Small Public water system Resource: Hiring or Contracting a Certified Water Operator

Purpose of this Document

This is a guidance document to help public water system decision-makers hire or contract with a certified operator. Understanding how to select an operator (either a permanent employee or a remote contractor) and what to expect from that operator can help you ensure that your public water system complies with all state and federal regulations and delivers drinking water that meets federal standards to your customers. This guidance document:

- Offers suggestions on how to find the right operator for your system,
- Helps you to communicate with your operator about public water system responsibilities, and
- Assists with your documentation of expectations for operating the public water system.

The general descriptions provided in this guidance document may not apply to a particular situation based on the circumstances. Use this guidance document at your discretion.

This guidance document does not cover all applicable regulatory requirements. If a conflict arises between this guidance document's content and any statutory or regulatory requirement, the statutory or regulatory requirement would be controlling.

This document includes the following information:

1. How a certified operator can help ensure the provision of drinking water that meets federal standards.
2. A table of roles and responsibilities of decision-makers and operators that can help you understand what to expect of your operator.
3. An interview tool to help you ask the right questions when interviewing potential operators.
4. A list of possible topics to include in a written agreement with your operator.
5. A list of suggested operator duties that can be included in a written agreement with your operator.

What is a public water system?

A public water system provides water for drinking or other purposes (e.g., washing hands, bathing, cooking) to 15 or more service connections and/or 25 or more persons daily at least 60 days out of the year. A public water system can be publicly owned by municipalities, towns or counties. A public water system can also be privately or investor owned, such as by homeowners' associations or mobile home parks.

Am I a decision-maker?

You are a public water system decision-maker if you make financial or management-related decisions for a public water system. Public water system decision-makers can include public water system board members, public water system owners, public water system managers, elected officials or certain city clerks. Other examples may include homeowners' associations board members and those who own or operate mobile home parks.

What is a certified operator?

A certified operator is an individual who is certified by the Arizona Department of Environmental Quality (ADEQ) to operate and maintain a public water system in the state. A certified operator will help you operate your public water system and maintain compliance with drinking water regulations.

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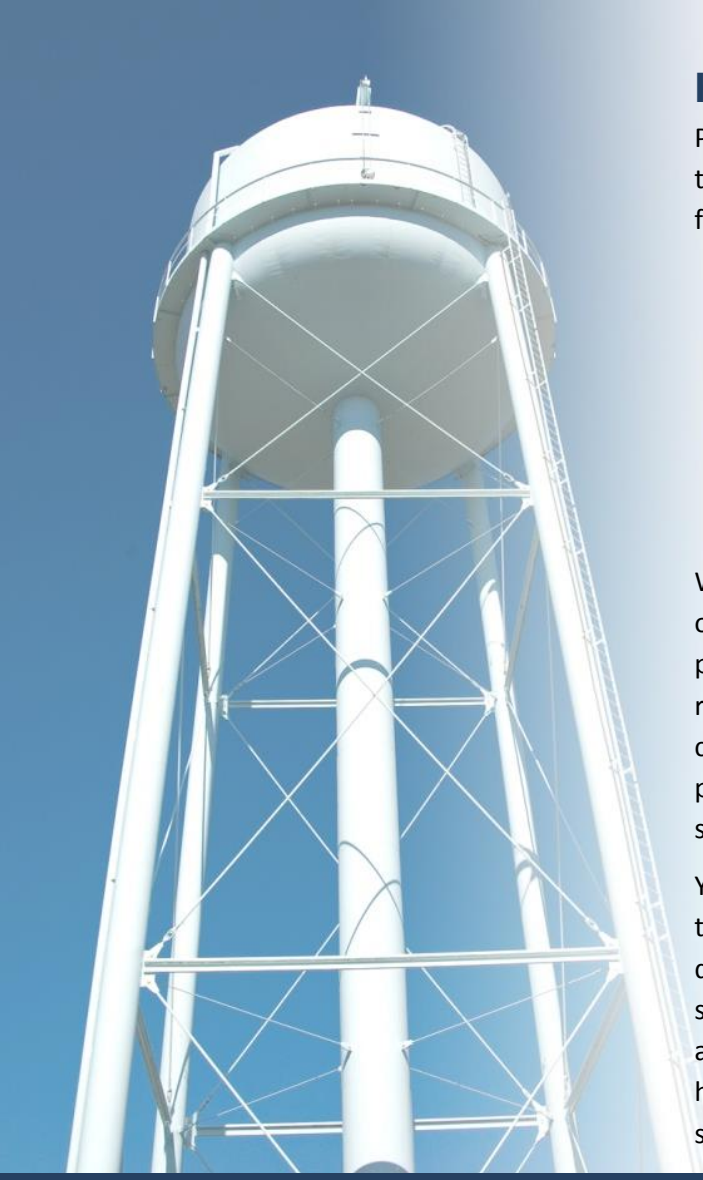

How can a certified operator help?

Public water system decision-makers are responsible for ensuring that their customers receive drinking water that complies with state and federal regulations. These regulations include those that pertain to:

1. Water quality sampling
2. Reporting and recordkeeping
3. Employing properly certified operators
4. Design, construction and operation of public water syste
5. Emergency situations

What is an operator in direct responsible charge?

An operator in direct responsible charge is the certified operator at a public water system that has the authority to make operational decisions that affect water quality or quantity. Contact ADEQ to learn how to designate an operator in responsible charge for your system.

While hiring a certified operator will not eliminate a public public water system decision-maker's l responsibilities, a certified operator can help decision-makers meet legal requirements and ensure that the public water system delivers drinking water that meets federal standards.

Your public water system is legally required to have a certified operator to operate the system. You may also be required to submit paperwork designating an operator in direct responsible charge of your public water system. Contact ADEQ to learn what level of certification is required for an operator working at your public water system and ask them about how to designate an operator in direct responsible charge of your system.

How do I get started?

The first stop for information is the Arizona Department of Environmental Quality (ADEQ). The state agency can provide advice specific to your public water system, including requirements regarding certified operators. Please note there may be multiple agencies or departments that your public water system will need to interact with, but your first stop should be ADEQ.

