



MICHIGAN DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY

# Report to the United States Environmental Protection Agency

## ANNUAL REPORT ON OPERATOR CERTIFICATION PROGRAM

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## List of Acronyms

ABE	Advisory Board of Examiners
AWIA	America’s Water Infrastructure Act
Act 399	Michigan Safe Drinking Water Act, 1976 PA 399, as amended
CEC	Continuing Education Credit
CWS	Community Water Supply
DTMB	Michigan Department of Technology, Management and Budget
DWEHD	Drinking Water and Environmental Health Division
EGLE	Michigan Department of Environment, Great Lakes, and Energy
EIS	Environmental Investigation Section
ICE	Internal Controls Evaluation
LHD	Local Health Department
MDE	Michigan Department of Education
MOR	Monthly Operating Report
MRWA	Michigan Rural Water Association
NCWS	Noncommunity Water Supply
NR	Not Required
NTNCWS	Nontransient Noncommunity Water Supply
OAG	Office of the Auditor General
OIC	Operator in Charge
OTCTS	Operator Training and Certification Tracking System
OTCU	Operator Training and Certification Unit
Part 19 Rules	1979 Administrative Rules promulgated under Act 399
PWSS	Public Water System Supervision
RCAP	Rural Community Assistance Program
SDWIS	Safe Drinking Water Information System
SME	Subject Matter Expert
TNCWS	Transient Noncommunity Water Supply
USEPA	United States Environmental Protection Agency

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## 1. Authorization

Authorization: Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399).

The most recent revisions to the Part 19 Rules, *Examination and Certification of Operators*, occurred in 2015 and included updates to R 325.11906a, *Restricted certificates*; R 325.11910, *Application for examination; notice to accepted applicants of examination*; and R 325.11915, *Renewal requirements*. Changes included updates to restricted licenses, examination application deadlines, and minor updates to renewal category requirements.

On October 20, 2021, the Michigan Governor signed legislation (2021 PA 91) that extended the authorization to collect fees for training and certification of drinking water operators. The extension allows fees to be collected through October 1, 2025. These funds assist EGLE in maintaining adequate staffing for the DWEHD, OTCU.

The OTCU strives to implement the Operator Certification Guidelines that are based on the following three public health objectives: (1) customers of any public water system be provided with an adequate supply of safe, potable drinking water; (2) consumers are confident that their water is safe to drink; and (3) public water system operators are trained and certified and have knowledge and understanding of the public health reasons for drinking water standards.

## 2. Classification of Systems, Facilities, and Operators

As defined in the Part 19 Rules, water systems are classified based on complexity, capacity, and/or population served. Michigan has three classification categories, and five levels within each category (level 1 is the highest, level 5 is the lowest).

Certification Classifications and Levels:

- Class F - Complete Treatment Systems (F-1, F-2, F-3, F-4, and F-5).
- Class D - Limited Treatment Systems (D-1, D-2, D-3, D-4, and D-5).
- Class S - Distribution Systems (S-1, S-2, S-3, S-4, and S-5).

Water supplies must be under the supervision of a drinking water operator certified in the appropriate system classification. This requirement applies to all CWSs, NTNCWSs, and TNCWSs that employ treatment. In addition, Part 19 Rules require a waterworks system to have in place a plan for proper operation of the waterworks system when the OIC is not available.

In Michigan, the classification of the water supply is the responsibility of DWEHD district staff and LHD staff. Changes in classification occur infrequently and, when changes do occur, field staff work closely with the supply on any new certification requirements.

Table I lists the number of certified operators in each category at the end of FY 2023.

