

Michigan Department of Environment, Great Lakes, and Energy
Drinking Water and Environmental Health Division

ANNUAL REPORT ON OPERATOR CERTIFICATION PROGRAM

FISCAL YEAR 2022

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[Michigan.gov/EGLE](https://www.michigan.gov/EGLE)

List of Acronyms

ABE	Advisory Board of Examiners
Act 399	Michigan Safe Drinking Water Act, 1976 PA 399, as amended
CEC	Continuing Education Credit
CWS	Community Water Supply
DWEHD	Drinking Water and Environmental Health Division
EGLE	Michigan Department of Environment, Great Lakes, and Energy
FY	Fiscal Year
GIS	Geographical Information System
ICE	Internal Controls Evaluation
LHD	Local Health Department
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
OTC	Operator Training and Certification
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 Partnership
RRA	Risk and Resiliency Assessment
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

Authorized by Act 399.

The most recent revisions to Part 19, *Examination and Certification of Operators*, of the Part 19 Rules 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 reauthorized 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 requires a waterworks system to have a plan in place 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 2022.

Table I. Number of Certified Operators by Classification for FY 2022

Complete Treatment (F) Licenses	Certified Operators	Limited Treatment (D) Licenses	Certified Operators	Distribution (D) Licenses	Certified Operators
F-1	177	D-1	140	S-1	686
F-2	150	D-2	247	S-2	571
F-3	242	D-3	406	S-3	999
F-4	298	D-4	368	S-4	1,083
F-5	58	D-5	239	S-5	458

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 2022 there were 35 provisional certificates issued. Three 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 2022, EGLE did not issue any reciprocal certificates.

LHDs are contracted by EGLE to provide technical assistance and oversight to NCWSs in Michigan. Currently, there are 1,309 active NTNCWSs and 82 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
NCWS that disinfect (including hypochlorination, gaseous chlorine, or others as applicable)	90
NCWS that use other treatment to remove a contaminant with a maximum contaminant level	186
NCWS that use other chemical feeds (e.g., chlorination/permanganate feeds for iron and manganese removal, phosphate addition for corrosion control)	44

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 percent 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 (D) 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, 96 operators hold grandfathered licenses, and an additional 14 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 Consent Order 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 community water systems in identifying and documenting the assignment of system operation and maintenance tasks. The form is voluntary but will be recommended by

EGLE staff in situations where these responsibilities need to be further outlined by the water supply.

There are currently 1,381 CWSs required to have a certified OIC. There were 13 CWS violations issued for lack of an OIC during FY 2022. Ten of the violations were resolved within one month or less of the system being notified. The remaining three violations were resolved within approximately three months. Of the 13 total violations, nine were issued to systems that employ treatment and the remaining four were at untreated supplies. At this time, all violations issued in FY 2022 have been resolved. CWSs are aware of the OIC requirement and EGLE staff assist all supplies in maintaining compliance. EGLE had no escalated operator enforcement cases in FY 2022.

EGLE is currently working on an update to the current OTC 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 specialist 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, 57 NTNCWSs and zero TNCWSs are without an OIC according to the NCWS database. The NCWS Program had 12 water supplies that appeared on more than three missing certified operator reports. The missing operator report is run quarterly. The reasons given for these 12 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 12 supplies that appeared on more than three missing certified operator reports to ensure appropriate enforcement actions were taken. Of these 12 supplies, one has regulated treatment - Goodrich Middle School (PWS ID: MI2155125) – which has since retained a certified operator.

The NTNCWS Program had one system that disinfects, West Midland Family Center (PWS ID: MI2002156), that lacked a qualified operator for one quarter. The certification

lapsed, and the COVID-19 pandemic was given as the reason. The operator is currently up to date with certification and does not expire until 2024.

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 1,547 operators required to renew their licenses in FY 2022 or lose certification. See Table IV for FY 2022 renewal rates.

