

Job Performance Guidelines for Certified Waterworks Operators



**Prepared by:
Mississippi State Department of Health
Bureau of Public Water Supply
February 2013**

Job Performance Guidelines for Certified Waterworks Operators Class "A"

The certified waterworks' operator has a critically important role in protecting the public health of Mississippians since he or she is the person designated by Mississippi State law with the responsibility for ensuring that the public water system is routinely providing safe and adequate drinking water to its customers.

Specifically, the certified waterworks' operator is the person responsible for the daily operation of all water treatment facilities, water plants, distribution systems, intake structures, storage tanks, control systems, and other related appurtenances of the public water system. He or she should perform all routine duties as necessary to ensure that the public water system routinely complies with all requirements of the Federal and Mississippi Safe Drinking Water Acts and is properly operated and maintained. Occasionally, the certified operator may have a representative(s) under his or her supervision who also works with the water system. The authorized representative(s) can complete routine operational and maintenance duties and responsibilities as assigned by the certified operator without the certified operator being present.

The certified waterworks' operator is responsible for keeping the water system officials informed of all actions required to comply with the Safe Drinking Water Acts and ensuring, as authorized by the water system officials, that they implement these actions. The certified operator is also responsible for ensuring that all required water quality samples are collected and analyzed according to the requirements of the Mississippi State Department of Health's Bureau of Public Water Supply. Required samples include the monthly bacteriological samples, lead samples, copper samples, nitrate samples, radiological samples, and others as required by the Federal Safe Drinking Water Act.

The minimum job performance duties and responsibilities of the Class "A" certified waterworks operators are outlined below:

1. As a minimum, personally inspect the system and treatment facilities daily, depending on the characteristics of each particular public water system, and perform all necessary and appropriate operational and maintenance activities required of the distribution system and related equipment.
2. Maintain an approved Public Water System Operations Log Book documenting all activities completed on the public water system where he serves as the official certified waterworks operator. This log book must be available for inspection by Bureau staff. The Public Water System Operations Log Book is the property of the public water system and must remain as part of the official records of the Public Water System.

3. Develop and implement an ongoing cross connection control program by: (1) identifying and tracking all existing cross connections on the water system, (2) ensuring that each existing cross connection is isolated from the water system by the correct type of cross connection control assembly, (3) evaluating all new connections to the water system to ensure that cross connection control devices are installed where needed, and (4) developing a written program to track each cross connection control device on the water system to ensure that each device is tested each year by an MSDH approved & licensed backflow device tester.
4. Ensure that the public water system develops and maintains an organized record keeping system to retain all correspondence and reports received from MSDH Bureau of Public Water Supply and to retain the results of all water quality analysis required by the Safe Drinking Water Acts. These records should be maintained on-site whenever possible and must be available for review by
5. Ensure that all extensions to the water distribution system designed to serve 2 or more customers have been approved by the MSDH Bureau of Public Water Supply before beginning construction.
6. Serve as the point of contact for the staff of the MSDH Bureau of Public Water Supply in all matters related to compliance with the Federal and Mississippi Safe Drinking Water Acts and all related laws and regulations.
7. Ensure that the MSDH can contact the Certified Waterworks Operator 24 hours a day by immediately notifying the Bureau of Public Water Supply of changes in the Operator's address or telephone number, business or personal.
8. Be available on a 24-hour a day basis to answer all customer complaints, investigate and resolve problems with the operation or water quality of the system.
9. Ensure that all monitoring programs -- such as lead and copper sampling -- are organized and carried out according to the requirements of the MSDH, Bureau of Public Water Supply and the Federal Safe Drinking Water Act.
10. Ensure that all distribution line valves are located and operated on a regular schedule to keep them in proper working order. The Bureau of Public Water Supply strongly recommends that records of all regularly scheduled/completed maintenance be maintained by the certified operator or his or her representative.
11. Ensure that all water tanks -- pressure and storage -- are regularly inspected to ensure that they are operating properly; the water level in the tank should rise and fall to keep water in the tank circulating. The operator should visually inspect the tank frequently and coordinate proper maintenance service as needed.