**Table I.** Number of Certified Operators by Classification for FY 2023

<b>Complete Treatment (F) Licenses</b>	<b>Certified Operators</b>	<b>Limited Treatment (D) Licenses</b>	<b>Certified Operators</b>	<b>Distribution (S) Licenses</b>	<b>Certified Operators</b>
<b>F-1</b>	190	<b>D-1</b>	140	<b>S-1</b>	705
<b>F-2</b>	145	<b>D-2</b>	243	<b>S-2</b>	605
<b>F-3</b>	236	<b>D-3</b>	416	<b>S-3</b>	1,046
<b>F-4</b>	298	<b>D-4</b>	380	<b>S-4</b>	1,192
<b>F-5</b>	63	<b>D-5</b>	257	<b>S-5</b>	475

In addition, EGLE allows two temporary classifications: provisional and reciprocal. EGLE allows complete treatment systems with shift operators to request provisional certificates for operators-in-training at the F-4 certification level. The supply must complete a detailed application documenting the individual has been properly trained and standard operating procedures are documented and followed. A provisional (shift operator) certificate allows the operator to continue gaining valuable on-the-job knowledge while also being certified to serve as a shift operator. Provisional certificates are temporary and initially approved for one year. A provisional certificate may be extended an additional year (not to exceed two years total) if approved by the DWEHD. Individuals are required to take and pass the certification examination to obtain permanent certification in the State of Michigan. In FY 2023 there were 46 provisional certificates issued. Twenty-four provisional operators took the examination and achieved permanent certification. Several individuals have taken the examination once and not passed, and others have not yet had the opportunity to take the examination.

The State of Michigan also allows for reciprocity for out-of-state operators wishing to hold a Michigan drinking water certificate. EGLE has an application and review process for operators wanting to move to the State of Michigan to fill a job vacancy. The out-of-state certificate is compared with Michigan’s requirements and a temporary certificate may be issued by EGLE to an individual who holds a similar operator certificate in another state. The certificate is temporary and valid only until the next available EGLE examination. In FY 2023, EGLE issued four provisional certificates.

LHDs are contracted by EGLE to provide technical assistance and oversight to NCWSs in Michigan. Currently, there are 1,333 active NTNCWSs and 101 TNCWSs identified as requiring a certified operator.

The following table lists the number of NCWSs that employ treatment and are overseen by a Level 5 certified operator. For these NCWSs, LHDs are required to conduct treatment surveillance visits each calendar year. LHDs invite EGLE representatives and

engineers when assistance is needed for more complex treatment systems. LHDs are also required to ensure MORs are submitted monthly, and EGLE NCWS staff check on MORs during the quarterly review process. EGLE staff also look for MORs in the facility files during the annual LHD evaluations.

**Table II.** Number of NCWSs Overseen by a Level 5 Operator by Treatment Category

Treatment Category	Number of NCWSs
NCWSs using surface water or groundwater under direct influence of surface water	10
NCWSs that disinfect (including hypochlorination, gaseous chlorine, or others as applicable)	99
NCWSs that use other treatment to remove a contaminant with a maximum contaminant level	213
NCWSs that use other chemical feeds (e.g., chlorination/permanganate feeds for iron and manganese removal, phosphate addition for corrosion control)	223

### 3. Operator Qualifications

To qualify for examinations in the State of Michigan an individual must have a minimum amount of education and experience. Minimum education for the lowest level operator is a high school diploma, GED, or the equivalent. In addition, a minimum amount of experience must be achieved at each level, except for Level 5. EGLE verifies applicants have the minimum education and experience requirements. In addition to qualifying to take the examination, an operator must pass the examination by scoring 70.00% or more to become certified.

The minimum on-the-job experience required depends on the Category (F, D, or S) and Level (1-5). The table below describes the minimum experience points necessary to take the examination. For example, to qualify for the F-4 examination, an operator needs a minimum of three months of full-time work experience.

**Table III.** Experience Qualifications

Complete Treatment (F) Licenses	Months of Experience	Limited Treatment (D) Licenses		Months of Experience	Distribution (S) Licenses	Months of Experience
F-1	60	D-1		48	S-1	48
F-2	30	D-2		24	S-2	24
F-3	15	D-3		12	S-3	12
F-4	3	D-4		6	S-4	6
F-5	NR	D-5		NR	S-5	NR

Examinations are designed to test the skills and knowledge necessary for each certification category and level. Examinations are validated per the process described in Section 8 of this report.

