification	Education	Experience *
Water Distribution	Completion of high school or equivalency	1 year
Wastewater Collection		
1	Completion of high school or equivalency	none
2	Completion of high school or equivalency	1 year
Water Treatment		
1	Completion of high school or equivalency	none
2	Completion of high school or equivalency	1 year
3	1 year college	1 year
4	2 years college	2 years
5	as determined by board	as determined by board
G	not specified	not specified
Wastewater Treatment		
1	Completion of high school or equivalency	none
2	Completion of high school or equivalency	none
3	Completion of high school or equivalency	1 year
4	2 years college	2 years
5	2 years college	2 years
6	as determined by board	as determined by board
S	2 years college	2 years
A	2 years college	2 years
Industrial Wastewater Treatment		
1	Completion of high school or equivalency	none
2	Completion of high school or equivalency	none
3	Completion of high school or equivalency	none
4	Completion of high school or equivalency	none
5	2 years college	2 years
6	1 year college	1 year
7	as determined by board	as determined by board

Superintendent Certificate Renewal Training Requirement – all superintendent certificates (except Industrial Wastewater Treatment Classes 1 and 2) require 7 units of " superintendent-approved" training review.

*For most classifications, 1,800 hours of actual work experience are equal to one calendar year of experience. The following superintendent classifications have special requirements that do not use this equivalency:

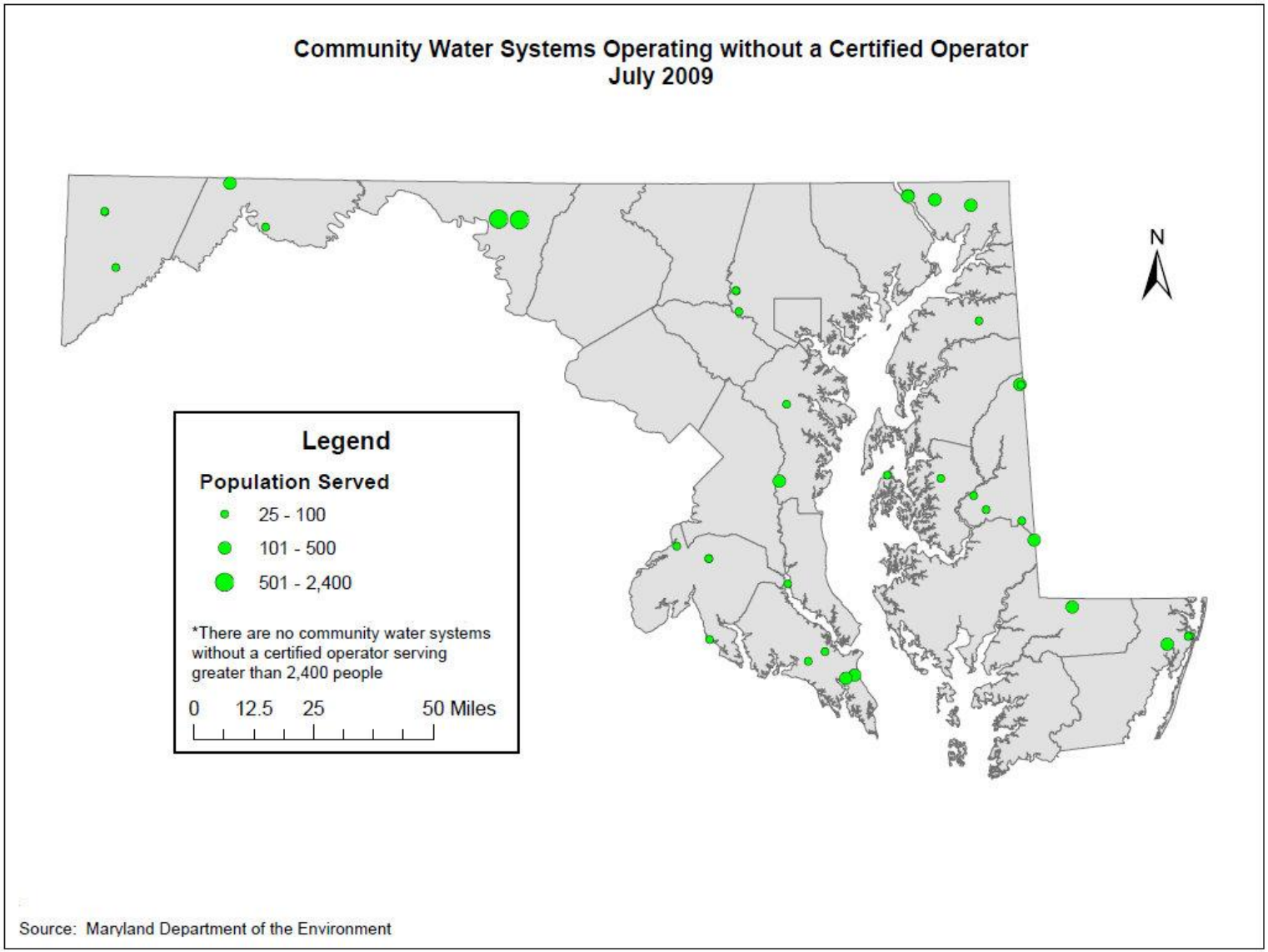
Water Treatment
Class 2: 500 hours or 1 year, based on 2 hours / day operation
Class 3: 900 hours or 1 year, based on 3.5 hours / day operation