12. Periodically inspect all pumps (raw water, chemical feed, transfer, and/or high service), and equipment to ensure proper operation.
13. Analyze and record daily, monthly and annual water use and use water quality analysis to help detect leaks or other problems on the system.
14. Develop and implement a routine flushing schedule program based on chemical quality of the water. All dead end water lines should be flushed on a routine schedule; the frequency of flushing depends on the chemical quality of water and the type of water lines.
15. Develop a written set of standard operating procedures (SOP) for the public water system. The public water system should develop these procedures in sufficient detail and routinely update them to identify all activities required to efficiently operate and maintain all components of the water system. The responsible official of the public water system should review and approve this set of standard operating procedures. The operator should maintain the SOP in the official records of the water system so that it will be available for use by the water system.
16. Maintain an emergency operation plan for the public water system and be prepared to implement this plan when necessary.
17. Ensure that an adequate inventory is maintained of all supplies, chemicals, and equipment required to properly operate the public water system.

The certified operator or someone under his or her direct supervision should:

1. Test and record the chlorine residual free and total continuously on the discharge of the treatment facilities along with routine checks on the distribution system. Maintain a minimum "free" chlorine residual of 0.5 mg/l at the ends of the water distribution system unless the systems disinfection is treating with chloramines then a minimum of 0.5 mg/l total residual should be maintained.
2. Collect bacteriological water samples on the system as required by the Safe Drinking Water Act. These samples must be collected from locations on the water distribution system that the Bureau of Public Water Supply approved on the microbiological sampling site plan for the water system.
3. Read and record readings from all master meters regularly.

Job Performance Guidelines for Certified Waterworks Operators Class "B"

The certified waterworks' operator has a critically important role in protecting the public health of Mississippians since he or she is the person designated by Mississippi State law with the responsibility for ensuring that the public water system is routinely providing safe and adequate drinking water to its customers.

Specifically, the certified waterworks' operator is the person responsible for the daily operation of all water treatment facilities, water plants, distribution systems, intake structures, storage tanks, control systems, and other related appurtenances of the public water system. He or she should perform all routine duties as necessary to ensure that the public water system routinely complies with all requirements of the Federal and Mississippi Safe Drinking Water Acts and is properly operated and maintained. Occasionally, the certified operator may have a representative(s) under his or her supervision who also works with the water system. The authorized representative(s) can complete routine operational and maintenance duties and responsibilities as assigned by the certified operator without the certified operator being present.

The certified waterworks' operator is responsible for keeping the water system officials informed of all actions required to comply with the Safe Drinking Water Acts and ensuring, as authorized by the water system officials, that they implement these actions. The certified operator is also responsible for ensuring that all required water quality samples are collected and analyzed according to the requirements of the Mississippi State Department of Health's Bureau of Public Water Supply. Required samples include the monthly bacteriological samples, lead samples, copper samples, nitrate samples, radiological samples, and others as required by the Federal Safe Drinking Water Act.

The minimum job performance duties and responsibilities of the Class "B" certified waterworks operators are outlined below:

1. As a minimum, inspect the system daily and perform all required operational and maintenance duties.
2. Maintain an approved Public Water System Operations Log Book documenting all activities completed on the public water system where he serves as the official certified waterworks operator. This log book must be available for inspection by Bureau staff. The Public Water System Operations Log Book is the property of the public water system and must remain as part of the official records of the Public Water System.

3. Develop and implement an ongoing cross connection control program by: (1) identifying and tracking all existing cross connections on the water system, (2) ensuring that each existing cross connection is isolated from the water system by the correct type of cross connection control assembly, (3) evaluating all new connections to the water system to ensure that cross connection control devices are installed where needed, and (4) developing a written program to track each cross connection control device on the water system to ensure that each device is tested each year by an MSDH approved & licensed backflow device tester.
4. Ensure that the public water system develops and maintains an organized record keeping system to retain all correspondence and reports received from MSDH Bureau of Public Water Supply and to retain the results of all water quality analyses required by the Safe Drinking Water Acts. These records should be maintained on-site whenever possible and must be available for review by Bureau of Public Water Supply staff.
5. Ensure that all extensions to the water distribution system that are designed to serve 2 or more customers have been approved by the MSDH Bureau of Public Water Supply prior to beginning construction.
6. Serve as the point of contact for the staff of the MSDH Bureau of Public Water Supply in all matters related to compliance with the Federal and Mississippi Safe Drinking Water Acts and all related laws and regulations.
7. Ensure that the MSDH is able to contact the Certified Waterworks Operator, 24 hours a day, by immediately notifying the MSDH Bureau of Public Water Supply when there is a change in the Operator's address or telephone number, either business or personal.
8. Be available 24 hours a day to answer all customer complaints, investigate and resolve all problems with the operation or water quality of the system.
9. Ensure that all water quality monitoring programs -- such as lead and copper sampling -- are organized and carried out according to the requirements of the MSDH Bureau of Public Water Supply and the Federal and Mississippi Safe Drinking Water Acts.
10. Ensure that all distribution line valves are located and operated on a regular schedule to keep them in proper working order. The Bureau of Public Water Supply strongly recommends that records of all regularly scheduled/completed maintenance be maintained by the certified operator or his or her representative.

