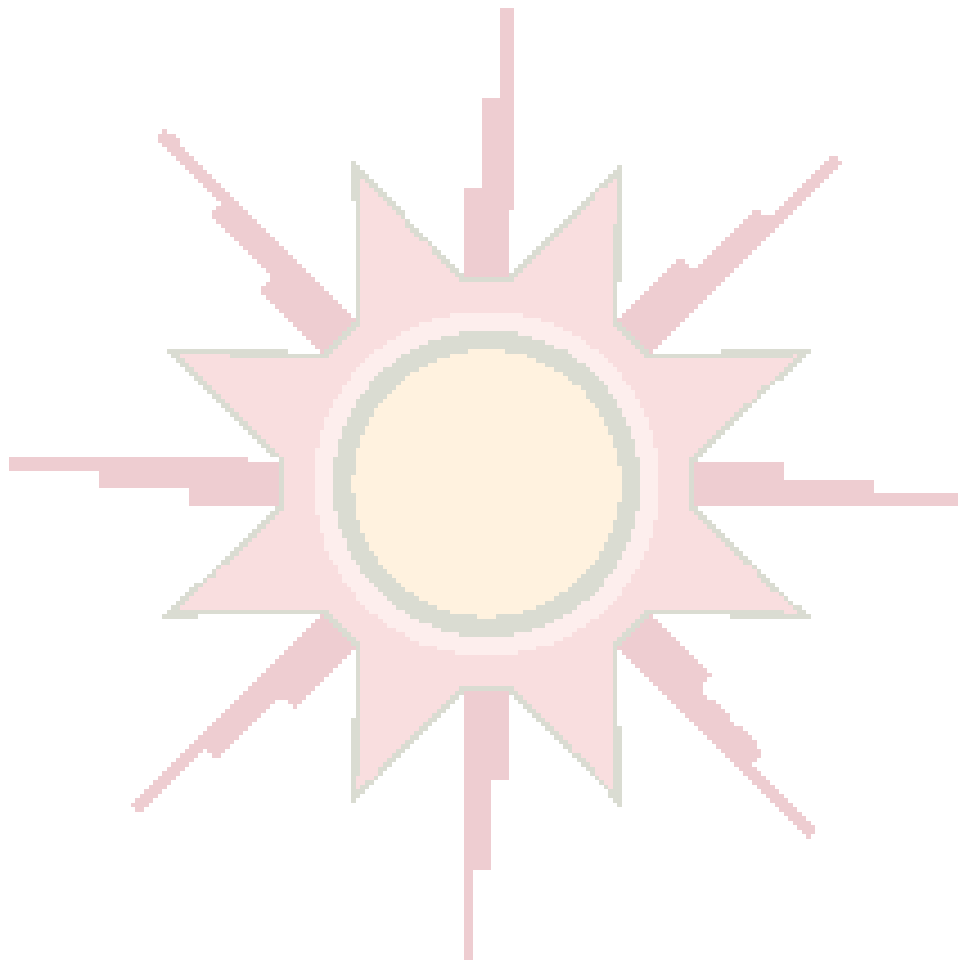




TRIBAL DRINKING WATER OPERATOR CERTIFICATION PROGRAM



Final Guidelines

Mention of trade names or commercial products does not constitute an EPA endorsement or recommendation for use.

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I. INTRODUCTION

A. Purpose

The purpose of the United States Environmental Protection Agency (EPA) National Tribal Drinking Water Operator Certification Program (Program) is to increase public health protection by increasing the training and certification opportunities for personnel operating community and nontransient noncommunity drinking water systems in Indian country. The National Tribal Drinking Water Operator Certification Program Final Guidelines (Guidelines) included in this document represent EPA's efforts to establish a program for drinking water system operators in Indian country that provides meaningful public health protection. This program is intended to provide water system operators in Indian country with further training and certification opportunities in addition to existing training or certification programs offered by States, various federal agencies, or private organizations.

B. Program Description

The Guidelines establish seven baseline standards for the Program and list the certification provider program requirements that must be met in order for non-state providers in Indian country to receive approval from the EPA. In addition, the Guidelines establish a consistent method that EPA intends to use to assess, track, and address certification and training needs in Indian country. Water system operators in Indian country can also receive certification from State and/or other certification provider programs that meet the baseline standards and have received EPA approval.