Some existing operators possess “grandfathered” certifications. Currently, 80 operators hold grandfathered licenses, and an additional 12 operators hold both a grandfathered license and a standard license in a different certification category. These numbers may fluctuate from year to year because, though an individual’s license may expire, he/she can reapply during the one-year renewal grace period. These individuals must meet the same requirements as unrestricted license holders. It is no longer EGLE practice to issue this type of license.

#### 4. Enforcement

EGLE provides technical assistance to address when a CWS fails to submit reports and/or required samples, submits inaccurate or incomplete reports, or there are operational concerns. EGLE monitors compliance status, issues violations, and trains owners and operators to promote compliance.

The majority of CWSs without an OIC are due to situations such as operator turnover and retirements. The DWEHD policy titled “Community and Noncommunity Water Supply Systems - Required Operations Oversight” defines minimum oversight for CWSs and NCWSs during standard operation and/or when the OIC leaves (interim operation). CWSs are required under R 325.11905 of the administrative rules to be under the supervision of an OIC certified in the appropriate system classification. In addition, all CWSs are required to designate a backup operator or have a plan for proper operation when the OIC is unavailable. For larger supplies serving greater than 4,000 people, the backup operator must hold the appropriate certification, either a treatment or a distribution license. If the backup operator does not have the required level of certification, EGLE PWSS staff work with the water supply to establish an interim OIC while also pursuing a permanent replacement. The same applies to smaller CWSs

where the individual responsible for backup operation is not required to hold any certification. In these cases, the interim solution often is to contract with a properly certified operator to provide oversight until a permanent arrangement can be made.

The amount of time a CWS may operate under an interim OIC is determined on a case-by-case basis. If a CWS has an existing employee who is eligible to take the appropriate certification examination, it is common practice to allow the supply until the next scheduled examination so the employee can take the examination and become certified. This time should not exceed six months as examinations are usually offered twice per year. If no existing employee is eligible, CWSs are expected to pursue a new OIC as soon as possible. What is considered timely is determined by EGLE field staff based on system-specific circumstances. If a CWS does not retain an OIC by the end of the interim period, EGLE issues a violation/deficiency for failure to have a qualified OIC. Continued failure may result in escalated enforcement such as an administrative compliance agreement or other escalated action.

In FY 2022, EGLE's CWS program developed a form titled "Owner/Operator Responsibility Designation." This form is intended to assist owners or administrators of CWSs in identifying and documenting the assignment of system operation and maintenance tasks. The form is voluntary but recommended by EGLE staff in situations where these responsibilities need to be further outlined by the water supply. In FY 2023, this form has continued to help the DWEHD with information on contract operators.

There are currently 1,387 CWSs required to have a certified OIC. There were seven CWS violations issued for lack of an OIC during FY 2023. Five of the violations were resolved within one month or less of the system being notified. The remaining two violations were resolved within two months. Of the seven total violations, three were issued to systems that employ treatment and the remaining four were at untreated supplies. At this time, all violations issued in FY 2023 have been resolved. CWSs are aware of the OIC requirement and EGLE staff assist all supplies in maintaining compliance. EGLE had one escalated operator enforcement cases in FY 2023. This case was resolved by settlement with the operator.

EGLE is currently working on an update to the current operator training and certification enforcement policy. Presently, if EGLE has substantial concerns about misconduct of an existing operator, a referral for investigation is made. Regulations authorize the director of EGLE to revoke, suspend, or put on probation an operator's certificate after an EGLE and ABE hearing. Parallel investigations can be referred to the EIS of the Michigan Department of Natural Resources for potential criminal enforcement. The EIS serves as the investigative and law enforcement resource for EGLE.

