

GEORGIA ASSOCIATION OF WATER PROFESSIONALS

WATER DISTRIBUTION SYSTEM AWARD

EVALUATORS GUIDE



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INTRODUCTION

The purpose of this evaluation is to evaluate the water distribution system operations for utilities across the state of Georgia for the current year within each established category. In order to make a fair assessment, standards have been established so multiple evaluators may provide fair and equal assessments for all nominated utility systems.

1. MANAGEMENT PROGRAM

A. Organizational Structure

- a. **Employee/Certification Employee Ratio-** A satisfactory rating (2) will be given if each work crew has a certified operator in the position that is considered the on-site supervisor. A best rating (3) will be given if 80% of water distribution staff is certified. Certification records should be available for review.
- b. **Organizational Chart-** An organization chart should be available for review. A2 will be given for having a Org Chart. A 3 will be given based on the detail of the Org Chart. (All People listed with job titles)
- c. **Job Descriptions-** Up-to-date job descriptions will be available for review.
- d. **Equipment Condition-** All essential equipment should be in good working order. Maintenance records of the equipment would be rated a 3.

B. Emergency Response Plan

- a. **Updated List of On-Call Personnel**
- b. **Written Updated Response Plan.** Response plan must have been updated within the last 3 years and can show documentation of NIMMS training to rate at a 3.
- c. **Available Spare Parts-** Pipe, fittings, sleeves, valves, hydrant parts, valve boxes, etc. should be available for reasonable response. Small utilities may not have all repair material on hand; however outside sources should be defined and readily available to supply material on demand.
- d. **Available Repair Equipment-** Necessary equipment should be available to maintain and repair the system. Small utilities may have independent contractors that provide this service. Procedures for the procurement of these services should allow a quick response for a satisfactory rating. Check orders or the system used to direct work for back logs and response times.

- e. **Electronic Computerized Monitoring-** Electronic/Computerized Monitoring System (SCADA) - these systems are not required; however, if the utility is currently using this type of system monitoring, a well maintained system must be evident for a satisfactory rating. If the utility is not using a SCADA system, procedures for system monitoring along with quick response procedures must be available for review.

C. Job Proficiency Training

- a. **On the Job operations and Maintenance Training offered and tracked**
- b. **On the Job training pump station operation and maintenance offered and tracked**
- c. **Professional certified distribution operator training offered**

D. Internal Communication

- a. **Demonstration of Top-down, Bottom-up, and lateral exchange of information**
- b. **Performance/ Certification incentives to employees**

E. Customer Service Dispatch

- a. **Adequate staff in Dispatch Department**
- b. **Complaints, Requests, inquiries received by Dispatch are tracked and measured**
- c. **Field crews trained for interaction with customers**

F. Management Information Systems

- a. **System Assets are mapped (As-builds, GIS, etc...) and up-to-date**
- b. **Asset management techniques used**
- c. **Work order system of maintenance activities**
- d. **Performance tracking data maintained**

- G. **Safety** – A written safety program must be available for review. As well as a written policy to employees must be available for review.
- a. **Personnel safety is monitored and tracked**- Each category within this section is essential; however, defensive driving and CPR may be considered as bonus points (2 each), if proper documentation is available for review. The other programs require documentation to be qualified for a satisfactory rating. On-site supervisors must be certified as completing both the competent person and the confined space entry training. An evaluation of the organization chart along with certification records should provide proper documentation. A site visit will be required to evaluate DOT traffic control standards. Handbooks issued by the DOT should be available at the site.
 - b. **Safety Officer/ Committee**- At least one person with authority must be named as the overall safety officer.
 - c. **Gas monitors provided**- Gas monitors along with calibration records must be available for inspection. Small utilities may use other agencies to provide this service. Ventilation equipment should be available either by the utility or through rental companies. Check the equipment for maintenance records or the procedure required to rent under emergency conditions.
 - d. **First aid kits**- First aid kits should be well stocked and available on all job sites. Fire extinguishers should be in each vehicle and fully charged.
 - e. **Mandatory safety training required for all employees**- Topics, attendee lists, dates and other related records must be available for review.
 - f. **Safety training tracked and maintained**- Records of meetings must be available for review.
 - g. **Adequate safety equipment is provided**- Personal protective equipment will vary with each utility. All equipment should be in good condition and available for use when required. A site visit may be required to determine the rating in this category. Shoring will also be a variable item. Check to see the availability and the condition. Traffic control devices should be on-hand or available through rental companies. Check procedures for availability under emergency conditions.
 - h. **Emergency Response training is offered**- Employees should be well informed and well trained to respond under emergency conditions. Check training records, the availability of the Emergency Response Plan to the employees and the employees' familiarity of the plan.

- i. **Safety testing and drills are conducted**
- j. **Safety Incentive Program**- This is to be used as a bonus (excellent rating, 3 points). There will be no penalty if the system does not have this program. **Overall Attitude**- A feeling of “safety is our first concern” should be demonstrated to receive a satisfactory rating.