Any current certification provider or organization interested in receiving EPA approval for their certification program for operators of water systems in Indian country must submit their program to EPA for review.

Certain regulations promulgated under the Safe Drinking Water Act (SDWA) require that public water systems must be operated by qualified personnel, whether such systems are located in Indian country or not. Public water systems subject to 40 CFR Part 141 Subpart H (Surface Water Treatment Rule) and community and non-transient, non-community water systems subject to 40 CFR Part 141 Subpart L (Disinfection/Disinfectant Byproducts Rule) must be operated by qualified personnel meeting the requirements specified by the primacy agency. See 40 CFR 141.70(c) and 40 CFR 141.130(c). Under the requirements of the Disinfection/Disinfectant Byproducts Rule, operators must also be on an EPA registry of qualified operators of Indian country. EPA believes that water system operators certified at the appropriate level corresponding to the public water system's classification, as specified in these Guidelines, under a program approved by EPA, would generally meet the minimum requirements of 40 CFR 141.70(c) and 40 CFR 141.130(c) for being considered a qualified operator, where EPA is the primacy agency.¹ However, EPA reserves the right to determine an operator to be unqualified at any time that the operator demonstrates incompetency through lack of knowledge, skill, and

¹ EPA also believes that an operator certified at an appropriate level in accordance with a State Operator Certification Program approved by EPA, where the level of certification is comparable to the EPA classification of water systems in Indian country, would generally meet these requirements where EPA is the primacy agency.

ability to operate a system in compliance with Subpart H and/or Subpart L requirements.

In addition, previously published Drinking Water Infrastructure Grant Tribal Set-Aside (TSA) Final Guidelines (October 1998) state that after EPA has developed a National Tribal Drinking Water Operator Certification Program for operators of systems in Indian country, “any system to be assisted with TSA funds must be operated by an adequately trained and certified operator” in order for a tribe to receive a grant for that system and “EPA Regional offices will not make grant awards to any systems that do not meet this condition.” Therefore, EPA will require a Tribe to have, or agree to obtain within the project grant budget period, a certified operator(s) under an EPA approved program available to their drinking water system(s) in order to secure funds from the TSA program.

EPA encourages non-state certification providers currently issuing certifications in Indian country, and non-state certification providers who plan to issue certifications in Indian country after the publication of these Guidelines, to submit programs to EPA for review and approval. The submittal process for certification providers is explained in Section III of this document.

EPA is responsible for implementing this Program, and will be tracking the number of federally regulated water systems with certified operators. Certification providers are responsible for tracking training offered and operator status, and for reporting this information to EPA.

C. Program History

Operator certification for public water systems was a key component of the 1996 SDWA Amendments. Congress added Section 1419 of the SDWA that requires approved State operator certification programs in order to avoid withholding of funding. Because that program only applied to States, EPA identified a goal for operator certification in Indian country as part of the 1998 - 2003 Office of Water (OW) Tribal strategy “Protecting Public Health and Water Resources in Indian country: A Strategy for EPA/Tribal Partnership”. The goal states: “By 2005, 80% of Tribal community and nontransient noncommunity water systems will have a certified operator”. EPA believes that establishing a Tribal Drinking Water Operator Certification Program will help achieve this goal and will encourage greater public health protection in Indian country.

EPA believes that having a certified operator is a key factor in the protection of public health. In 1998, EPA Headquarters (HQ) and Regional Offices (Regions) formed a workgroup to discuss possible approaches for developing an operator certification program for Indian country. EPA has been developing the Program in consultation with the Tribes. In addition, EPA coordinated with other Federal Agencies and sought their recommendations. A Notification of Availability for the draft guidelines was published in the Federal Register on March 30, 2000. An additional Notification of Availability was published in the Federal Register on April 19, 2004, and those comments and responses are available at www.epa.gov/safewater/tribal.html

II. OPERATOR CERTIFICATION GUIDELINES FOR INDIAN COUNTRY

A. Public Health Objectives

The public health objectives of the Guidelines are to ensure that:

- consumers of EPA regulated public water systems in Indian country are provided with an adequate supply of potable drinking water, and they are confident that their water is safe to drink,
- operators of public water systems in Indian country are adequately trained, appropriately certified, and understand the public health benefits associated with supplying drinking water that complies with the National Primary Drinking Water Regulations (NPDWR), and
- ongoing training necessary for public health protection is made available.

