

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**


In the Matter of:

**ELECTRONIC ALLEGED FAILURE OF NORTH
MANCHESTER WATER ASSOCIATION, INC., ITS
OFFICERS, STEVE DAVIS, BILL HURD, CARL
GREGORY HOSKINS, BOBBY WOLFE, HENRY
SMITH, TED WOODS, CARL DAVID CRAWFORD,
AND ITS MANAGER, JERRY RICE, TO COMPLY
WITH KRS 278.140, KRS 278.230, 807 KAR 5:006,
SEC. 4, AND KRS 278.990**)
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) **CASE NO. 2021-00339**
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NOTICE OF FILING

North Manchester Water Association, Inc. (“North Manchester Water Association”), by counsel, hereby submits the attached Water Loss Prevention and Leak Detection Program policy. This was previously provided to Commission Staff in advance of the informal conference on January 11, 2022, but it has not been filed in the record of this case.

Respectfully submitted,



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ATTORNEYS FOR NORTH MANCHESTER WATER
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North Manchester Water Association

WATER LOSS PREVENTION AND LEAK DETECTION PROGRAM

The following plan outlines processes and procedures that the North Manchester Water Association (NMWA) will conduct on a routine basis (both in a reactive and proactive mode) to identify and repair water line leaks, identify and monitor un-metered water usage, prevent tank overflows, and reduce its overall water loss.

Preparation: Compile an individual manual for each tank zone that includes the following information:

- Total customer count
- Master Meters inside zone; along with customer count fed by meter
- Zone map with boundaries clearly defined, as well as main line valves, side-line valves, and meter locations.

1. ROUTINE PROCEDURES:

- A. **TANK DRAW-DOWN:** Perform a system wide tank draw-down at a minimum of 1x, weekly. As the system becomes able, increase number of draw-downs per week:
 - Compare tank flow rate to expected customer demands based upon number of connections.
- B. **RECORDING READINGS:** All tank level trends during the “Tank Draw-Down” are accessible through system telemetry. These should be assessed before any leak detection efforts are made to determine which area should be focused on to increase efficiency of field operations.
- C. **CONSISTENT DRAW-DOWN SCHEDULES:** Establish a schedule wherein all zones are effectively isolated during each “Tank Draw-Down”, to ensure that any inconsistencies are identified. ***The best time to perform a system wide draw down is during low customer demand (usually 11PM-3AM).
- D. **FIELD PERSONNEL RESPONSIBILITIES:** All distribution personnel (meter readers, maintenance, etc.), shall immediately report to their supervisor any identified water leaks, tank overflows, telemetry problems, or other concerns that are presently or could result in water leaks or loss. A work order will be generated by the supervisor to address the problem immediately or at the earliest possible time, given the urgency of the problem reported.
- E. **RECORDING DATA:** Daily and monthly records (via computer databases, manual logs, or spreadsheets) shall be maintained by appropriate supervisory personnel to record and analyze the following information:
 - Daily plant production and pumpage
 - Pump station run times
 - Estimated water losses from line breaks, tank overflows, hydrant usage, etc.

- Metered customer water sales by Tank Zone
 - Other un-metered water usage
- F. DATA ANALYSIS: Water production and usage data obtained and recorded (item E above) shall be evaluated and analyzed on a daily/weekly/monthly basis to determine:
- Water production and purchase amounts
 - Metered usage
 - Known un-metered usage
 - Known losses from line breaks, etc.
 - Water loss by tank zone
- G. FOCUS ON DISTRIBUTION SYSTEM ZONES: The Association's present system has no major tank zones that operate solely independent from other pressure zones without manipulating the distribution system.
- Currently, NMWA can isolate 3 separate tank zone manually by operating valves. Data analysis will be focused on water usage and loss in each of these tank zones with work orders (and leak detection efforts) prioritized based on the severity of water loss in each area.
- H. METER TESTING AND REPLACEMENT: Pursuant to PSC regulations, customer meters will be tested on a staggered schedule to ensure that they are registering water accurately. Larger meters (master meters and customer meters 4" and larger) shall be tested on an annual basis. All meters will be tested in accordance with 807 KAR 5:066 Section 16 (1) and repaired or replaced as warranted.

2. LEAK DETECTION PROCEDURES

- A. PERSONNEL: On a routine basis (monthly or bi-weekly, as routine system operations permit), personnel will be assigned to leak detection shifts after hours (typically 10:00 PM to 2:00 or 3:00 AM). Customer usage is minimal at this time and allows field personnel to go valve to valve (and often meter to meter) with listening devices and detect abnormal flows. Personnel will perform leak detection in those areas with the highest known water loss, based on routine data collection and analysis previously discussed.
- B. OUTSIDE CONSULTANTS: Outside consultants will be utilized as circumstances and funding dictate. The Association has routinely utilized the services of Kentucky Rural Water Association in this process.

3. CAPITAL IMPROVEMENTS

As funding permits, the Association will prioritize and acquire/install the following:

- A. **FLOW METER:** One of the most important tools in detecting water usage and loss is a flow meter. As funds become available, it is recommended the Association purchase a unit. At a cost of approximately \$6,000, these devices offer the capability of portability, where as master meters do not. Master meters also require annual maintenance (especially larger meters) to ensure accuracy and reliability whereas the Ultrasonic Portable Flow-Meter does not.

- B. **DEFINING TANK ZONES:** To increase efficiency in leak detection efforts, it is recommended to develop a plan on creating defined tank zones that operate individually of one another. This will dramatically decrease the amount of time required for locating leaks, and thus reduce the operational cost associated with each leak as well as total water lost.

- C. **TELEMETRY MASTER METERS:** It is recommended that the system install master meters throughout the system to monitor zonal flow. Selecting the location of each meter is important but too often the capability of the meter is overlooked. By installing meters with telemetry capabilities, zonal demands can be monitored remotely resulting in a decrease the amount of time required for locating leaks, and thus reduce the operational cost associated with each leak as well as total water lost.