H. **Budgeting**

- a. **Adequate Distribution O&M labor budget**
- b. **Adequate budget for materials, parts, and equipment**
- c. **CIP budget for rehabilitation and major water line replacement**

2. **MAINTENANCE PROGRAM**

A. **Planned Preventive Maintenance**

- a. **Valve operation and Maintenance Program**- Records should be available for review that would indicate an ongoing valve exercise and maintenance (repair, locate and raise, etc.) program exists. Some utilities may contract this work with outside firms. A satisfactory rating (2) would indicate that at least 20 percent of the valves should be exercised each year. A best rating (3) would indicate that 50% of valves are operated and maintained each year
- b. **Hydrant Testing/Maintenance Program**- Some utilities perform this task within their organization while others rely on the fire department or other agencies. Records and/or a field inspection should provide evidence of a satisfactory hydrant maintenance program. Records of repairs should be available for inspection.
- c. **Water Quality Monitoring Program**- Each utility must have a program to receive a satisfactory rating. Small utilities will use other agencies (EPD) or outside laboratories to perform the testing. Records should be available for review. Also, procedures to correct any substandard condition should be in place and available for review.
- d. **Water Quality Problems**- Records of problems (i.e. color, taste, odor, etc.) along with corrective procedures must be available for inspection. Recurring problems should have corrective plans in place for long term solutions (i.e. line replacement, systematic flushing, etc.)

- e. **Flushing Program-** A flushing program must be in place in order to meet the satisfactory requirements. Procedures and records must be available for review. In some cases, the utility is not responsible for this activity. Other departments, such as the fire department, may provide this service.
- f. **Corrosion Control Testing Program-** This program is beneficial; however, it is not essential to the operation of the distribution system. A well-developed program with maps, maps, records, and some type of corrective plan will be scored as excellent (3 points). There will be no penalty for utilities not having a program in place.
- g. **Residual Chlorine Testing Program-** In some cases, this program may be coupled with a water quality monitoring program or with a program that would address water quality problems. If the utility has a separate residual testing program, bonus points (3) with an excellent rating may be given. No program at all, either a specific program or one coupled with another program, would result in an unsatisfactory rating.
- h. **Water Loss Abatement Program-** In order to receive a satisfactory rating records must be available for review. Plant production and financial records indicating water loss would be acceptable. A complete, independent abatement program may receive an excellent rating.
 - i. **AWWA Water Loss Audit-** Records should be available for review for AWWA Water Audits
 - ii. **Leak Detection Program-** A passive leak detection program must be in place to receive a satisfactory rating (2) with 20% of the system surveyed annually. A best rating (3) will be provided if 50% of the system is surveyed annually
- i. **Pressure/Flow Testing Program-** Records and maps with historical data should be available for review. Some utilities perform this service with their own staff, others use outside sources, (i.e. fire department, engineering firms, etc.). Current and historical data should be available at the utility to receive a satisfactory rating. GIS overlay and/or some form of modeling capability would warrant an excellent rating in this category
 - i. **Overall Rating by Fire Department-** A report from the fire department indicating the adequacy of the system including storage, flow, pressure, reliability and availability should be available at the time of evaluation. The ISO rating will determine the score in this category.

1. **ISO Rating 1 to 3= Best (3 Points)**
 2. **ISO Rating 4 to 5= Good (2 Points)**
 3. **ISO Rating of 6+= Poor (1 Point)**
- j. **Backflow Prevention Program**- A program must be in place for a satisfactory rating. Records and procedures must be available for review.
 - k. **Long Range Plan**- A copy of the plan should be available for review. Innovative plans along with aggressive schedules to maximize the system performance and efficiency may rate excellent in this category.
- B. Reactive or Emergency Maintenance**- All utilities must have an up to date, written plan available for review. Records of employee training should also be available for review.
- a. **Percent of crew time spent on reactive maintenance**
 - b. **Performance tracking and measurement of reactive maintenance**
 - c. **Response time performance measured**
 - d. **Adequate crews and equipment after hours response**
- C. Facilities, Parts, and Equipment Maintenance**
- a. **Facilities to Conduct Preventive and Reactive Maintenance Work Efforts**
 - b. **Equipment Inventory Tracked**- Required equipment will vary with the complexity of the system. Each utility should either have the necessary equipment on hand, in good working condition, or agreements with other sources to provide the service. Review the agreement(s) to determine the responsiveness under emergency conditions.
 - c. **Parts Inventory Tracked**- Spare Parts to repair both the piping and pump station(s) must be available. In small utilities, repair service may be performed by private contractors. Review the procedure and agreement. Also, check the availability of material that may be required to determine the adequacy of the response time.
- 3. OPERATIONS PROGRAM- Pump Stations, Storage Facilities, and Chemical Feed Equipment**
- A. Pump Stations**
- a. **Inspection Schedule of Pump Stations**

- b. **Preventive Maintenance of Pumps**- All equipment should be in good working order. Maintenance records should be available for review.
 - c. **Adequate Back-up Power at Pump Stations**
 - d. **System Redundancy**
 - e. **Predictive Maintenance**
 - f. **Housekeeping Practices**- The station should be relatively clean and give an appearance of being well maintained.
- B. **Storage Facilities**- Same as pumping facilities.
- C. **Chemical Feed Equipment**- Same as pumping facilities.

4. **CAPACITY PROGRAM**

- A. **Computer Modeling**
- B. **Capacity for Fire Protection**
- C. **Analysis of Data (GIS, Database, Spreadsheet)**
- D. **New Construction Installation, Testing, and Inspection to Assure Capacity**- The utility must provide construction inspection, either in-house or through contract, in order to receive a satisfactory rating. Check the inspector's work load and the inspection procedures in order to determine the adequacy of the program.
- E. **New Construction Requirements**- The utility must provide a copy of their standard construction specifications.
- F. **Capacity Certification Methodology**