NCWS PWSS staff monitor compliance in the noncommunity program through regular communication with the LHDs. The quarterly review process for LHDs includes



notification and follow up on operators that expired during the quarter. This process has successfully reduced the number of supplies lacking a certified operator over the course of the fiscal year. Follow up to an NCWS lacking a certified drinking water operator is initiated and conducted primarily by LHD staff, who provide written notification to the water supply. Failure by the NCWS to comply within 30 days could warrant escalated enforcement by the LHD, which may involve an informal meeting or other activities as appropriate. Staff from the NCWS Unit assist LHD staff with further escalated enforcement activities. Guidance material and template letters are available to LHD staff. When LHD enforcement actions are unsuccessful, EGLE sends a Notice of Violation. EGLE also hosted training for operators that work at NCWSs across the state to provide guidance and education on how to remain in compliance.

At the time of this writing, 47 NTNCWSs and zero TNCWSs are without an OIC according to the NCWS database. The NCWS Program had 13 water supplies that appeared on more than three missing certified operator reports. The missing operator report is run quarterly. The reasons given for these 13 supplies lacking OICs include continued difficulties caused by the COVID-19 pandemic and operators letting certificates expire. LHDs pursue supplies without OICs as described above. The NCWS Program will follow up with LHDs regarding the 13 supplies that appeared on more than three missing certified operator reports to ensure appropriate enforcement actions were taken. Of these 13 supplies, three have regulated treatment to remove arsenic (Public Water Supply IDs: 2006674, 2214463, and 2271263), one of which has since retained a certified operator. The NTNCWS Program had no systems that disinfect that lacked a qualified operator during FY 2023.

## **5. Certification Renewal**

Michigan's Operator Certification Renewal Program is based on a three-year renewal cycle for all certification levels. The number of CECs required for renewal ranges from 24 contact hours for the highest CWS certification levels to nine contact hours for the lowest certification levels. The OTCU uses the OTCTS database to record the number of CECs awarded to certified operators.

A renewal notice is mailed to applicable operators approximately two months prior to the certificate expiration date. EGLE staff are emailed lists of expiring and expired operators. The mailing to operators includes instructions for obtaining a copy of the renewal application from the OTCU website. A phone number is also provided for operators to call and request a hard copy application be mailed.

There were 1,201 operators required to renew their licenses in FY 2023 or lose certification. See Table IV for FY 2023 renewal rates.

**Table IV. FY 2023 Certification Renewal Rates**

<b>FY 2023 Renewals</b>	<b>Number</b>
Levels 1-4 (CWS)	780
Level 5 (NCWS and CWS with no treatment and distribution system limited in extent)	121
<b>Total Drinking Water Renewals</b>	<b>901</b>

The ABE advises EGLE on program implementation and revisions to the Operator Certification Program. The ABE met four times in FY 2023. A main function of the ABE is to review and approve training courses and programs for drinking water CECs. Continuing education course approvals are granted during regularly scheduled ABE meetings. The list of courses approved by the ABE is available on the OTCU website. This makes it possible for certified operators to check the website prior to attending training to be sure a course has been approved for CECs.

CWSs are required to attend courses for CECs that are technically and/or managerially related to the operation, maintenance, or management of a drinking water system. The higher the certification level, the greater the number of technical or managerial continuing education contact hours required. Drinking water certification renewals are subject to the continuing education criteria laid out in Table V, below. Notification of the CEC category requirement is mailed to operators when they renew their current certificate or pass a new certification examination. This information is also available on the EGLE website.

**Table V. Minimum Requirements for Continuing Education**

Highest certification level held	Minimum number of continuing education training hours required to renew	Minimum number of continuing education training hours categorized as technical, managerial, or both
1 or 2	24	18
3	24	12
4	12	6
5	9	no minimum

Examinations are normally offered twice per year, providing two opportunities to qualify for and take an examination, or retake a previously failed examination(s). In FY 2023 EGLE held examinations in November 2022 and May 2023. The OTCU received a record 2,548 applications in FY 2023.

