

Utilities, Inc. of Florida

Asset Maintenance Guidelines

The following table summarizes the region's current level of compliance with the UI Maintenance Guidelines as well as modifications to the operations plan to improve compliance to the guidelines. The region is working to improve alignment with the UI maintenance guidelines but subject to resource limitations and operating costs.

Type of Equipment	Maintenance Program	FL Current Status (Green, Yellow)	Requirements to a Achieve Compliance
1. Ground Storage Tanks	Internal and external inspections consistent with FL DEP Reg. 62-555 (5 year intervals internally and externally)	All tanks have been inspected within past 5 years.	Compliant with UI and FL requirements
2. Hydrants	Exercise annually; paint as needed; perform flow tests every five years	Exercised annually during flushing activities; Repair/lubricate as needed. Paint as needed.	Evaluate need for additional head count to meet maintenance schedule.
3. Distribution Valves	Exercise annually	Critical valves exercised annually. All other valves, exercise every 3 years.	Evaluate need for additional head count to meet maintenance schedule.
4. Hydro tanks	Internal and external inspections consistent with FL DEP Reg. 62-555 (5 year intervals internally and externally)	All tanks have been inspected within past 5 years.	Compliant with UI and FL requirements
5. Collection Line Cleaning / Inspection	All sections 1x in 10 years (e.g. 100% of the system every 10 years or 100% 1 year in 10). More frequent as circumstances dictate (e.g. clay pipe, aged systems).	Performed by contractor	Compliant

6. Lift Stations	Annual inspection and cleaning per checklist	Annual inspection and regular cleaning per check list	Initiate drawdowns and megging of electrical equipment.
7. Internal Backflow Prevention	Inspect annually	Conducted annually in house	Compliant
8. Wells	Annual inspection and cleaning per checklist	Annual visual inspection per checklist and review of flow data, quantify impact of wear on pump output.	Compliant
9. Main Replacement	Based on break frequency, pressure problems, customer complaints (should be on capital plan)	Has been performed in past when justified.	Compliant
10. Manholes	Receiving manholes receiving flow from force mains = annual inspection	Inspect annually.	Compliant
11. Pressure Relief Valves	Inspect annually all PRV's on hydro tanks, all others in conjunction with tanks cleaning	Tested annually	Compliant
12. Air Release Valves (Water Mains)	Inspect annually	Inspected annually by contractor	Compliant
13. Chemical Feed Systems and Tanks	Include as part of annual facility inspection	Inspect annually.	To be added to annual facility inspection.

14. Generators	Include as part of annual facility inspection	Inspect weekly per FDEP requirement; run under load for four hours per month minimum.	Compliant
15. Mains	Flush dead end lines each quarter consistent with FDEP requirements		Evaluate need for additional head count to meet maintenance schedule.

Tasks above highlighted in yellow are ones that are currently lacking guideline schedule requirements. Each task requirement is broken down in the table below including man hours in order to complete each task. Please note that drive time is not included and will extend time requirements.

The table below illustrates the yearly hours worked per Full Time Equivalent (FTE) with less than four years of employment with the company and the approximate number of man-hours per year each FTE provides to Operations.

Hours/year	Less Vacation Time	Less Holiday Time	Net Hours/year at work
2,080	96	72	1,912

Asset Class	Est. Task Time	Number of Assets	Frequency	Est. Annual Man-hours
Hydrant Flow tests/ Inspection/ Lubrication	30 mins/hydrant; paint 25% each year; flow test 20% each year	1,680 hydrants	Annually	1,200
Distribution Valve Exercise	30 mins/valve; 33%/year	3,800+ isolation valves	Triennially	700
Lift Station drawdown	30 mins/lift station	184	Annually	100
Main flushing	30 mins/blowoff	650+ dead ends	Quarterly	1,300
Manhole inspection	30 mins/manhole	4,000+ MH's	Annual	2,000
Linear assets	Geo-locate, ID & import to OMS	635 miles	One time	1,000
Linear assets	Geo-locate, ID & import to OMS	70,000+ service pts	One time	2,000

Based on the man-hours required to complete the maintenance tasks identified in the maintenance guidelines table shown above, a minimum 3.0 FTE's is required over and above the current workforce.

In addition to these maintenance activities, the additional FTE's also will be tasked with collecting field GPS data that will be added to GIS/OMS platform that is to be launched late in the second quarter of 2017. The maintenance activities undertaken and completed by the new maintenance team will be collected and tracked within the Computerized Maintenance Management System (CMMS) software. Lucity has been selected as the CMMS provider across all of UI's systems. This will give Operations personnel the ability to access records and data for multiple applications such as tracking and assessing the performance and cost of existing assets when planning capital project timing, scope and benefits.