Table IV. FY 2022 Certification Renewal Rates

FY 2022 Renewals	Rate
Levels 1-4 (CWS)	69% (884 of 1281)
Level 5 (NCWS and CWS with no treatment and distribution system limited in extent)	64% (171 of 266)
Total Drinking Water Renewals	1,055

The ABE advises EGLE on program implementation and revisions to the Operator Certification Program. The ABE met five times in FY 2022. 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 2022 EGLE held examinations in November 2021 and May 2022. The OTCU received a record 2,038 applications in FY 2022.

Examination offerings are promoted through targeted mailings via traditional mail or e-mail, 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 evaluated one off-the-shelf database in FY 2022; however, it did not meet the necessary requirements. The OTCU has requested assistance from the Michigan Department of Technology, Management and Budget to assist with evaluating other replacement options. The current OTCTS database tracks certification and renewal of drinking water operators. Water supply OIC assignments are tracked separately in SDWIS/State for CWS. 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 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, which in turn helps the examination administrator determine the level of difficulty for each examination question.

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.

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 some OTCU activities to be distributed among other PWSS staff as needed, 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. There will be continued review of resource sufficiency in FY 2023.

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 492 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 2022, there were 23, 24, and 40 new examination questions developed and validated by the SMEs for the S, D, and F exams, respectively. OTCU

exam software has the capability to provide statistics of all new questions which further helps validate the exams.

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.

Examination pass rates are an indication of the overall difficulty of the exam. However, there are limits when only looking at exam pass rates. For example, the number of examinees for each test can skew the numbers significantly for providing good statistics, particularly for examinations with a low number of examinees. In addition, the pass rates do not assess how many students were near the passing score cutoff. A deeper look at exam statistics will be conducted in FY 2023 in collaboration with the Michigan Department of Education. More detail on this can be found in Section 9.

Table VI. Ten-Year Average Percent Pass Rate (Spring 2021 - Spring 2022)

Complete Treatment (F) Licenses	Pass Rate	Limited Treatment (D) Licenses	Pass Rate	Distribution (D) Licenses	Pass Rate
F-1	41.18%	D-1	40.00%	S-1	57.89%
F-2	24.56%	D-2	46.15%	S-2	39.10%
F-3	43.40%	D-3	45.68%	S-3	37.70%
F-4	48.42%	D-4	53.4%	S-4	49.73%

EGLE staff continue to serve as examination proctors for all examinations, creating a consistent test taking experience for examinees and ensuring a safe, fair, and consistent examination experience.

Michigan’s Governor directed state agencies to conduct a review of the state’s role in drinking water systems. A portion of this project involved a regulatory review leading to recommendations for regulatory updates. EGLE held several stakeholder sessions to gather feedback. This process may result in opportunities for regulatory updates associated with the OTC program.

9. Program Review

The ABE, working with OTCU staff, reviews 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.

The examination proctoring process was recently reviewed and improved. Additional documents to ensure the safety protocols necessary to conduct an examination safely during the COVID-19 pandemic were added. An instructional webinar was held to assist proctors with the FY 2022 exam process and allow for questions.

The examination application process undergoes continuous improvement. A short video was developed to assist operators with properly completing an examination application. This has improved overall application quality over the past two years and reduced the number of follow-up calls OTCU staff must make. During the COVID-19 pandemic, it was critical to communicate via the OTCU website. These web updates improved customer service during this time and reduced the amount of phone calls the OTCU would have received during this period.

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 an opportunity for the USEPA review of program activities.

The regulatory review being conducted as part of the Governor's initiative, noted in Section 8 above, included not only stakeholder input, but also internal review and comment for potential regulatory improvements. In addition, an internal review of OTCU examination processes and software will be reviewed in FY 2023, which may result in recommendations for improvement.