Examination offerings are promoted through targeted mailings via traditional mail or email, by various associations related to the drinking water community, and on the

EGLE website, which shows the examination schedule, examinations offered, and application postmark deadline for the calendar year.

## **6. Resources Needed to Implement the Program**

The OTCU meets the Baseline Standard 6 regarding resources needed to implement the program. The OTCTS database functions well; however, the OTCU is exploring other database options for an improved, modernized data system. The OTCU is working with the Michigan Department of Technology, Management and Budget to evaluate options. In FY 2023, a Request for Information was issued, soliciting potential interest from vendors with relevant software products. EGLE hopes to proceed with an RFP during FY 2024. The current OTCTS database tracks certification and renewal of drinking water operators. Water supply OIC assignments are tracked separately in SDWIS/State for CWSs. NCWS OIC designations are tracked in WaterTrack which will be migrating to SDWIS/State in the future.

The OTCU uses a Test Scoring Machine, Optical Mark Read scanner (Scantron Insight 4ES), to avoid hand-scoring and to reduce errors and administrative workload, allowing the OTCU to combine the score of a performance-based activity with an objective score. ParTest is examination question item banking software that provides the ability to record, maintain, and inventory validated and referenced examination questions. In addition, ParTest allows the user to create examinations comprised of multiple objectives and maintain statistical response data for each examination question and provide overall statistical data about the examinations. This software assists in developing examinations to internal standards and allows the administrator to edit, review, and change question parameters.

ParScore, a complement to ParTest, allows the examination administrator to grade examinations and provides a variety of reporting capabilities. ParScore also tracks individual response data and provides the ability to post statistical response data to ParTest. ParScore provides the ability to maintain individual examinations for each applicant and provides a detailed summary of examination results on each examination objective, which is provided to each examinee.

In FY 2023, the OTCU worked with DTMB to purchase ParOnline software. The OTCU is currently working with the vendor, DTMB, and remote testing facilities to develop a process for remote hosting of drinking water examinations. This will allow the OTCU to offer the examinations more frequently. The software is compatible with the OTCU's current software which should allow a smooth transition. The OTCU purchased the software in FY 2023 and plans to conduct a pilot test soon.

The OTCU resides in the DWEHD, which allows for coordination of training and certification activities between the OTCU and staff responsible for implementing other

PWSS Program activities. It allows collaboration on some OTCU activities, such as reviewing draft examinations and teaching courses. Presently, the OTCU consists of six employees: a manager, an engineer, two analysts, an office assistant, and a technician, along with a shared secretarial position. The OTCU is evaluating the need for increased resources. The OTCU has seen increasing applications year-after-year, along with increasing certifications due to a new secondary treatment exam and new systems being classified. There will be a continued review of resource sufficiency in FY 2024.

## **7. Recertification**

An operator who allows their certificate to expire may have it reinstated for up to one year from the date of expiration, provided the individual obtains the additional prorated number of required CECs. There were 300 operators who let their certificates lapse and were reinstated before the end of the one-year grace period. Operators that go beyond the grace period have their certifications permanently removed from the database. If they wish to become recertified, they must reapply and retake the certification examination.

## **8. Stakeholder Involvement**

The primary method of stakeholder involvement is the ABE. Act 399 requires EGLE to appoint the ABE to assist EGLE in the examination of individuals as to their competency to operate public water supplies. The makeup of the ABE is such that broad-based stakeholder involvement is achieved. The ABE consists of two certified water treatment operators, two certified water distribution operators, one superintendent or manager of a supplier of water, one representative of the administrative branch of a local governmental agency, two members of the public at large, and one professor of sanitary or environmental engineering at a Michigan university. The ABE is required to meet at least twice each year to advise EGLE on program implementation and any proposed revisions to the operator certification program.