11. Ensure that all water tanks -- pressure and storage -- are inspected periodically to determine if they are operating properly; the water level in the tank should rise and fall to keep water in the tank circulating. The operator should visually inspect the tank frequently and coordinate proper maintenance service as needed.
12. Periodically inspect all pumps (raw water, chemical feed, transfer and/or high serve) and equipment to ensure proper operation.
13. Analyze and record daily, monthly and annual water use and use results of water quality analyses to help detect leaks or other problems on the system.
14. Develop and implement a routine flushing program based on chemical quality of the water. All dead end water lines should be flushed on a routine schedule; the frequency of flushing depends on the chemical quality of water and the type of water lines.
15. Ensure that the water treatment plant(s) and well site(s) are properly secured to prevent vandalism and accidents.
16. Develop a written set of standard operating procedures (SOP) for the public water system. The public water system should develop these procedures in sufficient detail and routinely update them to identify all activities required to efficiently operate and maintain all components of the water system. The responsible official of the public water system should review and approve this set of standard operating procedures. The operator should maintain the SOP in the official records of the water system so that it will be available for use by the water system.
17. Ensure that an emergency operation plan for the public water system is developed and properly implemented when necessary.
18. Ensure that an adequate inventory is maintained of all supplies, chemicals and equipment required to properly operate the public water system.

The certified operator or someone under his or her direct supervision should:

1. Test and record the chlorine residual free and total continuously on the discharge of the treatment facilities along with routine checks on the distribution system. Maintain a minimum "free" chlorine residual of 0.5 mg/l at the ends of the water distribution system unless the systems disinfection is treating with chloramines then a minimum of 0.5 mg/l total residual should be maintained.

2. Collect bacteriological water samples on the system as required by the Safe Drinking Water Acts. These samples must be collected from locations on the water distribution system that the Bureau of Public Water System approved on the bacteriological sample site plan for the system.
3. Read and record the readings from all master meters on a daily basis.
4. Check all wells daily to determine if they are performing as required. The well cycle run time should be checked and the master meter(s) should be used to record the pumping capacity of the well(s). The operator should also schedule annual checks of each well by an outside contractor for drawdown, pump submergence, pumping capacity and general well operation.
5. Check the chlorinator daily to see if it is operating properly. The operator should also check for chlorine leaks and replace chlorine tanks promptly as needed.
6. Inspect the fluoridation feeding equipment **daily**. The operator is also responsible for monitoring fluoride levels to determine if they are within acceptable ranges, and for providing monthly fluoride samples to MSDH for analysis.
7. Inspect the aerator and associated equipment daily.
8. Regularly inspect the chemical feeder(s) used to raise the pH. The operator should perform tests for pH of the treated water leaving the plant daily and keep a written record of pH results.
9. Inspect all chemical feeders daily (potassium permanganate, polyphosphate, etc.).
10. Check all filters daily and backwash as needed according to recommended procedures.
11. Run daily tests for iron and manganese (where needed) on the finished water to evaluate filter efficiency and to ensure proper iron and manganese removal.
12. Inspect clarifiers daily (includes the mixing chamber for chemicals).

Job Performance Guidelines for Certified Waterworks Operators Class "C"

The certified waterworks' operator has a critically important role in protecting the public health of Mississippians since he or she is the person designated by Mississippi State law with the responsibility for ensuring that the public water system is routinely providing safe and adequate drinking water to its customers.

Specifically, the certified waterworks' operator is the person responsible for the daily operation of all water treatment facilities, water plants, distribution systems, intake structures, storage tanks, control systems, and other related appurtenances of the public water system. He or she should perform all routine duties as necessary to ensure that the public water system routinely complies with all requirements of the Federal and Mississippi Safe Drinking Water Acts and is properly operated and maintained. Occasionally, the certified operator may have a representative(s) under his or her supervision who also works with the water system. The authorized representative(s) can complete routine operational and maintenance duties and responsibilities as assigned by the certified operator without the certified operator being present.