B. Baseline Standards

Any operator certification provider requesting EPA program approval under these Guidelines must address the following seven baseline standards. The baseline standards explain the elements of a training/certification program and certification provider requirements.

Baseline Standard 1. Classification of Distribution Systems, Treatment Facilities and Operators

In order to determine the level of certification for a water system operator, the water system must be classified. EPA will classify EPA-regulated water systems in Indian country, and assign commensurate operator certification levels. To receive EPA approval, certification providers submitting programs to EPA for review must ensure that the operator certification training and testing levels provided are equivalent to EPA's public water system classification scheme described here as Baseline Standard 1.

Distribution System Classification

- EPA will classify distribution systems according to the following classification system. EPA Regions may increase classification based on other system characteristics.

System Characteristics	Check All That Apply	Level
Population = 3,300 or less	<input type="checkbox"/>	L-I
Distribution Storage	<input type="checkbox"/>	L-I
Hypochlorination	<input type="checkbox"/>	L-I
Population = 3,301 to 10,000	<input type="checkbox"/>	L-II
Gaseous and Other Chlorine Disinfectant	<input type="checkbox"/>	L-II
Pressure Zones greater than 5	<input type="checkbox"/>	L-II

System Characteristics	Check All That Apply	Level
Recycled Water Distribution	<input type="checkbox"/>	L-II
System is Blending Sources to meet MCL	<input type="checkbox"/>	L-II
Population > 10,000	<input type="checkbox"/>	L-III
Distribution System Complexity (see definition)	<input type="checkbox"/>	L - II-IV

Based on system complexity and other characteristics, an operator may need to hold both a distribution system and a treatment facility certification. However, for those less complex systems, serving 500 people or fewer, (Very Small Water System or VSWS) a combined distribution system and treatment facility certification which includes all the necessary need-to-know information should be developed and administered by certification providers, rather than requiring operators to have separate certifications for treatment and distribution. The need-to-know criteria should include pertinent information on both treatment and distribution topics, but a single test would keep the burden for small system operators to a minimum while providing the highest level of public health protection.

Treatment Facility Classification Level

- EPA will classify all community and nontransient noncommunity treatment facilities in Indian country using a point system shown in the table below, similar to the Association of Boards of Certification (ABC) Water Treatment Plant Point Rating System² system. Regions may increase classification of treatment based on other system characteristics or treatment needs.

Item	Points	Score
Maximum population or part of a system served, at peak day: 1 point per 2500 served. 10 points maximum.	1-10	
Design flow average day or peak month's part flow average day, whichever is larger. 1 point per 0.5 MGD, 10 points maximum.	1-10	
Water supply sources		
Groundwater without coliform (total, fecal or <i>e. coli</i>) presence	2	
Groundwater with coliform (total, fecal or <i>e. coli</i>) presence	5	
Groundwater under the influence of surface water	8	
Surface water	10	
Average Raw Water Quality variation:		
Little or no variation - only treatment is disinfection	0	
Minor variation - e.g. "high quality" surface source appropriate for slow sand filtration	2	
Requires moderate variation in chemical feed, dosage changes made: monthly (3pts), weekly (4pts), or daily (5 pts)	3-5	
Variation significant enough to require pronounced and/or very frequent changes	6	
Severe variation - source subject to non-point discharges, agricultural / urban storm runoff, flooding	7	

² The Association of Boards of Certification's Plant Point Rating System is copyrighted.