Arizona Department of Environmental Quality

Operator Certification Program
Phone: (602) 771-4511
Email: azopcert@azdeq.gov
Mail: 1110 W Washington St., Phoenix AZ, 85007
Website: www.azdeq.gov

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PUBLIC PUBLIC WATER SYSTEM DECISION-MAKER AND PUBLIC WATER SYSTEM OPERATOR RESPONSIBILITIES

Delivering drinking water that meets federal standards to customers is a team effort between the certified operator and the decision-maker, and clear communication about each person's responsibilities can help ensure this is achieved. The table below outlines typical responsibilities and best practices of the public water system decision-maker and the public water system operator. You can use this table to facilitate a conversation between you and your operator to ensure that all aspects of managing and operating your public water system are addressed. You should document the decisions that you make regarding responsibilities and revisit them from time to time to make adjustments or improvements. Note that while some tasks may be interchangeable or shared, others will usually be performed by one person or the other. It should also be noted that delegating specific tasks does not relieve the operator of operational responsibilities, nor does it relieve the decision-maker of legal responsibilities.

Public water system Decision-Maker Responsibilities and Public water system Operator Responsibilities

Public water system Decision-Maker Responsibilities	Public water system Operator Responsibilities
Personnel	
Summary: Decision-makers should ensure that there are enough qualified staff for proper operation of the public water system.	**Summary: Public water system operators should communicate with the decision-maker about staff needed to complete particular tasks.**
Employ appropriate/qualified staff (e.g., a certified operator): ▪ Understand certification requirements. ▪ Ensure the operator has appropriate experience and certification credentials for the type of public water system.	Recommend appropriate staffing levels to decision-maker.
Ensure appropriate staffing levels and appropriate onsite presence and/or offsite availability.	
Conduct performance evaluations and an exit interview with the operator. Develop procedures for handling terminated employees.	
Ensure staff training needs are met and provide opportunities for operators and others to attend training.	Train and supervise other public water system support staff in the performance of daily activities, if applicable.

Public water system Decision-Maker Responsibilities	Public water system Operator Responsibilities
Professional Development Hours (PDHs)	
Summary: Decision-makers should stay informed about best management practices and regulatory information in order to effectively manage their public water systems. This can occur through regular communication with state and local officials.	**Summary: Public water system operators should stay informed about the latest operational and regulatory information in order to maintain their certifications, operate the public water system more effectively and ensure public water system compliance. This can occur through regular communication with state and local officials.**
Stay updated about changes in drinking water regulations and safety regulations.	Maintain required certification (ensure professional development hours [PDHs] are met).
Increase knowledge about the best practices for managing a public water system.	Stay updated about changes in drinking water treatment processes, public water system best practices, drinking water regulations and safety regulations.
Written Plans, Reports and Recordkeeping	
Summary: Decision-makers oversee the development, maintenance and submission of required reports and plans to the regulatory agency. They also ensure copies of sampling results, inspections and any public notifications for the public water system are kept for the appropriate timeframes.	**Summary: Public water system operators develop, update and keep plans and reports of public water system activities. They also assist in other administrative recordkeeping.**
Submit any required forms to the regulating agency designating a certified operator as the operator in responsible charge for the public water system.	Provide information to develop forms designating a certified operator in responsible charge.
Verify submission of monthly operational reports.	Develop and submit monthly operational reports for operational process integrity, as applicable.
Work with the operator to develop Consumer Confidence Report (CCR) and other public notifications. Ensure delivery of the CCR and public notifications.	Compile data and help to prepare information for CCRs and public notifications.
Ensure the development and maintenance of a customer complaint log and responses to customer complaints.	Develop and maintain a customer complaint log and be responsive/identify when/how complaints were addressed.
Ensure the development of monitoring plans and that they are approved by the regulatory agency. Verify monitoring plans are updated appropriately.	Develop and maintain monitoring plans.
Ensure the development of public water system schematics and verify the schematics are updated appropriately.	Develop public water system schematics.

Public water system Decision-Maker Responsibilities	Public water system Operator Responsibilities
Ensure copies of sanitary survey/inspections are kept. Oversee the documentation of any follow-up that was required from inspections and document the time period it took to address and complete the required follow-up to sanitary surveys/inspections.	
Maintain and update public water system profile information and keep the regulatory agency informed and updated about items such as: ▪ Population served. ▪ Service connections. ▪ Water sources. ▪ Treatment processes. ▪ Legal contacts. ▪ Mailing and physical addresses. ▪ History of operators in direct responsible charge.	Provide information to the decision-maker in order for him/her to maintain updated public water system profile information (e.g., new service connections, sources, treatment operations, etc.).
Public water system Planning	
Summary: Decision-makers address planning needs related to capital improvements, future maintenance, asset management and contingency plans.	**Summary: Public water system operators provide input to the decision-maker to address planning needs related to capital improvements, future maintenance, asset management and contingency plans.**
Develop a budget and provide adequate funding to properly construct, operate and maintain the public water system and to maintain the delivery of a safe supply of water using information provided by the operator. Review annually.	Provide input and data to the decision-maker to develop a budget for the public water system. Collect and provide information necessary for budget development to ensure the delivery of a safe and adequate supply of drinking water.
Develop and maintain an Asset Management Plan[1] using information provided by the operator.	Collect and provide information necessary for the decision-maker to develop and maintain an Asset Management Plan.[1]
Ensure the operator develops and maintains an Operations and Maintenance Plan/Manual.[2]	Develop, update and implement the Operations and Maintenance Plan/Manual.[2]
Ensure the operator develops and maintains a schedule of required sampling and a regulatory agency sanitary survey/inspection schedule.	Develop and maintain a schedule of required sampling and a regulatory agency sanitary survey/inspection schedule.

[1] **Asset management** is the practice of managing infrastructure capital assets to minimize the total cost of owning and operating them, while delivering the service level customers desire. An asset management plan serves as a tool to record all of a system's asset management practices and strategies. Contact ADEQ for more information on asset management.

[2] An **Operations & Maintenance (O&M) Manual** contains a discussion of a public water system's components and other information explaining how a public water system is to be operated and maintained on a daily basis to ensure the provision of safe drinking water and compliance with regulations. Contact ADEQ for more information on O&M manuals.