Wastewater Treatment
Class 3: 900 hours or 1 year, based on 3.5 hours / day operation

Note: To be consistent with facility classifications, "G" has been included with water treatment facilities rather than wastewater treatment facilities.

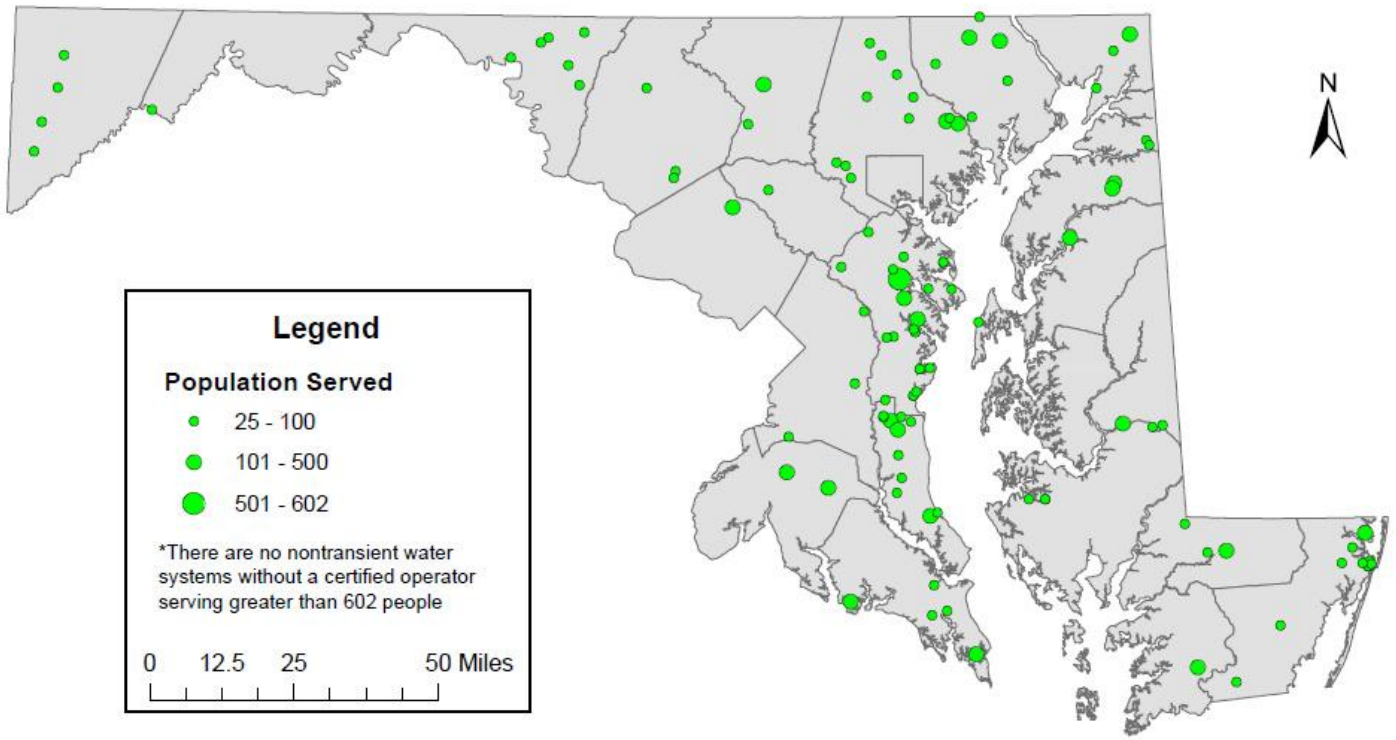
Source: Laws of Maryland; Code of Maryland Regulations