Raw water quality subject to agricultural or municipal waste point discharges	8	
Raw water quality subject to periodic serious industrial waste pollution	10	
Taste and/or odor for which treatment process adjustments are routinely made	2	
Color levels >NSDWR	3	
Iron and/or manganese levels >NSDWR	2	
Algal growths for which treatment process adjustments are routinely made	3	
Chemical Treatment/Addition Process		
Fluoridation	5	
Disinfection		
If a disinfectant/oxidizer is generated on-site, add 1 point to the point value shown		
Liquid or powdered chlorine	5	
Gaseous chlorine	8	
Chloramination	10	
Chlorine dioxide	10	
Ozonation	10	
UV Irradiation	2	
Potassium permanganate	4	
pH adjustment (Calcium carbonate, carbon dioxide, hydrochloric acid, calcium oxide, calcium hydroxide, sodium hydroxide, sulfuric acid, other)	4	
Stability or Corrosion Control (calcium oxide, calcium hydroxide, sodium carbonate, sodium hexametaphosphate, other)	10	
Coagulation & Flocculation Process		
Rapid Mix (mechanical, injection, and in-line blenders)	2	
Primary coagulant addition	6	
Coagulant aid / Flocculant chemical addition (in addition to primary coagulant use)	2	
Flocculation	2	
Filter aid addition (Non-ionic / anionic polymers)	2	
Clarification/Sedimentation Process		
Sedimentation (plain, tube, or plate)	4	
Contact adsorption	6	
Other clarification processes (air floatation, ballasted clarification, etc.)	6	
Upflow clarification ("sludge blanket")	8	
Filtration Process		
Granular media filtration < 3 gpm/sq. ft.	10	
Granular media filtration > 3 gpm/sq. ft.	20	
Direct filtration	5	
Membrane filtration		
For compliance with a NPDWR	10	
For compliance with a NSDWR	6	
Diatomaceous earth (pre-coat filtration)	10	
Cartridge / bag	5	

Pre-filtration (staged cartridges, pressure sand w/o coagulation, etc.): add one point per stage to max of 3 points	1-3	
Other Treatment Processes		
Aeration	3	
Air stripping (includes: diffused air, packed tower aeration)	5	
Ion-exchange / softening	5	
Lime-soda ash softening (includes: chemical addition, mixing / flocculation / clarification / filtration - do not add points for these processes separately)	20	
Granular activated carbon filter (do not assign points when included as a bed layer in another filter)	5	
Powdered activated carbon	2	
Blending sources with significantly different water quality:		
to achieve compliance with a NPDWR	4	
to achieve compliance with a NSDWR	2	
Reservoir management employing chemical addition	2	
Electrodialysis	15	
Other (Specify, see NOTE below):	2-15	
Residuals Disposal		
Discharge to surface, sewer, or equivalent	1	
Discharge to lagoon / drying bed, with no recovery / recycling - e.g. downstream outfall	1	
On-site disposal, land application	1	
Backwash recovery / recycling: discharge to basin or lagoon and then to source	3	
Backwash recovery / recycling: discharge to basin or lagoon and then to plant intake	5	
Facility Characteristics		
Instrumentation - Use of SCADA or similar instrumentation systems to provide data, with:		
Monitoring / alarm only, no process operation	0	
Limited process operation - e.g. remote shutdown capability	1	
Moderate process operation	2	
Extensive or total process operation	4	
Design limitations regarding: clearwell, pumps, storage, etc.	1-5	
Total Points →		

- **NOTE:** EPA considers the following special processes as “other”, including but not limited to: POE and POU devices, various adsorption technologies, ion-exchange for Arsenic removal, etc.

Classification Levels determined by the point rating system:

Level I - Basic 30 points or less

Level III- Advanced Intermediate 56-75 points

Level II - Intermediate 31-55 points

Level IV - Advanced 76 points and greater

Operator Classification

EPA will consider that a system has an appropriately certified operator when the operator:

- holds a valid certification equal to or greater than the classification of the treatment facility and/or distribution system;
- demonstrates competency through knowledge, skills, and abilities to operate the system in compliance with the NPDWR; and
- is on-site, or able to be contacted as needed in order to initiate any necessary action in a timely manner.

Operator Certification Level Required

Level I – Basic

Distribution certification may include groundwater systems that chlorinate, if chlorination is covered by an EPA approved provider in the testing and certification process.

– VSWS Joint Certification

The joint treatment and distribution certification should be available for an operator of a VSWS (serving 500 or fewer) to satisfy the basic level I treatment and distribution requirements with only one certification.

Level II -- Intermediate,

Level III -- Advanced Intermediate,

Level IV – Advanced

Levels II-IV: Treatment operator certification must match or exceed treatment system classification. Distribution operator certification must match or exceed distribution system classification.