The certified waterworks' operator is responsible for keeping the water system officials informed of all actions required to comply with the Safe Drinking Water Acts and ensuring, as authorized by the water system officials, that they implement these actions. The certified operator is also responsible for ensuring that all required water quality samples are collected and analyzed according to the requirements of the Mississippi State Department of Health's Bureau of Public Water Supply. Required samples include the monthly bacteriological samples, lead samples, copper samples, nitrate samples, radiological samples, and others as required by the Federal Safe Drinking Water Act.

The minimum job performance duties and responsibilities of the Class "C" certified waterworks operators are outlined below:

1. As a minimum, inspect the system every other day and perform all needed and appropriate operational and maintenance activities.
2. Maintain an approved Public Water System Operations Log Book documenting all activities completed on the public water system where he serves as the official certified waterworks operator. This log book must be available for inspection by Bureau staff. The Public Water System Operations Log Book is the property of the public water system and must remain as part of the official records of the Public Water System.

3. Ensure that the public water system develops and maintains an organized record keeping system to retain all correspondence and reports received from MSDH Bureau of Public Water Supply and to retain the results of all water quality analyses required by the Safe Drinking Water Acts. These records should be maintained on-site whenever possible and must be available for review by Bureau staff.
4. Develop and implement an on-going cross connection control program by: (1) identifying and tracking all existing cross connections on the water system, (2) ensuring that each existing cross connection is isolated from the water system by the correct type of cross connection control assembly, (3) evaluating all new connections to the water system to ensure that cross connection control devices are installed where needed, and (4) developing a written program to track each cross connection control device on the water system to ensure that each device is tested each year by an MSDH approved & licensed backflow device tester.
5. Ensure that all extensions to the water distribution system that are designed to serve 2 or more customers have been approved by the MSDH Bureau of Public Water Supply prior to beginning construction.
6. Serve as the point of contact for the staff of the MSDH Bureau of Public Water Supply for all matters related to compliance with the Federal and Mississippi Safe Drinking Water Acts and all other applicable laws and regulations.
7. Ensure that the MSDH is able to contact the Certified Waterworks Operator 24 hours a day by immediately notifying the Bureau of Public Water Supply of changes in the Operator's address or telephone number, business or personal.
8. Be available 24 hours a day to answer customer complaints, investigate and resolve problems with the operation or water quality of the water system.
9. Ensure that all water quality monitoring programs -- such as lead and copper sampling - - are organized and carried out according to the requirements of the MSDH Bureau of Public Water Supply and the Federal Safe Drinking Water Act.
10. Ensure that all distribution line valves are located and operated on a regular schedule to keep them in proper working order. The Bureau of Public Water Supply strongly recommends that records of all regularly scheduled/completed maintenance be maintained by the certified operator or his or her representative.
11. Periodically inspect all pumps to ensure proper operation.

12. Ensure that all water tanks -- pressure and storage -- are inspected periodically to determine if they are operating properly; the water level in the tank should rise and fall to keep water in the tank circulating. The operator should visually inspect the tank on a routine basis and coordinate proper maintenance service.
13. Analyze and record daily, monthly and annual water use and use the results of water quality analyses to help detect leaks or other problems on the system.
14. Ensure that water treatment facilities and water well sites are properly secured to prevent vandalism and accidents.
15. Develop and implement a routine flushing schedule program based on chemical quality of the water. All dead end water lines should be flushed on a routine schedule; the frequency of flushing depends on the chemical quality of the water and the type of water lines.
16. Develop a written set of standard operating procedures (SOP) for the public water system. The public water system should develop these procedures in sufficient detail and routinely update them to identify all activities required to efficiently operate and maintain all components of the water system. The responsible official of the public water system should review and approve this set of standard operating procedures. The operator should maintain the SOP in the official records of the water system so that it will be available for use by the water system.
17. Develop an emergency operation plan and ensure that this plan is effectively implemented when necessary.
18. Ensure that an adequate inventory is maintained of all supplies, chemicals, and equipment required to properly operate the public water system.