Appendix 5. Community Water Systems Operating without a Certified Operator


Community Water Systems Operating without a Certified Operator
July 2009
N
Legend
Population Served
25 - 100
101 - 500
501 - 2,400
*There are no community water systems without a certified operator serving greater than 2,400 people
0 12.5 25 50 Miles
Source: Maryland Department of the Environment

Appendix 6. Nontransient Water Systems Operating without a Certified Operator

Nontransient Water Systems Operating without a Certified Operator
July 2009



Source: Maryland Department of the Environment

Appendix 7. Draft Legislation

Bill No.: _____
Requested: _____
Committee: _____

Drafted by: Anthony
Typed by: Alan
Stored – 10/30/09
Proofread by _____
Checked by _____

By: **Leave Blank**

A BILL ENTITLED

AN ACT concerning

Environment – State Board of Waterworks and Waste Systems Operators – Sunset Extension and Revisions

FOR the purpose of continuing the State Board of Waterworks and Waste Systems Operators in accordance with the provisions of the Maryland Program Evaluation Act (sunset law) by extending to a certain date the termination provisions relating to the statutory and regulatory authority of the Board; clarifying that the Department of the Environment is responsible for the enforcement of certain provisions; requiring that an evaluation of the Board and the statutes and regulations that relate to the Board be performed on or before a certain date; requiring the Board to submit a certain report on or before a certain date; repealing obsolete language; and generally relating to the State Board of Waterworks and Waste Systems Operators.

BY repealing and reenacting, with amendments,
Article – Environment
Section 12–101(c)(2), 12–308, 12–402, 12–501, and 12–602
Annotated Code of Maryland
(2007 Replacement Volume and 2009 Supplement)

BY repealing
Article – Environment

EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.
[Brackets] indicate matter deleted from existing law.

Section 12–305(c)
Annotated Code of Maryland
(2007 Replacement Volume and 2009 Supplement)

BY repealing and reenacting, without amendments,
Article – State Government
Section 8–403(a)
Annotated Code of Maryland
(2009 Replacement Volume)

BY repealing and reenacting, with amendments,
Article – State Government
Section 8–403(b)(67)
Annotated Code of Maryland
(2009 Replacement Volume)

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND, That the Laws of Maryland read as follows:

Article – Environment

12–101.

(c) (2) "Certificate" includes:

(i) A certificate; **AND**

(ii) A temporary certificate, as limited by § 12–305 of this title**[**; and

(iii) A limited certificate, as limited by § 12–305 of this title**]**.

12–305.

[(c) The Board may issue a limited certification to any uncertified operator or industrial operator who:

(1) On or before July 1, 1982, submits an application to the Board on the form that the Board requires;

(2) Is employed in a waterworks, wastewater works, or industrial wastewater works; and

(3) Complies with any applicable rule or regulation adopted under this title for this purpose.**]**

12–308.

(a) Subject to the hearing provisions of § 12–309 of this subtitle, the Board may deny certification**[**, limited certification,**]** or temporary certification to any applicant, if the applicant:

(1) Fraudulently or deceptively obtains or attempts to obtain a certificate**[**,**]** **OR** temporary certificate**[**, or limited certificate**]** for the applicant or for another; or

(2) Fraudulently or deceptively uses a certificate**[**,**]** **OR** temporary certificate**[**, or limited certificate**]**.

(b) Subject to the hearing provisions of § 12–309 of this subtitle, the Board may reprimand any certificate holder, or suspend or revoke a certification**[**, limited certification,**]** or temporary certification, if:

(1) The certificate holder:

(i) Fraudulently or deceptively obtains or attempts to obtain a certificate**[**,**]** **OR** temporary certificate**[**, or limited certificate**]** for the certificate holder or another; or

(ii) Fraudulently or deceptively uses a certificate**[**,**]** **OR** temporary certificate**[**, or limited certificate**]**; or

(2) The Board has any other reasonable cause for the action.

12–402.