Public water system Decision-Maker Responsibilities	Public water system Operator Responsibilities
Obtain any necessary operation and construction approvals and permits and provide copies to the operator.	Confirm that any necessary operation and construction approvals and permits have been obtained prior to the start of construction/operation and prior to making any changes in operations. Collect and provide information necessary for permits.
Request regular reports on subjects such as modifications, repairs and maintenance that have been conducted and/or about the short-, mid- and long-term schedule for these activities, and appropriately communicate the status of these activities with operator.	Ensure decision-maker is fully informed about modifications, repairs and maintenance.
Obtain additional supply of water or implement drought contingency plans when there is a shortage and/or emergency.	Provide options to decision-maker about alternative sources of water to assist the decision-maker in obtaining additional supply of water when there is a shortage. (This can include providing options to drill a new well, purchasing water from another public water system, proposing water conservation strategies, etc.).
	Carry out duties to bring new water source online, if necessary.
Public water system Operations and Water Quality Assurance	
Summary: Decision-makers should be knowledgeable about the fundamental aspects of public water system operations and what is needed to maintain day-to-day operational and process integrity of the public water system to deliver a safe and adequate supply of water. They should also be aware of all sample results and take appropriate follow-up actions, as necessary.	**Summary: Public water system operators should be knowledgeable about all operational aspects of the public water system and maintain day-to-day operational and process integrity of the public water system to deliver a safe and adequate supply of water. Operators should implement practices to ensure water quality, including using a certified laboratory to analyze samples and taking appropriate actions in response to sample results, as necessary.**
Verify that the operator has performed operational monitoring requirements.	Analyze operational data to determine changes and improvements for more efficient operation.
Ensure that appropriate testing equipment and materials are available to maintain operational and process integrity of the public water system.	Conduct sampling: ▪ Conduct operational and process integrity sampling. ▪ Conduct compliance sampling at approved locations and frequencies. Be responsible for the setting, measurement and recording of all chemical additions: – Creating and mixing chemical solutions. – Adding chemicals as necessary. – Ordering chemicals. – Calculating disinfection and disinfectant levels. – Maintaining and calibrating testing equipment and other water treatment instruments.

Public water system Decision-Maker Responsibilities	Public water system Operator Responsibilities
Ensure the use of a certified laboratory. Verify collection and reporting of sample results to state agency.	Collect samples and ensure that all samples are analyzed by a certified laboratory for the appropriate contaminant(s) and delivered to the laboratory to allow sufficient time for testing. Report or verify reporting to state agency.
Verify that water quality/quantity problems are investigated.	Investigate water quality/quantity problems and take corrective measures, as needed.
Regulatory Responsibilities	
Summary: Decision-makers should ensure that the public water system is in compliance with all federal and state requirements. They should regularly communicate with the operator to ensure compliance with public water system requirements.	**Summary: Public water system operators should maintain communication with the decision-maker and regulatory agency to ensure compliance with all public water system requirements.**
Ensure that the regulatory agency is notified within regulatory specified timeframes (e.g., boil order issued, maximum contaminant level [MCL] exceeded, emergency).	Notify the regulatory agency within regulatory specified timeframes (e.g., boil order issued, MCL exceeded, emergency).
Ensure sampling and follow-up are conducted when necessary (e.g., public notification, emergency disinfection). If the public water system is part of the Monitoring Assistance Program (MAP) work with operator to coordinate who meets with the MAP sampler and who updates the MAP cards.	Conduct additional sampling and follow-up when necessary (e.g., public notification, emergency disinfection). Work with MAP samplers as needed.
Attend all inspections/sanitary surveys conducted by the regulatory agency.	Attend all inspections/sanitary surveys conducted by the regulatory agency. Provide any existing information that will enable the regulatory agency to conduct a sanitary survey. Promptly report deficiencies to the decision-maker.
Ensure that any required follow-up is conducted by the operator after the regulatory agency performs a sanitary survey/inspection.	Correct deficiencies and address areas of concern within regulatory timeframes after the regulatory agency performs a sanitary survey/inspection.
Public water system Maintenance	
Summary: Decision-makers should ensure that repairs and improvements are performed properly and in a timely manner. This includes communicating with the operator or maintenance workers to schedule regular maintenance of the system.	**Summary: Public water system operators oversee operation and maintenance to maintain the safety and reliability of water service by ensuring that repairs and improvements are performed properly and in a timely manner. They also notify the decision-maker or responsible person about any repair and improvement needs and inform the decision-maker about the timeline for repairs and improvements.**

Public water system Decision-Maker Responsibilities	Public water system Operator Responsibilities
Ensure the public water system's infrastructure is in good working order.	Perform or direct preventative routine maintenance including, but not limited to, treatment facilities, distribution systems, storage tanks, booster stations, pumps and pump stations. ▪ Conduct routine inspections, correct deficiencies and address areas of concern for the public water system. ▪ Conduct routine visual inspections and follow-up of the system's source(s), source water protection area, storage tanks and chemical feed systems. ▪ Ensure the accuracy of water meters and other flow measuring devices, including maintaining and testing customer meters on a regular basis. ▪ Exercise all hydrants and valves on a regular basis. ▪ Clean, flush, disinfect and test the distribution system and storage tanks, as needed. ▪ Disinfect ground water wells, as needed.
Ensure that appropriate equipment and materials are available for routine maintenance of the public water system.	Oversee and monitor all repairs performed on the public water system: ▪ Maintain spare parts inventories. ▪ Secure labor and ordering materials for correcting any maintenance or operational problems. ▪ Repair broken mains or equipment quickly and efficiently to restore the normal level of service. ▪ Replace mains or equipment involved with treatment or distribution, as needed. ▪ Ensure storage tanks, well pumps and well pads are in good working order.
	Oversee wellhead protection, watershed protection and other activities associated with chemical monitoring waivers, as applicable.
Ensure the development and implementation of a cross-connection control program.	Be responsible for protecting the distribution system against cross-connection contamination.
Emergency/Security	
Summary: Decision-makers should work closely with the operator to prepare for and respond to emergencies in the short-term and support returning the system to normal operating status. They should also ensure that the facility is secure from vandalism.	**Summary: Operators should work closely with the decision-maker to prepare for and respond to emergencies in the short-term and support returning the system to normal operating status. They should also conduct activities to help ensure that the facility is secure from vandalism.**
Be fully informed about any emergencies.	Ensure decision-maker and regulatory agency are fully informed about any emergencies.

Public water system Decision-Maker Responsibilities	Public water system Operator Responsibilities
Ensure emergency maintenance is conducted and, if necessary, implement the Emergency Response Plan or Emergency Operation Plan.	Conduct emergency maintenance and implement the Emergency Response Plan or Emergency Operation Plan.
After an emergency event, support short-, mid- and long-term strategies to return the public water system to normal operating status. Work with federal, state or local agencies until the problem is resolved and normal operation resumes.	
Work with operator to create and update the Emergency Plan and Emergency Communications Plan, including a list of emergency contacts.	Work with decision-maker and update Emergency Plan and Emergency Communications Plan, including a list of emergency contacts.
Practice implementing the Emergency Plan.	
Ensure facility is secure and invest in any necessary upgrades (e.g., fences around system facilities, closed-circuit television). Ensure that proper security practices are followed.	Practice proper security procedures, such as storing chemicals in locked areas and using proper safety equipment.
Administrative/Other	
Summary: Decision-makers should perform other duties to keep relevant stakeholders informed about the public water system and provide a safe working environment for the operator and other staff.	**Summary: Operators should support decision-makers in keeping relevant stakeholders informed about the public water system and providing a safe working environment.**
Regularly attend scheduled Water Board meetings.	Regularly attend scheduled Water Board meetings.
Provide a safe working environment.	