The certified operator or someone under his or her direct supervision should:

1. Test and record "free" chlorine residual in the water distribution system daily. Maintain a minimum "free" chlorine residual of 0.5 mg/l at the extremities of the water distribution system.
2. Collect bacteriological water samples on the system as required by the Safe Drinking Water Act. These samples must be collected from locations on the water distribution system that were approved by the Bureau of Public Water Supply on the sampling site plan for the system.

3. Read and record the readings of all master meters on a routine basis.
4. Check all wells daily to determine if they are performing as required. The well cycle run time should be checked and master meter(s) should be used to record the pumping capacity of the well(s). The operator should also schedule annual checks of each well by an outside contractor for drawdown, pump submergence, pumping capacity and general well operation.
5. Check the chlorinator daily to see if it is operating properly. The operator should also check for chlorine leaks and replace chlorine tanks promptly as needed.
6. Inspect the aerator and associated equipment daily.
7. Inspect the fluoridation feeding equipment daily. The operator is also responsible for monitoring fluoride levels to determine if they are within acceptable ranges, and to provide monthly fluoride samples to MSDH for analysis.
8. Regularly inspect the chemical feeder(s) used to adjust the pH. The operator should perform, on a daily basis, tests for pH of the treated water leaving the plant and keep a written record of pH results.
9. Inspect all chemical feeders daily (potassium permanganate, polyphosphate, etc.).
10. Check all pressure filters daily and backwash as needed according to recommended procedures.

Job Performance Guidelines for Certified Waterworks Operators Class "D"

The certified waterworks' operator has a critically important role in protecting the public health of Mississippians since he or she is the person designated by Mississippi State law with the responsibility for ensuring that the public water system is routinely providing safe and adequate drinking water to its customers.

Specifically, the certified waterworks' operator is the person responsible for the daily operation of all water treatment facilities, water plants, distribution systems, intake structures, storage tanks, control systems, and other related appurtenances of the public water system. He or she should perform all routine duties as necessary to ensure that the public water system routinely complies with all requirements of the Federal and Mississippi Safe Drinking Water Acts and is properly operated and maintained. Occasionally, the certified operator may have a representative(s) under his or her supervision who also works with the water system. The authorized representative(s) can complete routine operational and maintenance duties and responsibilities as assigned by the certified operator without the certified operator being present.

The certified waterworks' operator is responsible for keeping the water system officials informed of all actions required to comply with the Safe Drinking Water Acts and ensuring, as authorized by the water system officials, that they implement these actions. The certified operator is also responsible for ensuring that all required water quality samples are collected and analyzed according to the requirements of the Mississippi State Department of Health's Bureau of Public Water Supply. Required samples include the monthly bacteriological samples, lead samples, copper samples, nitrate samples, radiological samples, and others as required by the Federal Safe Drinking Water Act.

The minimum job performance duties and responsibilities of the Class "D" certified waterworks operators are outlined below:

1. As a minimum, personally inspect the system two or three days each week, depending on the characteristics of each particular public water system, and perform all necessary and appropriate operational and maintenance activities.
2. Maintain an approved Public Water System Operations Log Book documenting all activities completed on the public water system where he serves as the official certified waterworks operator. This log book must be available for inspection by Bureau staff. The Public Water System Operations Log Book is the property of the public water system and must remain as part of the official records of the Public Water System.

3. Develop and implement an on-going cross connection control program by: (1) identifying and tracking all existing cross connections on the water system, (2) ensuring that each existing cross connection is isolated from the water system by the correct type of cross connection control assembly, (3) evaluating all new connections to the water system to ensure that cross connection control devices are installed where needed, and (4) developing a written program to track each cross connection control device on the water system to ensure that each device is tested each year by an MSDH approved & licensed backflow device tester.
4. Ensure that the public water system develops and maintains an organized record keeping system to retain all correspondence and reports received from MSDH Bureau of Public Water Supply and to retain the results of all water quality analyses required by the Safe Drinking Water Acts. These records should be maintained on-site whenever possible and must be available for review by Bureau of Public Water Supply staff.
5. Ensure that all extensions to the water distribution system that are designed to serve 2 or more customers have been approved by the MSDH Division of Water Supply prior to beginning construction.
6. Serve as the point of contact for the staff of the MSDH Bureau of Public Water Supply in all matters related to compliance with the Federal and Mississippi Safe Drinking Water Acts and all related laws and regulations.
7. Ensure that the MSDH is able to contact the Certified Waterworks Operator 24 hours a day by immediately notifying the Bureau of Public Water Supply of changes in the operators address or telephone number, business or personal.
8. Be available on a 24-hour a day basis to answer all customer complaints and investigate and resolve problems with the operation or water quality of the system.
9. Ensure that all monitoring programs -- such as lead and copper sampling -- are organized and carried out according to the requirements of the MSDH/ Bureau of Public Water Supply and the Federal Safe Drinking Water Act.
10. Ensure that all distribution line valves are located and operated on a regular schedule to keep them in proper working order. The Bureau of Public Water Supply strongly recommends that records of all regularly scheduled/completed maintenance be maintained by the certified operator or his/her representative.