10. Implementation Update / Summary of Major Program Activities

10.1 Major operator certification activities conducted during FY 2022:

- The COVID-19 pandemic continued to create program implementation challenges in FY 2022. Program staff spent time adjusting processes and procedures to address these challenges, including modification of examination hosting protocols.
- EGLE conducted 56 virtual drinking water training sessions for operators, LHDs, and internal staff. Over 6,946 individual course registrations were recorded. Virtual courses enabled EGLE to reach a significantly larger audience than in-person trainings. These online trainings will continue based on demand and the ability to reach a larger audience.
- Courses offered by EGLE drinking water staff in FY 2022 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, and the Great Lakes Water Infrastructure Conference.

- Updated a web-based listing of all ABE-approved courses to assist drinking water personnel in maintaining certification. This update included newly added virtual training with over 241 approved online courses.
- Technical assistance providers hosted several trainings. The RCAP conducted trainings in the following areas: RRAs, standard operating procedures, manganese and PFAS, water main breaks and cross connections, GIS, complying with nitrate regulations, field days and the well managed utility series. They trained 280 operators at various locations in the state. In addition, the RCAP assisted communities with various issues (e.g., assisting with reports, flushing water mains, GIS, etc.). The MRWA offered numerous courses in cross connection, chemical dosing, sanitary survey, regulatory monitoring, and sampling. They trained 580 operators at various locations in the state.
- 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 2022.
- Maintained an intranet application allowing EGLE technical staff access to readily confirm a certified operator's status.
- 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 postcard 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 2021 and May 2022 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 USEPA technical assistance providers, the MRWA and the RCAP, to coordinate and prioritize USEPA-contracted training.
- Conducted additional in-person courses on cross connections and math in Michigan's Upper Peninsula and in the Detroit area and offered a laboratory-based plankton course in person.
- The OTCU participated in EGLE's first ever Great Lakes Water Infrastructure Conference that had a water track with over 1,400 operators attending.
- Set up a training partnership for Tribes with the RCAP.

- Three staff attended the National Operator Certification and Capacity Development Conference.
- Participated in a local high school career day and talked about drinking water operations as a career.
- Participated in EGLE's first ever MI EnviroSchool and provided important workforce information to over 19 schools.
- Added 87 new examinations questions that were validated by the SMEs. Posted free trainings from USEPA course providers on the OTCU's website.
- Designed and implemented a new renewal form for operators.
- Updated the website to increase mobile accessibility.
- Held the first Michigan Water and Wastewater Professionals Workforce Week in FY 2022. The Governor issued a Proclamation for the week of December 13-19, 2021, highlighting and commemorating the essential water and wastewater professionals in Michigan. Four webinars were offered with 750 individual course registrations.
- Updated and taught a virtual water treatment course for surface water operators.

10.2 Major operator certification activities planned for FY 2023:

- Issued a Governor's Proclamation for Water and Wastewater Professionals Workforce Week for the week of December 12-18, 2022. EGLE will hold four free webinars during this week.
- Continue work on water sector resiliency with initiatives on climate change and cybersecurity as the main focus.
- Create a contract operator list to be housed on the OTCU website to connect water supplies with available professionals.
- Continue progress on enhancements or replacement of the OTCTS to expand/improve IT capabilities, including a robust online application process. Consideration will be given to working in collaboration with EGLE's Wastewater Certification Program based on similar IT needs.
- 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. Developed new training modules for small CWS and NTNCWS operators.
- Develop a training video to help operators complete renewal applications to increase the rate of renewals in FY 2023.
- Develop lab sampling videos to improve compliance with sampling procedures and plans.
- Develop practice exams for the F, D, and S exams as study tools for operators.
- Promote work with technical assistance providers on America's Water Infrastructure Act Environmental Response Plans and RRAs and encourage small systems to complete them.

- Track new applications to the water supply industry to provide a metric on the workforce EGLE initiatives.
- Work with the Michigan Department of Education to review examination formulation processes.
- Evaluate methods to offer the low-level exams more frequently by utilizing remote testing centers.

Questions about this report may be forwarded to:

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