OPERATOR INTERVIEW TOOL

It is important to make sure that the operator you hire is a good match for your public water system, and that he/she has the knowledge and ability to ensure drinking water provided to your customers meets federal standards. The Operator Interview Tool can help you as you interview and select an operator for your public water system. It can be used when you are interested in hiring an operator as a permanent employee or on a contract basis. It includes a list of recommended interview questions, as well as Yes/No checkboxes and spaces to write answers during the interview. You should review the Tool prior to performing the interview to ensure that you have a complete understanding of the questions. Beneath some questions is information that explains the intent of the question and can help guide your interview. Additionally, questions specific to operators hired on a permanent basis are denoted by "*This question applies to **permanent operators** only*," and questions specific to operators hired on a contractual basis are denoted by "*This question applies to **remote operators** only*."

Part I – Operator Certification

1. Does the candidate possess the required classification and grade level of certification for your system? For which class and grade level is the candidate certified? When does the certification expire?	
☐ Yes ☐ No	▪ The potential operator must possess the required classification and grade level of certification for your particular public water system class/grade and should have experience operating similar types of treatment processes and distribution systems.
Class and certification grade level:	
Expiration date of certification:	
Notes:	
Does he/she meet qualifications? ☐ Yes ☐ No	

2. Did the candidate provide you with a photocopy of his/her current certification?	
☐ Yes ☐ No	▪ The candidate should provide you with a photocopy of his/her current certification. If you have questions regarding the level or type (treatment, distribution or both) of certification required for your particular system, or contact your Compliance Assistance Coordinator (see last page). ▪ If you are unsure whether an operator's certification is current, go to http://legacy.azdeq.gov/databases/opcertsearch_drupal.html for a list of current certifications, or contact your drinking water program staff at 602-771-4511.

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

3. Does the candidate intend to obtain a higher level of certification?

☐ Yes

☐ No

- *These questions apply to **permanent operators** only*. The public water system would be concerned with the long-term goals of a permanent operator, but likely not the long-terms goals of a remote operator.
- This could be useful information if you are planning to expand your system or add new treatment processes that could potentially require a higher level of certification. Discuss with the operator whether you plan to defray the cost of any education and/or exams needed to achieve a higher level of certification.
- You should also discuss with the candidate whether you plan to defray the cost of Professional Development Hours (PDHs) needed to renew the operator's current certification.

Does the candidate meet any of the qualifications for a higher license/certification?

☐ Yes ☐ No

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

Part II – Operator Experience

4. Does the candidate have experience operating your type and size of system (treatment components)?

☐ Yes

☐ No

- An operator may possess the correct level of certification, but not possess experience compatible with your particular type of system. For instance, the operator may be experienced with ground public water systems but not surface public water systems, or vice versa.

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

5. Has the candidate received the required safety and security training?

☐ Yes ☐ No

Will the candidate ensure that safety and security are priorities? How?

☐ Yes ☐ No

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

6. How many years of operating experience does the candidate possess?

Number of years:

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

7. What systems has the candidate worked for previously? Does the candidate have references?

- Ask for references, including contact information. Verify all references.

Systems Previously Worked For	Contact Information	Reference?
a.	a.	☐ Yes ☐ No
b.	b.	☐ Yes ☐ No
c.	c.	☐ Yes ☐ No
d.	d.	☐ Yes ☐ No

Previous work restrictions:

Notes:

Does he/she meet qualifications? ☐ Yes ☐ No

8. Has the candidate ever:

a.	Installed a meter?	☐ Yes	☐ No
b.	Disconnected a delinquent customer?	☐ Yes	☐ No
c.	Installed a chlorinator?	☐ Yes	☐ No
d.	Prepared a Consumer Confidence Report (CCR)?	☐ Yes	☐ No
e.	Been in attendance for a sanitary survey?	☐ Yes	☐ No
f.	Developed an Emergency Response Plan or Emergency Operation Plan?	☐ Yes	☐ No
g.	Developed a preventive maintenance plan?	☐ Yes	☐ No
h.	Provided public notification or Boil Water Notice?	☐ Yes	☐ No

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

9. Does the candidate know how to locate a suspected leak?

☐ Yes ☐ No

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

10. Does the candidate know how to locate an illegal connection?

☐ Yes ☐ No

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

11. Ask the candidate to describe the monitoring requirements of the Revised Total Coliform Rule.

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

12. Ask the candidate to describe the monitoring requirements of the Surface Water Treatment Rules and/or Ground Water Rule, as applicable based on the public water system's source water type(s).

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

13. Ask the candidate to describe the process for putting a main back into service after a loss of pressure.

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

14. Ask the candidate to explain when there is a need to chlorinate and the process and equipment used, if applicable based on whether the public water system uses disinfection.
Notes:
Does he/she meet qualifications? ☐ Yes ☐ No

15. Ask the candidate what type of reporting he/she believes is required for this system.
Notes:
Does he/she meet qualifications? ☐ Yes ☐ No

Part III – Availability

16. Which other system(s) does the candidate currently work for and are there any work restrictions?		
▪ Ask for the names, locations and compliance status of all systems currently employing the candidate.		
System Name/ID	**Location**	**Compliance Status**

Work restrictions:

How much time does the candidate spend at the other public water systems per week?

Hours per week:

Notes:

17. How often will the operator visit the public water system?

Number of hours per visit:	▪ *These questions apply to **remote operators** only*. Permanent operators would be at the public water system as the decision-maker dictates.
Number of visits per week:	

Will the visits be the same day each week or on random days?

☐ Same day each week ☐ Random days

Is there a backup operator that can manage the system in his/her absence?

☐ Yes ☐ No

How does the candidate address weekends, holidays, vacations and illnesses?

