Kentucky-American Water Company

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LOCAL PROCEDURE

Local Procedure No. DIS-7 Date 11/05/91

Subject Fire Hydrant Repair Procedures

Supersedes _____ Superceded By _____

Cross Reference _____ Date Superceded/Cancelled _____

Issued By Jim Singleton Reviewed By S. Stockton

In the future whenever maintenance is performed on fire hydrants for any reason, the following additional items will be completed also.

1. Fire hydrants will be straightened absolutely plumb as determined by a level.
2. Fire hydrants will be adjusted to the proper grade, as needed.
3. Valve boxes will be located and set to grade.
4. Fire hydrant valves will be checked to ensure they are operable.
5. Fire hydrants will be checked to ensure proper drainage.
6. Caps and chains will be installed with all S-hooks and chain hooks clamped tightly.
7. Before hydrant caps are replaced, hydrants will be flowed to expel any debris that may have been put in the hydrant.
8. Fire hydrants will be cleaned and neatly painted blue and white.

JS/ld

APPROVED BY BOARD OF DIRECTORS
Date 5/9/88
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FIRE HYDRANTS - INSTALLATION, OPERATION, INSPECTION & MAINTENANCE

The installation, operation, inspection and maintenance of public fire hydrants are normally the responsibility of the Water Company.

Checking Hydrants Upon Delivery

Hydrants will be inspected immediately upon delivery to verify compliance with local Water Company specifications and detect any damage that may have occurred in shipment.

Water Company specifications will conform to those of the respective fire districts where the hydrants are to be installed and will require that all hydrants be either color coded or tagged accordingly. Nozzle threads and/or operating nuts will be carefully checked to ensure that fire departments' hose couplings and wrenches fit.

To ensure efficient operation on the Company's part, these procedures will be followed:

1. Thread dimensions on the 2-1/2" outlet hose and steamer nozzles will be checked using a micrometer or by installing nozzle caps or hose couplings.

2. Hydrants will be cycled to "full open" and "full closed" positions

to ensure that no internal damage has occurred during shipment and handling. External bolts will be checked for tightness.

3. After inspection, hydrant valves will be closed and all outlet nozzle caps replaced to prevent entry of foreign matter. During storage, hydrants will be turned with the inlets facing downward.

4. Hydrant wrenches and hose couplings obtained from the fire departments will be tagged or marked to designate locality or area in which they are the standard and will be tested on all hydrants before installation.

Hydrant Installation

Prior to installation, each hydrant will be reinspected for any physical damage and ease of operation. No public hydrant will be connected to a pipeline which is less than 6 inches in diameter and has available flows less than 500 gpm at 20 psi or greater when so established by the Company or regulation.

The location of the hydrant will provide complete accessibility and minimize the possibility of damage from vehicles or injury to pedestrians. When placed behind the curb, the hydrant barrel will be set so that no portion of the pumper or hose nozzle cap will be less than eighteen inches from the gutter face of the curb where practical to so locate within the street right-of-way. All hydrants will stand plumb with the pumper nozzle facing the curb.

Hydrants having two hose nozzles 90 degrees apart will be set with each nozzle facing the curb at an angle of 45 degrees. Hydrants will be set to the established grade, with nozzles at least eighteen inches above the ground. Recognizing that some installations will be subject to exposed driving and/or parking areas, those hydrants will be protected by steel rail posts imbedded in concrete in order to prevent possible damage. Such hydrant protection will allow for ease of hose connection and operation.

A reaction or thrust backing will be provided at the base of each hydrant and will not obstruct the drainage outlet of the hydrant, or the base of the hydrant will be tied to the pipeline.

When installing dry barrel hydrants, the following precautions will be taken to ensure that the drain opening is not blocked for proper operations:

a. Excavate a drainage pit two feet in diameter and two feet deep below each hydrant. Fill compactly with coarse gravel or broken stone mixed with coarse sand under and around the base of the hydrant to a level 6 inches above drain opening. No hydrant drainage pit will be connected to a sewer.

b. Cover stone with 8 mil thickness of polyethylene or similar material prior to backfilling

Where a known high water table exists, plug the drain hole and note on hydrant record so the hydrant barrel will be pumped out after each use.

All new installations of hydrants will include a valve in the lateral piping. When it is necessary to tap the supply main, the tapping valve will suffice as a control.

In order to bring the system up to current standards, where hydrants are in service without lateral valves, valves will be installed: a) during the course of hydrant maintenance when excavation is necessary; b) when a hydrant is replaced; c) when a hydrant is relocated and d) when the section of the distribution system on which the hydrant is connected requires a shutdown for programmed maintenance.

In areas where a municipality orders a hydrant installation on a main providing less than 500 gpm at 20 psi (minimum fire flow requirement), or another standard established by regulation or Company practice, a written hydrant installation agreement approved by the Company attorney will be required. The agreement will specify an exception wherein the municipality will indemnify, hold harmless and defend the Company from all claims, losses, costs or damages on account of injury to persons or property occurring as a result of the installation, operation, performance or existence of said hydrant installation.

After installation, the fire department will be notified in writing that the hydrant threads, couplings, operating nuts, etc. have been checked and are in compliance with their requirements. A copy of this letter will remain on file.

Hydrant Operations

When operating hydrants, the valve will be operated to its completely opened position to ensure that the drain valve is closed. This will prevent undermining and soil erosion around hydrant base. Precautions will be taken to prevent traffic problems and damage to surrounding property. In the winter, extra precautions are required. Hydrants with flows below 500 gpm will be studied for either relocation to a larger main or possible main reinforcing/replacement to correct the deficiency.

Hydrant Inspection and Maintenance

All public fire hydrants will be inspected at least annually and the Hydrant Inspection Report, Form 277, used. This form is to be used each time a hydrant is operated by Company personnel. Annual distribution system flushing requires recording as specified in the Operations Manual.

Any hydrant found inoperable will be so recorded to indicate the date and time reported out of service; the date, time and person reporting to the fire department when out of service, and reported back in service. A public fire hydrant will be reinstated as soon as possible and will not be out of service for more than 72 hours.

To assure prompt repair or replacement of hydrants, the Company will stock parts for each type of hydrant within the distribution system and a

number of replacement hydrants. All inspections and maintenance performed on each hydrant will be recorded.

By no later than the 15th of the month following the completion of the annual inspection, or as required by local ordinance, the Company will provide each municipality it serves with a report indicating the number of fire hydrants present in the municipality, the number tested during the year, the number repaired, and the number replaced. The report will also include a brief summary of programs undertaken during the course of the year to improve fire service.

Working Relationships

It is imperative that a good working relationship be established and maintained with each fire department served by the Company. Rapport can be developed by:

1. Visiting fire departments periodically to demonstrate hydrant operations using a diagram or cutaway model and designating certain hydrants fortraining purposes.
2. A Company representative should distribute to all fire departments in the service area a "Fire Hydrant Usage Report." This postage-paid postcard will provide space for the user to record the hydrant's location, date used, its condition and the estimated quantity of water flowed.
3. Submitting updated distribution system map sheets applicable to

the fire department's jurisdiction when additional mains, different size replacement mains or tie-ins have been installed.

The Company will also notify each fire department at least annually that it should contact the Company immediately following the use of any hydrant so the hydrant can be inspected.