(A) Each waterworks, wastewater works, and industrial wastewater works shall be under the supervision of a superintendent who is certified in the appropriate classification.

(B) THE DEPARTMENT SHALL ENFORCE THIS SECTION.

12–501.

(a) A person or municipal or private corporation may not operate a waterworks, wastewater works, or industrial wastewater works unless the facility is under the responsible charge of a certified superintendent.

(b) After July 1, 1982, a person or municipal or private corporation may not operate a waterworks or wastewater works unless all operators in the waterworks or wastewater works are certified operators.

(c) After July 1, 1982, a person or municipal or private corporation may not operate an industrial wastewater works unless all industrial operators in the industrial wastewater works are certified industrial operators.

(D) THE DEPARTMENT SHALL ENFORCE THIS SECTION.

12–602.

Subject to the evaluation and reestablishment provisions of the Program Evaluation Act, and except for the rules and regulations adopted by the Secretary, this title shall terminate and be of no effect after July 1, **[**2011**]** **2021**.

Article – State Government

8–403.

(a) On or before December 15 of the 2nd year before the evaluation date of a governmental activity or unit, the Legislative Policy Committee, based on a preliminary evaluation, may waive as unnecessary the evaluation required under this section.

(b) Except as otherwise provided in subsection (a) of this section, on or before the evaluation date for the following governmental activities or units, an evaluation shall be made of the following governmental activities or units and the statutes and regulations that relate to the governmental activities or units:

(67) Waterworks and Waste Systems Operators, State Board of (§ 12–201 of the Environment Article: July 1, **[**2010**]** **2020**); and

SECTION 2. AND BE IT FURTHER ENACTED, That, on or before October 1, 2011, the State Board of Waterworks and Waste Systems Operators, in conjunction with the Department of the Environment, shall submit a report to the Senate Education, Health, and Environmental Affairs Committee and the House Environmental Matters Committee, in accordance with § 2–1246 of the State Government Article, on the status of nonstatutory recommendations contained in the Sunset Review: Evaluation of the State Board of Waterworks and Waste Systems Operators conducted by the Department of Legislative Services, specifically:

(1) the progress made by the Department of the Environment in developing a database to be used for tracking waste systems facilities;

(2) the capability of databases of the Department of the Environment and the Board to track the employment of superintendents at facilities;

(3) recommendations regarding whether to amend the statute to exempt facilities of a certain size or type from the requirement to employ a certified superintendent;

(4) the Board's promotion of circuit rider services for smaller facilities;

(5) the effect of using circuit riders at previously noncompliant facilities and whether compliant facilities are changing from full–time operators to circuit riders;

(6) the adoption of regulations establishing the Board's circuit rider experience crediting policy;

(7) labor market conditions affecting facility compliance with the certified operator requirement;

(8) the status of upgrading the Board's administrative database;

(9) the status of the upgrade of the Board's website and compatibility with the Board's administrative database and the Department of the Environment's databases;

(10) the Board's website resources for operators, prospective operators, circuit riders, facility owners, and the public;

(11) the use of the Department of the Environment's penalty authority and any recommended changes to that authority;

(12) expanding preexamination training opportunities for operators;

(13) the status of implementing computer–based examinations; and

(14) the Board's ability to generate sufficient fee revenue for the General Fund to cover Board expenditures.

SECTION 3. AND BE IT FURTHER ENACTED, That this Act shall take effect October 1, 2010.

Appendix 8. Written Comments of the State Board of Waterworks and Waste Systems Operators

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101

Martin O'Malley.
Governor

Anthony G. Brown
Lt. Governor

Shari T. Wilson
Secretary

Robert M. Summers, Ph.D.
Deputy Secretary

BOARD OF WATERWORKS AND WASTE SYSTEMS OPERATORS

October 28, 2009

Department of Legislative Services
Office of Policy Analysis
Attention: Ms. Laura J. McCarty, Legislative Mgr.
Legislative Services Building
90 State Circle
Annapolis, Maryland 21501-1991

Dear Ms. McCarty:

The Maryland Board of Waterworks and Waste Systems Operators has received and reviewed the Department of Legislative Services exposure draft Sunset Evaluation report of the Board. The Maryland Department of the Environment (MDE) respectfully provides the following comments to the report:

1. **Page 13, under "Statutory Ambiguity Exists as to Responsibility for Enforcement", Recommendation 1**: The Board will work with MDE to determine if a change should be proposed to the statute for the Legislative Session. The Department's enforcement is implemented through the State regulations by various programs as appropriate. The recommendation stated that the Environment Article Section 12-501 should be amended to clarify that MDE is responsible for enforcement of the requirement that every facility have Board-certified operators and be under the responsible charge of a certified superintendent. Please note that Recommendation 1 conflicts with Recommendation 4. Recommendation 1 may be reworded to state: "Statute should be amended to clarify that MDE is the entity responsible for enforcement of the requirements that facilities have board-certified operators unless a facility is exempt by MDE regulations."