Notes:

Does he/she meet qualifications? ☐ Yes ☐ No

18. How quickly will the candidate be able to respond to an emergency?

Estimated response time to be physically present in an emergency:	▪ *This question applies to **remote operators** only*. Permanent operators would be at the public water system as the decision-maker dictates. ▪ Remote operator reside no more than 200 miles by ground travel from the facility. R18-5-104(F)(5)

Notes:

Part IV – Tasks Performed

19. What specifically will be checked and recorded during each visit?

- *This question applies to **remote operators** only.* Permanent operators would be at the public water system as the public water system dictates.
- See the list of "Potential Operator Duties" which identifies possible duties to discuss with the candidate.

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

20. Is the candidate familiar with the particular public water system's design and operations and maintenance (O&M) requirements?

☐ Yes ☐ No

Can the candidate conduct repairs and routine maintenance as needed (including equipment calibration)?

☐ Yes ☐ No

Will the candidate provide the necessary testing equipment and reagents, or must the public water system provide the equipment?

☐ Candidate ☐ Public water system	▪ *This question applies to **remote operators** only*. The public water system will provide all necessary equipment for use by permanent operators.

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

21. Does the candidate have a standard O&M strategy for each system he/she operates?

☐ Yes ☐ No

Can the candidate provide an example of an operational log sheet that he/she has completed for a similar system?

☐ Yes
☐ No

- *This question applies to **remote operators** only*. A public water system will likely have a form or log the permanent operator would use. Remote operators may be asked to develop one for the public water system.

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

22. Provide the candidate with a copy of the last inspection report or Sanitary Survey. Is he/she familiar with the state regulatory requirements for this system type and size?

☐ Yes ☐ No

Notes:

Does he/she meet qualifications? ☐ **Yes** ☐ **No**

23. Can the candidate perform minor repairs, required operational testing and basic system troubleshooting?

☐ Yes

☐ No

Is the candidate willing to perform this work as part of the written agreement?

☐ Yes

☐ No

- It is desirable for the operator to be capable of performing operational testing and routine mechanical and electrical maintenance. This may provide cost savings versus hiring additional commercial services for testing and maintenance. However, commercial services and/or consulting engineering services may be required for maintenance that is more complex or for operating problems.

Notes:

Does he/she meet qualifications? ☐ Yes ☐ No

24. Discuss the minimum duties (both required and expected duties) to be completed by the candidate.

- A list of the duties which, at a minimum, must be completed and the frequency each duty must be performed should be included in the written agreement.
- See the list of "Potential Operator Duties" which identifies possible duties to discuss with the candidate.
- Duties that are not required, but may be needed or expected to be done to carry out required duties, are typically system-specific and could include weed and trash removal to maintain access to a well house, storage tank or surface public water system intake; vector control in a well house or electrical room to prevent destruction of electrical wiring; or insulating pressure tanks.

Notes:

Does he/she meet qualifications? ☐ Yes ☐ No

Part V – Other Qualifications and Information

25. Does the candidate have a valid driver's license?

☐ Yes ☐ No

Does the candidate have a license appropriate to the vehicle that they will use for the job?

☐ Yes ☐ No

Are there any license restrictions?

☐ Yes ☐ No

Notes:

Does he/she meet qualifications? ☐ Yes ☐ No

26. What is the candidate's fee and what does it include?

Fee:

Activities included:

- *These questions apply to **remote operators** only.*

Is time charged for travel or only for time spent on site?

☐ Time for travel and on site ☐ Time on site

Is there an additional charge for after-hours or emergency visits?

☐ Yes ☐ No

Notes:

Does he/she meet qualifications? ☐ Yes ☐ No

27. Is the candidate part of a group (company), or is he/she an independent operator?	
☐ Group (company): _____ ☐ Independent	▪ *This question applies to **remote operators** only.*
Notes:	
Does he/she meet qualifications? ☐ Yes ☐ No	

Topics for the Written Agreement with the Operator – Developing Terms of Employment or a Contract

It is important for decision-makers to clearly document the expectations of the operator in the form of a written agreement, such as a contract or terms of employment. This applies to both permanent employees and remote operators. This helps ensure that all legal responsibilities are met and reduces the possibility for miscommunication about public water system responsibilities. Using the information in this section along with the list of "Potential Operator Duties" can help you develop a written agreement with an operator.

The written agreement should place the operator in direct responsible charge of all matters pertaining to the public water system and should cover more than routine sampling (*An operator in direct responsible charge is the certified operator at the public water system who has the authority to make operational decisions that affect water quality or quantity. This can be a permanent employee or a remote operator. Contact the ADEQ Operator Certification Program to learn how to designate an operator in responsible charge for your system*). The operator in direct responsible charge does not necessarily have to perform every day-to-day operating task, and he/she can have other people work under his/her supervision; however, please note that while some tasks can be delegated, the responsibility that comes with being the operator in direct responsible charge cannot be delegated. You should also note that designating an operator in direct responsible charge of your system does not transfer any of your legal responsibilities as a decision-maker for the public water system.

Once you have made the decision to hire or contract with an operator, you may want to consider including the following topics in a written agreement. Note that some topics may not be applicable to your situation. Some topics are applicable only to operators hired on a permanent basis and are denoted by *[Permanent Operator]*. Some topics are applicable only to operators hired on a contractual basis and are denoted by *[Remote operator]*.

Topics for Written Agreement with the Operator
Parties Involved
Name and address of operator.
Certifications held by operator.
Public water system name/ID and address.
Description of the Public water system
A brief description of the public water system. Indicate the number of service connections, the type of treatment present, information about the water source, etc.
Purpose of the Written Agreement/Contract
This is the reason why the written agreement/contract is needed.
The purpose statement can include goals, such as delivering safe drinking water to customers, protecting public health and complying with state and federal requirements.
Scope of work for the written agreement/contract.

Topics for Written Agreement with the Operator

Contract Duration
[Remote operator] The effective starting date and the effective termination date of the contract.
[Remote operator] Provisions to renew the contract.
[Remote operator] This contract can have an agreement of termination (by either party) by advanced, written notice of a specified number of days. It can also outline some conditions for termination, such as falsification of records by the operator or enforcement action by the ADEQ.
Compensation
Compensation covers how much the operator will be paid for his/her services.
[Remote operator] This may include a detailed fee structure for the contract. Depending on how the contract is structured, be aware that there may be additional fees for certain situations, such as emergency call services.
[Permanent Operator] This may include a salary and terms of employment for the operator. Depending on how the agreement is structured, the operator may be entitled to overtime pay or other compensation.
[Remote operator] Specify a payment method. Consider things such as who will make the payments and whether or not the contractor will submit monthly invoices.
Compensation can also cover health benefits, worker's compensation and disability benefits, leave benefits (e.g., vacation, medical, holiday, personal leave and paid paternity or maternity leave) and other benefits offered by the public water system under the terms of the agreement.
Operator Time
[Remote operator] The owner/decision-maker and operator should jointly designate the number of routine visits and the minimum number of hours spent per day, per week or per month at the public water system.
[Permanent Operator] The agreement should explain expectations for the operator's work hours, such as the minimum number of hours spent per day, per week or per month at the public water system.
[Remote operator] The owner/decision-maker and operator should also jointly determine the maximum acceptable response time when responding to an emergency or to troubleshoot operational problems. The acceptable response time may vary depending on the treatment components and distribution system of the particular public water system, remoteness of system and the nature and severity of the problem.
Operator Duties
Duties and the frequency that each duty is to be performed by the operator.
Information included in the list of "Potential Operator Duties" can help you develop this section of the written agreement.