11. Ensure that all water tanks -- pressure and storage -- are regularly inspected to ensure that they are operating properly; the water level in the tank should rise and fall to keep water in the tank circulating. The operator should visually inspect the tank on a routine basis and coordinate proper maintenance service as needed.
12. Periodically inspect all pumps to ensure proper operation.
13. Analyze and record daily, monthly and annual water use and use water quality analyses to help detect leaks or other problems on the system.
14. Develop and implement a routine flushing schedule program based on chemical quality of the water. All dead end water lines should be flushed on a routine schedule; the frequency of flushing depends on the chemical quality of water and the type of water lines.
15. Ensure that water treatment facilities, well sites, etc. are properly secured to prevent vandalism or accidents.
16. Develop a written set of standard operating procedures (SOP) for the public water system. The public water system should develop these procedures in sufficient detail and routinely update them to identify all activities required to efficiently operate and maintain all components of the water system. The responsible official of the public water system should review and approve this set of standard operating procedures. The operator should maintain the SOP in the official records of the water system so that it will be available for use by the water system.
17. Maintain an emergency operation plan for the public water system and be prepared to implement this plan when necessary.
18. Ensure that an adequate inventory is maintained of all supplies, chemicals, and equipment required to properly operate the public water system.

The certified operator or someone under his or her direct supervision should:

1. Test and record the "free" chlorine residual in the water distribution system routinely. Maintain a minimum "free" chlorine residual of 0.5 mg/l at the ends of the water distribution system.

2. Collect bacteriological water samples on the system as required by the Safe Drinking Water Act. These samples must be collected from locations on the water distribution system that were approved by the Bureau of Public Water Supply on the microbiological sampling site plan for the water system.
3. Read and record readings from all master meters on a routine basis.
4. Check all wells routinely to determine if they are performing as required. The well cycle run time should be checked and the master meter(s) should be used to record the pumping capacity of the well(s). The operator should also schedule annual checks by an outside contractor for factors such as drawdown, pump submergence, pumping capacity and general well operation.
5. Check the chlorinator routinely to see if it is operating properly. The operator should also check for chlorine leaks and replace chlorine tanks promptly as needed.
6. Inspect the fluoridation feeding equipment routinely (daily if possible). The operator is also responsible for monitoring fluoride levels to determine if they are within acceptable ranges, and to provide monthly fluoride samples to MSDH for analysis.
7. Inspect all chemical feeders routinely (sodium fluoride, polyphosphate, etc.).

Job Performance Guidelines for Certified Waterworks Operators Class "E"

The certified waterworks' operator has a critically important role in protecting the public health of Mississippians since he or she is the person designated by Mississippi State law with the responsibility for ensuring that the public water system is routinely providing safe and adequate drinking water to its customers.

Specifically, the certified waterworks' operator is the person responsible for the daily operation of all water treatment facilities, water plants, distribution systems, intake structures, storage tanks, control systems, and other related appurtenances of the public water system. He or she should perform all routine duties as necessary to ensure that the public water system routinely complies with all requirements of the Federal and Mississippi Safe Drinking Water Acts and is properly operated and maintained. Occasionally, the certified operator may have a representative(s) under his or her supervision who also works with the water system. The authorized representative(s) can complete routine operational and maintenance duties and responsibilities as assigned by the certified operator without the certified operator being present.

The certified waterworks' operator is responsible for keeping the water system officials informed of all actions required to comply with the Safe Drinking Water Acts and ensuring, as authorized by the water system officials, that they implement these actions. The certified operator is also responsible for ensuring that all required water quality samples are collected and analyzed according to the requirements of the Mississippi State Department of Health's Bureau of Public Water Supply. Required samples include the monthly bacteriological samples, lead samples, copper samples, nitrate samples, radiological samples, and others as required by the Federal Safe Drinking Water Act.