Additionally, three groups of SMEs meet routinely for the development and validation of certification examination questions. Each group consists of drinking water SMEs certified at the highest level within each of the three examination classifications. The charge of the SMEs is to assist EGLE and the ABE with review and validation of existing examination questions for the Level 1 through 4 examinations and to develop new examination questions. The level of effort contributed by these stakeholder groups is significant. Examination questions validated by the various SME groups have been used since 2004. The older questions in the examination question pools are reviewed periodically for relevance to new standards, practices, and technology. New examination questions are developed in conjunction with, and reviewed by, these stakeholder groups. In FY 2023, there were 29, 24, and 27 new examination questions

developed for the S, D. and F examinations, respectively. OTCU exam software has the capability to provide statistics of all new questions, which further helps validate the examinations.

Existing Level 5 examination questions for the S-5, D-5, and F-5 have been developed and validated by EGLE staff. In 2021, a new S-5 examination was developed. The OTCU is in the process of identifying SMEs for Level 5s to improve the examination and increase questions for secondary treatment operators.

In FY 2023, the OTCU developed new practice examinations for the F, D, and S examinations. The OTCU received positive comments from the industry regarding the practice examinations. In addition, The OTCU conducted a survey of the May 2023 examinees. One hundred thirty-three examinees responded to the survey that asked participants whether they had used the practice examination to prepare for examinations. One hundred eleven individuals responded that they had utilized the practice examination. Of the 111 people that took the practice examination before taking the May 2023 examination, 79 passed versus 32 who did not pass.

Further analysis revealed that the average examination score of those who took the practice examination was 75%, versus an overall average score of 70% for all examinees. This indicates the practice examinations had a positive impact on the overall passing results. On average, the people who took a practice examination did better than those that did not take the practice examination.

## **9. Program Review**

The ABE, working with OTCU staff, review program activities on an ongoing basis. Reviews are primarily of activities coordinating operator certification procedures conducted by staff in the OTCU and by providing input on program policies. Internal review activities needing attention include examination formulation, examination grading, review of program policies and procedures, etc.

In FY 2023, the OTCU reviewed the overall examination process and statistics in collaboration with the MDE. A psychometrician with the MDE assessed and reviewed the OTCU's examination methodology and made recommendations. The psychometrician's assessment found the OTCU has a good overall examination process. However, there were some recommended practices to improve certain examination areas that the OTCU will continue to evaluate and implement as appropriate.

The OTCU also reviewed recent examination statistics. ParTest software allows the OTCU to develop an examination and obtain a predicted average score (P-value) for any examination. This P-value represents the predicted average score, on any

examination, based on the combination of low, medium, and difficult questions. This predicted P-value serves as a gauge when developing an examination’s predicted average percent score. From the table below, one can compare the actual average “Spring 2023 Avg” to that of the software predicted average “Spring 2023 P-Value Avg.” Note that each examination’s result average is at or around the predicted P-value average. This corresponds to a reasonably normal distribution curve since most examination scores are clustered around the examination average for EGLE examinations.

Basic concepts of examination statistical analysis indicate that a normal distribution curve follows a bell-shaped pattern when plotting examinee scores. Normal distribution is observed when individual examinee scores are centered around the overall examination average as can be seen in the table below.

**Table VI.** Average Score and Predicted Average Score (Spring 2023)

<b>License</b>	<b>Spring 2023 Actual Average Score</b>	<b>Spring 2023 Predicted Average Score</b>
<b>F-1</b>	72.36%	70.42%
<b>F-2</b>	68.63%	69.79%
<b>F-3</b>	68.69%	69.92%
<b>F-4</b>	68.61%	69.90%
<b>D-1</b>	72.37%	69.73%
<b>D-2</b>	66.06%	70.39%
<b>D-3</b>	70.51%	70.49%
<b>D-4</b>	71.33%	70.36%
<b>S-1</b>	72.78%	71.12%
<b>S-2</b>	71.54%	70.35%
<b>S-3</b>	70.50%	70.19%
<b>S-4</b>	72.07%	71.45%

The examination proctoring process was recently reviewed and improved. An instructional webinar was held to assist proctors with the FY 2023 examination process and allow for questions.