Topics for Written Agreement with the Operator

Operator Responsibilities
As the designated operator in responsible charge, the operator is responsible for maintaining a valid certification that is equal to or greater than the classification of the public water system being served.
The written agreement should include a statement such as: "[Name] will be in direct responsible charge of all operations and maintenance of the public water system."
The operator should take Professional Development Hour training courses on topics relevant to the facility (e.g., based on distribution or treatment characteristics).
The operator should provide an updated photocopy of his/her renewed operator's certification to the owner/decision-maker of the public water system. *[Remote operator]* The operator should also send a copy upon renewal of the contract.
[Remote operator] The operator is also responsible for providing a certified substitute operator during those times when the system is in operation and he/she is not available or is inaccessible. The substitute operator should also provide the owner/decision-maker with a current photocopy of his/her certification.
The operator is responsible for maintaining adequate records to document that all agreement provisions are being met and to assure that the agreed upon duties are performed. This can include a log that will document tasks accomplished. These records will be kept at the system and available to the owner/decision-maker at all times.
The operator is responsible for having telephone numbers, email addresses or other relevant means of communication on behalf of the owner/decision-maker.
The operator is responsible for informing the owner/decision-maker of any duties performed by a subcontractor at the site. They should be given prior approval by the owner/decision-maker.
The operator is responsible for providing a safe working environment.
Owner/Decision-Maker Responsibilities
The responsibility that will be retained by the owner/decision-maker must be clearly documented.
[Permanent Operator] Whether the owner/decision-maker will cover the cost of continuing education units to renew the operator's license/certification.
The owner/decision-maker should also retain copies of the agreement and routinely review operations to assure the operator is performing all of the required duties.
The owner/decision-maker will provide a list of routine operational checks to be made by the operator. The owner/decision-maker will notify the operator of any unplanned operational problems, repairs or modifications that arise in the operator's absence.
[Remote operator] The owner/decision-maker and remote operator shall jointly determine a maximum response time within which the owner/decision-maker will notify the remote operator after the owner/decision-maker or a public water system user experiences or recognizes an operational problem or emergency.
The owner/decision-maker is responsible for having telephone numbers, email addresses or other relevant means of communication on behalf of both the designated operator in responsible charge and any substitute operators.
The owner/decision-maker is responsible for providing a safe working environment.

Topics for Written Agreement with the Operator

Insurance
[Remote operator] Specify whether the remote operator will provide comprehensive general liability insurance to cover bodily injury and property damage resulting from negligent performance of the service covered in the contract. The owner/decision-maker is responsible to provide a safe working environment and should have his/her own insurance.
[Remote operator] The remote operator should provide a copy of proof of insurance to the owner/decision-maker.
Signatures of all Parties Involved
The agreement must be signed by all parties, including the owner/decision-maker and the operator.
[Remote operator] In cases where the contractor is a firm or company, an official of the firm or company employing the operator must also sign the agreement.

All participants should retain a copy of the final written agreement signed by all parties.

POTENTIAL OPERATOR DUTIES

It is important for decision-makers to clearly document an operator's duties in the form of a written agreement, such as a contract or terms of employment. This applies to both permanent employees and remote operators. Having a written agreement helps to ensure that all legal responsibilities are met and reduces the possibility for miscommunication about public water system responsibilities.

The following list of potential operator duties can be used to help you develop a written agreement with an operator. Not all of the potential duties listed below will apply to your system. You should review and modify this list to ensure that the operator duties are specific to your system. The list can be used together with the "Topics for the Written Agreement with the Operator" to help you develop a written agreement.

In order to help you determine which duties apply to your system, some duties are denoted as "*applicable to **ground public water systems** only*," "*applicable to **surface public water systems** only*" or "*not applicable to systems that only **purchase water and do not treat** water*."

Personnel

- ☐ Recommend appropriate staffing levels to the public water system decision-maker, according to the public water system's standard operating procedures (SOPs) as well as observations of system operations and personnel.
- ☐ Train and supervise other public water system personnel in the performance of daily activities, such as:
  - General public water system operations and maintenance (O&M) procedures
  - Sampling
  - Safety
  - Emergency response
  - Reporting and recordkeeping

Professional Development Hours (PDHs)

- ☐ Maintain all valid operator certification while the agreement is in effect (treatment, distribution, safety, etc.).
- ☐ Attend training programs needed for certification renewal.
- ☐ Oversee certification and training status for public water system staff and other contract operations staff under direct supervision.
- ☐ Stay abreast of changes to EPA or state drinking water regulations and guidance/best practices.
- ☐ Hold and attend regular safety meetings for field and office staff, where appropriate. Ensure staff are properly licensed/certified for the public water system's safety procedures (CPR, competent person, confined space entry, lock-out/tag-out, etc.).
- ☐ Obtain any other necessary training/education as a result of (for example):
  - Equipment upgrades at the public water system
  - Changes in treatment processes at the public water system [*not applicable to systems that only **purchase water and do not treat** water*]
  - New regulations (e.g., related to drinking water or safety)

Written Plans, Reports and Recordkeeping

- ☐ Prepare and submit monthly operational reports and records for operational process integrity.
- ☐ Develop and/or maintain operational, maintenance and administrative records of all public water system activities according to state requirements, such as:
  - Water quality sampling plans
  - Water quality sampling reports
  - Consumer Confidence Reports (CCRs) and public notifications

- Backflow prevention device records (location, owner, test results, etc.), if applicable
- Water use efficiency reports, if applicable
- Monthly master meter readings of source water quantity [*not applicable to systems that only **purchase water and do not treat** water*] and treated water quantity entering the distribution system
- A distribution system map

☐ Record results of inspections and sanitary surveys, including for example:
- Completing any required state forms
- Noting deficiencies/hazards that have the potential to jeopardize the sanitary integrity or reliability of the public water system
- Recommending appropriate corrective action

☐ Ensure all required state reporting forms and reports are completed properly and submitted by a specific date.