The minimum job performance duties and responsibilities of the Class "E" certified waterworks operators are outlined below:

1. As a minimum, personally inspect the system a minimum of one (1) day each week, depending on the characteristics of each particular public water system, and perform all necessary and appropriate operational and maintenance activities required on the distribution system.
2. Maintain an approved Public Water System Operations Log Book documenting all activities completed on the public water system where he or she serves as the official certified waterworks operator. This Log Book must be available for inspection by Bureau staff. The Public Water System Operations Log Book is the property of the public water system and must remain as part of the official records of the Public Water System.

3. Develop and implement and on-going cross connection control program by: (1) identifying and tracking all existing cross connections on the water system, (2) ensuring that each existing cross connection is isolated from the water system by the correct type of cross connection control assembly, (3) evaluating all new connections to the water system to ensure that cross connection control devices are installed where needed, and (4) developing a written program to track each cross connection control device on the water system to ensure that each device is tested each year by an MSDH approved and licensed backflow device tester.
4. Ensure that the public water system develops and maintains an organized record keeping system to retain all correspondence and reports received from MSDH Bureau of Public Water Supply and to retain the results of all water quality analysis required by the Safe Drinking Water Acts. These records should be maintained on-site whenever possible and must be available for review by Bureau of Public Water Supply staff.
5. Ensure that all extensions to the water distribution system that are designed to serve 2 or more customers have been approved by the MSDH Bureau of Public Water Supply prior to beginning construction.
6. Serve as the point of contact for the staff of the MSDH Bureau of Public Water Supply in all matters related to compliance with the Federal and Mississippi Safe Drinking Water Acts and all related laws and regulations.
7. Ensure that the MSDH is able to contact the Certified Waterworks Operator 24 hours a day by immediately notifying the Bureau of Public Water Supply of changes in the Operator's address or telephone number, business or personal.
8. Be available on a 24-hour a day basis to answer all customer complaints and to investigate and resolve problems with the operation or water quality of the system.
9. Ensure that all monitoring programs -- such as lead and copper sampling -- are organized and carried out according to the requirements of the MSDH/ Bureau of Public Water Supply and the Federal Safe Drinking Water Act.
10. Ensure that all distribution line valves are located and operated on a regular schedule to keep them in proper working order. The Bureau of Public Water Supply strongly recommends that records of all regularly scheduled/completed maintenance be maintained by the certified operator or his or her representative.
11. Ensure that all water tanks -- pressure and storage -- are regularly inspected to ensure that they are operating properly; the water level in the tank should rise and fall to keep water in the tank circulating. The operator should visually inspect the tank on a routine basis and coordinate proper maintenance service as needed.

12. Periodically inspect all pumps (if applicable) to ensure proper operation.
13. Analyze and record daily, monthly and annual water use and use water quality analyses to help detect leaks or other problems on the system.
14. Develop and implement a routine flushing schedule program based on chemical quality of the water. All dead end water lines should be flushed on a routine schedule; the frequency of flushing depends on the chemical quality of water and the type of water lines.
15. Develop a written set of standard operating procedures (SOP) for the public water system. The public water system should develop these procedures in sufficient detail and routinely update them to identify all activities required to efficiently operate and maintain all components of the public water system. The responsible official of the public water system should review and approve this set of standard operating procedures. The operator should maintain the SOP in the official records of the water system so that it will be available for use by the water system.
16. Maintain an emergency operation plan for the public water system and be prepared to implement this plan when necessary.
17. Ensure that an adequate inventory is maintained of all supplies, chemicals, and equipment required to properly operate the public water system.

The certified operator or someone under his or her direct supervision should:

1. Test and record the chlorine residual free and total continuously on the discharge of the treatment facilities along with routine checks on the distribution system. Maintain a minimum "free" chlorine residual of 0.5 mg/l at the ends of the water distribution system unless the systems disinfection is treating with chloramines then a minimum of 0.5 mg/l total residual should be maintained.
2. Collect bacteriological water samples on the system as required by the Safe Drinking Water Act. These samples must be collected from locations on the water distribution system that the Bureau of Public Water Supply approved on the microbiological sampling site plan for the water system.
3. Read and record readings from all master meters on a routine basis.