Baseline Standard 2. Operator Qualifications (Examination Eligibility)

To receive approval, operator certification programs must ensure that operators:

- Have a high school diploma or a general equivalency diploma (GED). Certification providers may allow experience and/or relevant training to be substituted for a high school diploma or GED. Education, training, or experience that is used to meet the education requirement for any level of certification may not be used to meet the experience requirement outlined below.
- Have the defined minimum amount of on-the-job experience for each appropriate level of certification. The amount of experience requested increases with each classification level. Post high school education may be substituted for experience. Credit may be given for experience in a related field (wastewater treatment). Education, training, or experience that is used to meet the experience

requirement for any class of certification may not be used to meet the education requirement.

Grandparenting

EPA recognizes that there are many competent small system operators that may not meet the initial requirements to become certified. EPA believes that utilities in Indian country may need a transition period to allow these operators to continue to operate the system through "grandparenting". The terminology "grandparenting of operators," as used in the context of these guidelines, means exempting operators from meeting the initial certification requirements; such as having a high school education (or equivalent) and passing an exam. In these situations, the operator could be allowed grandparented status initially, but would be required to meet all of the training and other requirements necessary for certification.

Grandparenting determinations regarding systems that will be receiving TSA grants will be made by EPA Regions on a case by case basis and will be based on factors such as system size and compliance history, operator experience and knowledge, system complexity, and level of treatment. The level of grandparented certifications will also be determined by EPA Regions.

To receive approval, grandparenting provisions in operator certification programs must meet the following requirements:

- The Regional Office will review and accept or decline applications for grandparent status. The Regional Office will send a response to the system owner stating the determination of the Region on the eligibility of the operator for grandparent status. Within two years of the effective date of these Guidelines, to meet TSA requirements and regulatory rules requiring a "qualified operator", the system owner must apply to the appropriate Regional Office for grandparented status for the operator in responsible charge.
- Certification providers must accept EPA's determination on operator grandparent status, and track operator training.
- The grandparent status of the operator will be site specific and non-transferable.
- After an operator is grandparented by EPA, the Regional Office will work with certification providers to determine the training and necessary certification requirements applicable to the grandparented operator. The provider must ensure that the operator has, within some time period specified by the certification provider, met all of these requirements, including payment of any fees, necessary training, and has demonstrated the skills, knowledge, ability, and judgment for that system.
- If the classification of the plant or distribution system changes to a higher level,

then the grandparent status will no longer be valid.

- If the operator chooses to work for a different water system, he or she needs to meet the initial certification requirements for that system and will lose their grandparent status.

Baseline Standard 3. Program Implementation

- To receive approval, the certification provider must have the ability to revoke or suspend operator certifications, or take other appropriate action if EPA or the provider discover operator misconduct. Examples of operator misconduct include: fraud, falsification of application, falsification of operating records, gross negligence in operation, incompetence, and/or failure to use reasonable care or judgment in the performance of duties. The certification provider must have a process for review of suspensions and revocations.
- EPA retains the right not to recognize an operator's certification. This determination can be based on operator misconduct regardless of whether the provider revokes the certification.
- To receive approval, certification providers must track operator certification status and training that supports renewal and to report this information to EPA in a format acceptable to EPA.

Within 24 months of the effective date of the Guidelines, EPA will review the Program in order to promote national consistency.

Baseline Standard 4. Operator Certification Renewal

To receive approval, a certification provider's operator certification renewal program should include the following elements:

- training requirements for renewal based on the level of certification held by the operator,
- recognize the necessary amounts and types of approved training, and other requirements as deemed necessary, such as passing a test, and
- a fixed renewal cycle not to exceed three years.

Baseline Standard 5. Recertification

To receive approval, a certification provider's operator certification renewal program should include the following elements:

- If an operator fails to renew, or qualify for renewal within the fixed renewal cycle, then the operator certification has expired. Provider programs must include a process for the recertification of those individuals whose certification has expired. The time period for allowing recertification without the requirement for examination must not exceed two years.
- In addition, a review process should be developed for individuals whose certificates have been revoked or suspended.