☐ Answer customer complaints on water quality/quantity issues and develop and maintain a complaint log book.

☐ Develop or modify public water system schematics and as-built drawings, as necessary.

☐ Supervise public water system personnel, including:
- Providing direction for personnel to follow when the operator is not present
- Reviewing the actions of personnel between scheduled state inspections
- Approving work orders generated for field operators

☐ Provide information to the owner/decision-maker in order for him/her to complete forms designating a certified operator in responsible charge.

☐ Provide information to the decision-maker for him/her to maintain updated public water system profile information (e.g., new service connections, sources, treatment operations, etc.).

Public water system Planning

☐ Collect and provide public water system owner/decision-maker with information on developing a budget for the public water system, for example:
- Providing an estimate of likely capital expenditures needed during the period of service
- Collecting field data on the condition and operational status of infrastructure assets
- Identifying needed asset repair or rehabilitation projects, as well as new capital infrastructure projects, during the period of service

☐ Develop and maintain a schedule of required sampling.

☐ Review the regulatory monitoring/sampling schedule and determine cost of sample collection, sampling station maintenance/repair and laboratory analysis of water samples.

☐ Develop and maintain public water system plans, such as:
- A distribution system map (or mapping program) showing pump stations, finished water storage reservoirs, pressure reducing valves (PRVs), pipe (date installed, diameter and material) locations, valve locations (especially pressure zone breaks), blow-offs and sampling station locations
- A cross-connection control program
- An asset management plan or other infrastructure replacement tracking program
- An operation and maintenance budget plan
- An emergency response plan
- A safety program plan
- A wellhead protection plan [*applicable to **ground public water systems** only*]
- A source water protection program plan [*applicable to **surface public water systems** only*]
- Water quality sampling plans
- SOPs

- ☐ Collect and provide information for necessary permits. Confirm that required approvals and permits have been obtained, including:
  - Construction permits (prior to the start of construction)
  - Operating permits (prior to start of operation)
- ☐ Manage capital improvement projects, including managing construction contractor work and contract execution.
  - Coordinate prioritization of capital improvement projects with owner/decision-maker
- ☐ Develop and maintain a public water system standard O&M manual with up-to-date state regulations, best practices/guidelines and other pertinent documents or correspondence.
- ☐ Ensure that the public water system owner/decision-maker is fully informed of modifications and repairs and maintenance.
- ☐ Identify potential solutions in case of a water shortage, such as:
  - Alternative water sources (e.g., new or standby emergency well) [*not applicable to systems that only **purchase water and do not treat** water*]
  - Purchasing water from other public water system
  - Water restriction and conservation strategies (for both consumers and the public water system)
- ☐ Carry out duties to bring new water sources online [*not applicable to systems that only **purchase water and do not treat** water*]:
  - Including following any state requirements for monitoring of new sources
  - Coordinating with engineering on Approval To Construct and Approval Of Construct.

Public water system Operations and Water Quality Assurance

- ☐ Analyze operational data to determine changes and improvements to the public water system for more efficient operation.
- ☐ Recommend changes to SOPs or treatment [*not applicable to systems that only **purchase water and do not treat** water*] processes.
- ☐ Perform or oversee routine operational sampling, as well as repeat and confirmation sampling if triggered by routine sampling results, in accordance with state requirements or guidance, such as analyses for:
  - Total coliform/*E. coli*
  - Nitrite/nitrate [*not applicable to systems that only **purchase water and do not treat** water*]
  - Lead and copper
  - Arsenic [*not applicable to systems that only **purchase water and do not treat** water*]
  - Chlorine (if disinfecting, public water system must maintain a free chlorine/total chlorine residual of 0.2 mg/L for surface public water systems. Maximum level of 4.0 mg/L for surface water and ground water)
  - Fluoride maximum contaminate level of 4.0 mg/L [*not applicable to systems that only **purchase water and do not treat** water*]
  - Turbidity and/or particle count data [*applicable to **surface public water systems** only*]
  - Alkalinity
  - Hardness
  - Iron and manganese
  - Water treatment plant residuals [*not applicable to systems that only **purchase water and do not treat** water*]
- ☐ Maintain a list of process control tests to be performed and prepare a monthly process control operational report.
- ☐ Monitor water turnover in finished water treatment [*not applicable to systems that only **purchase water and do not treat** water*] and storage tanks.

- ☐ Perform or oversee critical, routine or periodic functions, such as:
  - Ordering and mixing chemicals [*not applicable to systems that only **purchase water and do not treat** water*]
  - Calibrating monitoring and pumping equipment
  - Maintaining and calibrating testing water treatment plant equipment and instruments
  - Keeping log books of all calibrations
  - Adjusting chemical dosage [*not applicable to systems that only **purchase water and do not treat** water*]
  - Exercise and locate distribution system valves
  - Water main leak detection
  - Calculating disinfection and disinfectant levels
- ☐ Oversee customer connection activities, such as:
  - Performing routine customer meter reading
  - Completing customer shut-offs/turn-ons (e.g., for nonpayment, customer vacancies, new connections)
  - Identifying and addressing illegal connections
  - Water main locate tasks for utility location requests
- ☐ Collect water quality samples in accordance with state requirements or guidance, including:
  - Collection of routine samples per the public water system sampling plans
  - Collection of repeat or confirmation samples if triggered by routine sampling results
- ☐ Confirm that appropriate sample chain of custody procedures are followed.
- ☐ Ensure that samples are analyzed by a state certified laboratory and within required timeframes.
- ☐ Respond to customer water quality and quantity (low water pressure) complaints.
- ☐ Promptly report any deficiencies to the decision-maker and take corrective action, as needed.
- ☐ Make note of any activities that may impact water quantity or quality of the public water system operation, such as:
  - Potential sources of contamination (e.g., increased activities or new structures) within a delineated wellhead [*applicable to **ground public water systems** only*] or source water protection zone [*applicable to **surface public water systems** only*]
  - Low well water yield affecting ground water sources [*applicable to **ground public water systems** only*] or drought conditions affecting surface water sources [*applicable to **surface public water systems** only*]
  - Security breaches of the public water system (e.g., intruder alarms triggered at the water treatment plant [*not applicable to systems that only **purchase water and do not treat** water*] or storage tanks)