The examination and renewal application process undergoes continuous improvement. A short video was developed to assist operators with the renewal application process. The video is in the process of being edited and should be available early in FY 2024. Michigan’s OAG conducts periodic program reviews. Previous reviews of the EGLE operator certification program component were completed, and their recommendations were implemented. The OAG conducted a Performance Audit of select PWSS Program elements during 2016 but did not select OTCU activities as a primary focus of that audit.



EGLE routinely conducts ICE reviews of major programs. The most recent ICE reviews of the CWS and NCWS programs, conducted in FY 2021, incorporated review of OTCU elements.

Several of the USEPA's review activities incorporate assessment of OTCU activities. The USEPA's 2017 OTCU program review assessed elements of the OTCU and enforcement of OIC requirements, and the USEPA's annual Drinking Water State Revolving Fund set-aside review includes evaluation of OTCU program activities. Year-end reviews of this OTCU report and the PWSS year-end report also provide opportunity for the USEPA review of program activities.

## **10. Implementation Update / Summary of Major Program Activities**

### 10.1 Major Operator Certification Activities Conducted During FY 2023:

- EGLE participated in USEPA and the Association of State Drinking Water Administrators Operator Certification Coordinator Calls. These calls cover topics such as how states handle contract operators, workforce issues, conferences relevant to the OTCU, and capacity development.
- EGLE conducted 42 virtual and six in-person drinking water training sessions for operators, LHDs, and internal staff. Operators and other water professionals accounted for 6,344 individual course registrations in FY 2023. Virtual courses enabled EGLE to reach a significantly larger audience than in-person trainings.
- Courses offered by EGLE drinking water staff in FY 2023 included: Cross Connections, Limited Treatment, Distribution, Revised Total Coliform Rule, Lead and Copper Rule, Lead in Schools, Small Systems Series, Plankton Course, CWS Updates, Water Math Basics, Principles of Chemistry, Consumer Confidence Reports, the Surface Water Training Series, sessions at the Great Lakes Water Infrastructure Conference, and a new Source Water Series.
- Updated a web-based listing of all ABE-approved courses to assist drinking water personnel in maintaining certification. This update included 108 newly added courses, of which 70 are virtual trainings.
- Held a laboratory practical examiners meeting to update and improve the laboratory practical portion of the examination.
- Technical assistance providers hosted several trainings. The RCAP conducted trainings in the following areas: Act 399, lead learning lab and water quality sampling, managing water quality, and water loss. They trained 136 operators at various locations. In addition, the RCAP assisted 15 communities with various issues (e.g., assisting with reports, flushing water mains, Geographical Information System, etc.). The MRWA offered trainings on sanitary surveys, chemical feed and disinfection, monitoring and sampling, cross connections/hydrant/valve operation and maintenance. The MRWA assisted

110 communities in several areas including, but not limited to, AWIA, boards, operation and maintenance, management and finance, State Revolving Fund, security, and technical capacity.