2. **Page 18, under "Operator Certification Tracking at Waterworks", Recommendation 2**: Funding is not available for this activity. The Board will determine if fees should be increased to provide for this database improvement. The Board and MDE will review the recommendation to develop a database for waste systems enforcement personnel with functionality similar to that possessed for public water systems, and determine how it should be prioritized with other outstanding database development issues. This is not required by MDE under existing federal grant commitments.

1. **Page 20, under "Superintendent Certification Tracking is Deficient at the Waterworks and Waste Systems and Noncompliance is Prevalent", Recommendation 3:** Funding is not available for this activity. The Board and MDE will review the recommendation that MDE should ensure that its existing database and any future database developed for tracking of certified operators at waste systems, possesses the capability to also track the presence of superintendents among waterworks and waste systems, and determine how it should be prioritized with other outstanding database development issues. This is not required by MDE under existing federal grant commitments.

2. **Page 20, Recommendation 4,** The Board and MDE agree to prepare a report to the Senate Education, Health and Environmental Affairs Committee and the House Environmental Matters Committee, regarding whether to amend the statute to exempt facilities of a certain size or type from the requirement to employ a certified Superintendent.

3. **Page 21, under "Circuit Riders Offer a Cost-effective Solution for Increasing Operator Certification Compliance Rates" – Recommendation 5 and 6:** The Board feels there are already adequate resources available for small systems to have certified operators. There are a number of private companies that provide circuit riders to water and wastewater systems in this area, including Maryland Environmental Service. 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.

4. **Page 22, Recommendation 6:** The Board does not believe it has adequate resources to implement the recommendation that it monitor the prevalence of circuit riders in Maryland as stated in Recommendation 6.

5. **Page 21, Recommendation 7:** The Board agrees with Recommendation 7 that states that the current Board policy regarding circuit rider experience crediting should be incorporated into regulations.

6. **Page 23, Recommendation 8:** Funding is not available for this activity. The Board and MDE will review the recommendation that MDE should 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, and determine how it should be prioritized with other outstanding database development issues. This is not required by MDE under existing federal grant commitments.

7. **Page 23, Recommendation 9:** Funding is not available for this activity. The Board coordinates web site development through the MDE Information Technology staff. Decisions related to web site development and on-line application submittals will be evaluated by the Department, and implemented as resources become available.

8. **Page 24, Recommendation 10:** The Board and MDE will review the applicability of Environment Article 12-504 of the Annotated Code in future enforcement actions as appropriate.

9. **Page 26, Recommendation 11:** Correction to Recommendation 11: "As the week-long short course offered by the WWOA has historically resulted in higher examination pass rates,…"

The Board does not have staff or resources to offer additional training opportunities throughout the year. MDE provides annual funding to the Maryland Center for Environmental Training to coordinate and develop training for the operators and superintendents. Additional training is developed in coordination with water and wastewater organizations as possible on an ongoing basis.

1. **Page 26, Recommendation 12:** The Board agrees with Recommendation 12, and it is actively working toward implementing computer-based testing starting in mid January of 2010. Only one location will be offered at the start of this testing however the Board is working with the contractor to open more locations. Federal funding under the Safe Drinking Water Act is being used for the initial start-up of this program activity.

2. **Page 30, Recommendation 13:** The Board and MDE already monitor its fees and are open to adjusting the fees as needed.

Conclusion

Finally, the report recommends that the Waterworks Board's termination date be extended to July 1, 2021. The Maryland Board of Waterworks and Waste Systems Operators agrees with this recommendation. The Board is always open to testify before any House or Senate Committee regarding the implementation of all concerns outlined in the exposure draft.

Sincerely,

William A. Shreve, Chairman
Maryland Board of Waterworks & Waste Systems Operators