Regulatory Responsibilities

- ☐ Report to ADEQ (or delegated county if located in Maricopa County or Pima County) as necessary within the required timeframes, such as:
  - When a boil water order is issued
  - When a maximum contaminant level (MCL), maximum residual disinfectant level (MRDL) or lead or copper action level is exceeded
  - When a treatment technique requirement is not met
  - When an emergency occurs
- ☐ Be present for all ADEQ (or delegated county if located in Maricopa County or Pima County) inspections and sanitary surveys.
  - Provide available information that will enable the regulatory agency to conduct a sanitary survey
- ☐ Carry out follow-up activities to address issues identified within the required timeframe, such as:
  - Conducting additional sampling if triggered by routine sample results
  - Performing public notification

- Conducting emergency disinfection
- Correcting identified significant deficiencies or sanitary defects

Public water system Maintenance

- ☐ Conduct routine inspections, correct deficiencies and address areas of concern for the public water system.
- ☐ Perform or oversee ongoing and preventative maintenance activities in the *distribution system*, such as:
  - Repairing or replacing broken/non-functioning hydrants and valves that do not close properly or have broken stems
  - Maintaining cathodic protection equipment installed for transmission and distribution system pipe
  - Painting and resurfacing interior and exterior of finished water storage facilities
  - Replacing water mains where condition of the main is poor or the diameter of the pipe creates flow restrictions
  - Protecting the distribution system against cross-connection contamination
  - Ensuring the accuracy of water meters and other flow measuring devices, including maintaining and testing customer meters on a regular basis
  - Exercising all hydrants and valves on a regular basis
  - Cleaning, flushing, disinfecting and testing the distribution system and storage tanks, as needed
  - Repairing broken mains or equipment quickly and efficiently to restore the normal level of service
- ☐ Perform or oversee ongoing and preventative maintenance activities related to *pumps and pump stations*, such as:
  - Regularly lubricating pumps and motors
  - Observing pump motors routinely to detect unusual noises, vibrations or excessive heat
  - Inspecting, adjusting and cleaning pump seals, packing glands and any mechanical seals when necessary
- ☐ Perform or oversee ongoing and preventative maintenance activities related to *treatment facilities* [*not applicable to systems that only **purchase water and do not treat** water*], such as:
  - Cleaning and resurfacing filter bays and filter vessels
  - Removing sludge from sedimentation basins
  - Cleaning sediment from clearwells
  - Cleaning chlorine injection points
  - Cleaning and dewatering the backwash retention pond(s) and removing and drying the sludge (water treatment plant residuals)
  - Disinfect ground water wells [*applicable to **ground public water systems** only*]
- ☐ Oversee and monitor repairs performed on the public water system, including:
  - Maintaining an adequate spare parts inventory (pipe, valves, hydrants, pipe restraints, small metering pumps, water meters, small meter and valve vaults with lids, etc.) and a list of supplier contact information
  - Securing labor and materials for correcting any maintenance or operational problems
  - Ensuring storage tanks and well pumps and pads [*applicable to **ground public water systems** only*] are in good working order
- ☐ Confirm that basic site work and housekeeping/maintenance activities are performed, such as:
  - Keeping interior floors free of mud, debris, trash, etc.
  - Maintaining and mowing grass around public water system facilities, or securing a third party to perform this function
  - Properly storing equipment, tools and other materials
- ☐ Conduct periodic on-site inspections according to state requirements, including routine visual inspections and minor repairs of:
  - Water sources and intakes [*applicable to **surface public water systems** only*]

- Well pits and well heads [*applicable to **ground public water systems** only*]
- Pumps
- Finished water storage tanks
- Chemical feed equipment [*not applicable to systems that only **purchase water and do not treat** water*]

Emergency/Security

- ☐ Maintain, update (if necessary) and implement an emergency response plan.
  - Update the list of emergency contacts for the public water system, as necessary
- ☐ Maintaining emergency service contracts for after-hours water main repair, pump repair and finished water storage cleaning and repair.
- ☐ Be available for participation in table-top testing of the emergency response plan.
- ☐ After an emergency event, support short-, mid- and long-term strategies to return the public water system to normal operating status.
  - Participate in activation of an incident command center and emergency activation center, as necessary
  - Ensure that the decision-maker and regulatory agency are fully informed about any emergencies
- ☐ Be available during all operating shifts for emergency situations, including:
  - Responding to actual emergencies within the timeframe required by the state
  - Working with federal, state and/or local agencies until the emergency is resolved and the public water system returns to normal operation
  - If unable to respond within the required timeframe, providing for an alternate licensed/certified operator to respond to the actual emergency
- ☐ Ensure the use of proper security procedures, such as:
  - Storing chemicals in locked areas with proper safety equipment [*not applicable to systems that only **purchase water and do not treat** water*]
  - Performing periodic security inspections
  - Ensuring that security equipment (e.g., fences, closed-circuit TV systems, intrusion alarms through supervisory control and data acquisition [SCADA] systems) is in good working condition

Administrative/Other

- ☐ Maintain a safe working environment.
- ☐ Work in coordination with customer service, engineering, water quality and finance departments of the public water system.
- ☐ Provide required notices to the owner/decision-maker and state, such as providing notice prior to terminating a contract.
- ☐ Discuss state correspondence with the decision-maker and maintain a filing system for correspondence.
- ☐ Attend public water system board meetings, if applicable, to report on work completed on the system, as well as short-term and long-term system needs.
- ☐ Respond to information requests from local officials, such as requests regarding the location of distribution mains.

ADDITIONAL STATE CONTACTS AND RESOURCES

Need help finding information on public water system issues?

Operator Certification	Insert State Website/Contact Information
Operator Training	Operator Certification Coordinator at 602-771-4511 or azopcert@azdeq.gov
Drinking Water Monitoring and Protection Guidance	http://static.azdeq.gov/comp/dw/coordinator_contact_list.pdf
Technical Assistance to small PWS – Elementary business plans, management training, asset management, setting rates, access to infrastructure funding, water loss, energy efficiency, public water system partnerships	Capacity Development Coordinator at 602-771-4416
Consumer Confidence Reports (CCRs)	http://static.azdeq.gov/comp/dw/coordinator_contact_list.pdf
Public Notification	http://static.azdeq.gov/comp/dw/coordinator_contact_list.pdf
State Revolving Loan Fund – Infrastructure funding	Water Infrastructure Finance Authority (WIFA) at 602-364-1310
Emergency Response	ADEQ 602-771-2330