- Updated internal guidance document detailing examination application scoring methods and criteria.
- Provided training opportunities for small community and NTNCWS operators to meet renewal requirements for their certifications. Five virtual sessions were conducted in the summer of 2023.
- Maintained a web-based application allowing certified operators and the public to view pertinent information regarding their certifications. Operators can look up certificate renewal status, a list of courses completed, and other information.
- Provided PWSS staff a list of expired and about-to-expire operators four times each year to help with OIC requirements.
- Mailed notification of impending expiration to operators to improve compliance. When an operator's certificate expiration date is within eight weeks of the current date, a time-delayed web link allows for printing of their renewal application so the operator can more easily renew certificate(s).
- SME workgroups met twice following the November 2022 and May 2023 examinations to validate the F, D, and S examination item banks.
- Targeted notification to certified operators detailing training opportunities and program changes for both EGLE courses and USEPA contractor trainings.
- Provided regional training at various locations around the State of Michigan for both CWS and NCWS operators and coordinated with USEPA grant-funded contractors by cosponsoring and promoting the training to operators.
- Met with the USEPA technical assistance providers, MRWA and RCAP, to coordinate and prioritize USEPA-contracted training.
- Conducted additional in-person courses on cross connections and math in Michigan's Upper Peninsula and the Detroit area and offered an in-person laboratory-based plankton course.
- The OTCU participated in EGLE's Great Lakes Water Infrastructure Conference that had a water track with over 282 operators attending. There was a cybersecurity workshop that had 28 attendees.
- Set up a training partnership for tribes with the RCAP.
- Four staff attended the Region 5 USEPA Operator Certification/Capacity Development Conference.
- Participated in a local high school career day and talked about drinking water operations as a career.
- Posted free trainings from USEPA course providers on the OTCU's website.
- Held the second Michigan Water and Wastewater Professionals Workforce Week in FY 2023. The Governor issued a proclamation for the week of December 12-18, 2022, highlighting and commemorating the essential water and wastewater



professionals in the state. Four webinars were offered with 1,458 individual course registrations, a 46 percent increase over the prior year.

- Began developing a laboratory video series to improve compliance with sampling methods. The OTCU collaborated with DWEHD staff to develop a bacteriological laboratory sampling video. Other videos are expected to be released in FY 2024.
- Developed practice exams for the F, D, and S exams as study tools for operators.
- Tracked new applications to the water supply industry to provide a metric on the workforce EGLE initiatives.
- Saw a 38 percent increase in examination applications when comparing Fall 2021 to Fall 2022. In that same fiscal year there was a 31 percent increase in examination applications year over year from Spring 2022 to Spring 2023. One possible reason could be the DWEHD's focus on workforce issues in the industry. These are good signs for the drinking water workforce in Michigan. Worked with the MDE to review examination formulation processes.
- Evaluated methods to offer the low-level examinations more frequently by utilizing remote testing centers. Continued progress on replacement of the OTCTS software to expand/improve IT capabilities, including a robust online application process.

#### 10.2 Climate Change/Resiliency Activities in FY 2023:

- The OTCU offered the plankton course again in the summer of FY 2023. The course included in-person laboratory experiences with a distinguished doctoral expert in the industry explaining climate change-induced algal blooms in the Great Lakes.
- EGLE continued to offer MI Healthy Climate webinar series.
- EGLE added climate change questions to the drinking water question databank.
- The OTCU incorporated Incident Command System (ICS) courses in new employee training for new staff to help with emergency preparedness efforts and climate change resiliency.

#### 10.3 Major Operator Certification Activities Planned for FY 2024:

- The Governor issued a Proclamation for Water and Wastewater Professionals Workforce Week for the week of December 11-17, 2023. EGLE held three free webinars for operators during this week.
- Work with DTMB on the RFP process to get a replacement database for OTCTS.
- Continue work on water sector resiliency with initiatives on climate change and cybersecurity as the focus.

- Create a contract operator list to be housed on the OTCU website to connect water supplies with available professionals.
- Improve operator certifications in emergency preparedness training through the Federal Emergency Management Agency (FEMA). Offer CECs for attainment of certifications of ICS 100, 200, 700 and 800.
- Continue to assist and facilitate in-house training for staff and operators.
- Continue the development of new examination questions for Scantron item bank for all levels.
- Continue SME workgroups to validate new F, D, and S examination questions twice a year.
- Continue no/low-cost continuing education training opportunities for small CWS and NTNCWS operators.
- Develop new operator ethics training.
- Continue developing laboratory sampling videos and training field staff on laboratory equipment.
- Promote work with technical assistance providers on the AWIA Environmental Response Plans and Risk and Resiliency Plans and encourage small systems to complete them.

Questions about this report may be forwarded to:

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