Baseline Standard 6. Stakeholder Involvement and Program Review

- To be approved, provider programs must include a process for ongoing stakeholder involvement in the revisions, review, and subsequent operations of their program. Examples of stakeholders may include: operators, certification providers, environmental/public health groups, the general public, Tribal representatives, consumer groups, technical assistance providers, utility managers, and trainers.

EPA intends to also include ongoing stakeholder involvement in the revisions, review, and subsequent operations of the Program, as appropriate.

Baseline Standard 7. Certification Provider Program Submittal Requirements

To be approved, programs must have and submit to EPA:

- an operational/business plan demonstrating sufficient resources necessary to adequately sustain the program, including, but not limited to, staff qualifications, data management, testing, administration, and training approval process,
- an outline of training requirements and continuing education units, as well as a certification plan which includes certification and renewal fees,
- an outline of the geographic area served,
- an electronic means for tracking operator status and training,
- a process for stakeholder involvement in developing and/or revising the program.

EPA intends to perform periodic reviews of operator certification programs in Indian country. Examples of items that may be included in the review are: exam items for relevancy and validity, budget and staffing, training relevancy, training needs through examination performance, and data management systems.

III. SUBMITTAL PROCESS FOR CERTIFICATION PROVIDERS

All certification providers desiring EPA approval for their program, must submit an explanation of all key elements outlined in the baseline standards to U.S. EPA , Attn: Monica Peña, Office of Ground Water and Drinking Water (4606M), 1200 Pennsylvania Ave., N.W., Washington, D.C., 20460. EPA will then coordinate a program review with the appropriate Regions.

IV. DEFINITIONS

Administrator: The Administrator of the United States Environmental Protection Agency.

Available: The system's certified operator must be on site or able to be contacted as needed to initiate the appropriate action in a timely manner.

Community Water System (CWS): A public water system providing water to at least 15 service connections used by year-round residents or regularly serves at least 25 year- round residents.

Distribution System: Any combination of pipes, tanks, pumps, etc. which delivers water from the source(s) and/or treatment facility(ies) to the consumer.

Distribution System Complexity: Conditions or characteristics that exist in a distribution system, such as: pressure zones, booster stations, storage tanks, fire protection, chlorination, non-residential consumers, cross connection potential, demand variations, size of pipes, total distance of pipes and/or total geographic area that must be considered when classifying the distribution system.

Grandparenting: The exemption for an existing operator in responsible charge from meeting the initial education and/or examination requirements for certification to operate a particular water system.

Indian Country: Indian country is defined at 18 U.S.C. § 1151 as: "(a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States, whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same."

Nontransient Noncommunity (NTNC) Water System: Is a public water system that is not a community water system and that regularly serves at least 25 of the same persons over six months per year. Common types of NTNC water systems are those serving schools, day care centers, factories, restaurants, nursing homes, casinos, and hospitals.

Regions: In addition to Headquarters in Washington, DC, EPA is divided into 10 geographical areas or regions of the country (see: <http://www.epa.gov/epahome/locate2.htm>)

Responsible Charge: The Operator(s) in Responsible Charge is defined as the person(s) designated by the owner to be the certified operator(s) who makes decisions regarding the daily

operational activities of a public water system, water treatment facility, and/or distribution system, that will directly impact the quality and/or quantity of drinking water.

Treatment Facility: Any place(s) where a community water system or nontransient noncommunity water system alters the physical or chemical characteristics of the drinking water.

Validated Exam: An exam that is independently reviewed by subject matter experts to ensure it is based on a job analysis and related to the classification of the system or facility.

V. ACRONYMS

ABC– Association of Boards of Certification

CWS– Community Water System

EPA– Environmental Protection Agency

GED– General Equivalency Diploma

MCL– Maximum Contaminant Level

MGD– Million Gallons per Day

NPDWR – National Primary Drinking Water Regulations

NSDWR – National Secondary Drinking Water Regulations

NTNCWS or NTNC – Nontransient Noncommunity water system

OW– Office of Water

POE – Point of Entry

POU– Point of Use

SCADA – Supervisory Control and Data Acquisition

SDWA– Safe Drinking Water Act

TSA– Drinking Water Infrastructure Grant Tribal Set-Aside

VSWS - Very small water system (serving 500 people or fewer)