City of Poquoson
Fire and Rescue

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EQUIPMENT AND APPARATUS

SOP#: EA 1.00

Title: Hose Testing & Maintenance

Effective Date: 06/06/2008

Revised Date: 04/15/2014

Fire Chief's Signature

City Manager's Signature

HOSE TESTING & MAINTENANCE

I. PURPOSE

This policy is to ensure that the fire hose is being maintained in optimum condition to ensure safe and efficient hose line operations. The following policy will give direction in service testing, record keeping, and maintenance of all in-service hose.

This SOP is not all-inclusive and cannot encompass all situations that may be encountered.

II. POLICY

All fire hose shall be inventoried, marked, and tested annually.

III. APPLICABILITY

All career and volunteer personnel

IV. PROCEDURES

A complete record of all hose assigned to a station shall be kept on a Hose Record Form and the Firehouse Inventory Module.

Hose Testing

Fire hose that is in-service and meets any of the following criteria will be given a standard Fire Hose Service Test:

- All in-service hose will be tested annually
- All hose showing signs of damage.
- All hose after being repaired.
- All new hose prior to being placed in-service.
- Any hose being run over by a vehicle.

Testing of hose will follow the guidelines set forth in NFPA 1962, *Standard for the Care, Use, and Service Testing of Fire Hose Including Couplings and Nozzles.*

Test Site Preparation

Hose should be tested in a place that has adequate room to lay out the hose in straight runs, free of kinks or twists. The site should be isolated from traffic. A water source for filling the hose is also necessary. Keep the hose testing area free of water when filling and discharging air from the hose. During testing, this aids in detecting minor water leaks around couplings.

Safety at the Test Site

- Pressurized hose is potentially dangerous because of its tendency to whip back and forth if a break occurs such as when a coupling pulls loose. To prevent this occurrence, gate all working discharges, when using the pumper, back to only a quarter (1/4) open once pressurized.

- Do not stand or walk near pressurized hose lines, unless necessary.

- Nonessential personnel and citizens should not be allowed near pressurized hoses.
- All personnel operating in the area of pressurized hose are to wear their helmets and eye protection.
- All personnel lifting or moving hose are to wear gloves.
- When using the pumper, hoses are to be connected to discharges on the side of the apparatus opposite the pump panel.
- Open and close all valves and nozzles slowly to prevent water hammer in the hose, pump and water system components.

Service Test Procedure

- Connect a number of hose sections (check gaskets before connecting) into test lengths of no more than 300 ft. each. Tighten the connections between the sections with spanner wrenches.
- Attach a shutoff nozzle (or gated breeches for 5" hose) to the open end of each test length.
- Fill each hose line with water with a pump pressure of 50 psi or to hydrant pressure. Open the nozzles as the hose lines are filling. Hold attack lines above the level of the pump to permit all the air in the hose to discharge. Discharge the water away from the test area.
- Close the nozzle after all air has been purged from each test length. Mark the hose at the coupling using a marking pen or ballpoint pen. Retighten any couplings that are leaking at the connection. Any length found to be leaking from behind the

coupling should be taken out of service, marked and tagged, prior to testing.

- Test pressures:
  - 1 1/2, 1 3/4, 2 1/2, 3 inch fire hose shall be tested to a minimum or 300 psi OR a pressure not to exceed the service test pressure marked on the hose.
  - 5" supply fire hose shall be service tested to a minimum of 200 psi OR a pressure not to exceed the service test pressure marked on the hose.
  - Forestry fire hose shall be service tested to a minimum of 300 psi OR a pressure not to exceed the service test pressure marked on the hose.
  - Hose manufactured prior to July 1987 to meet the requirements of the 1979 and previous editions of NFPA 1961 shall be removed from service.
- Increase the pump pressure to the required test pressure and then gate back all working discharges to one quarter (1/4) open if using the pumper. Personnel should monitor the connections for leakage as the pressure increases.
- Maintain the test pressure for three minutes. Inspect all couplings to check for leakage at the point of attachment.
- After three minutes, slowly reduce the pump pressure, close each discharge valve, and disengage the pump.
- Slowly open each nozzle and bleed off the pressure in the test lengths. Break all hose connections and drain water away from the test area.
- Observe marks placed on the hose at the couplings. If a coupling has moved during the test, tag the hose section out of

service. Tag all hose out of service that has a leak or failed in any other way.

- Record the test results for each section of hose.
- After testing, the hose should be properly drained and dried.

Record Keeping

- The Hose Record Forms will be filled out for each NEW section of hose at the time of hose testing. These forms will be filled out in detail and forwarded to Fire Administration.
- The Officer in charge of hose testing will designate the proper marking for each new hose section. The marking will be legibly stamped onto the male or female coupling of the hose or legibly and easily visible 3" down from the female coupling on one side, if possible.
- The Officer in charge of hose testing will inform each station which hose sections are due for annual testing. The information of each hose tested (including size, hose number, length, location, and pass/fail results) will be forwarded to Fire Administration.
- A current record of all hose and hose testing shall be entered on the Firehouse Inventory Module. Records shall go back a minimum of three (3) years for hose testing and available for ISO review.

Booster hose:

- Semi-annual examination of booster hose should be made for defects, such as chafing and cracking of the cover and exposed braid.

- Hose which has the braid exposed should not be used. It should be tagged, marked and taken out of service.

Forestry hose, soft sleeve suction, and hard sleeve suction:

The aforementioned types of hose should be visually examined for defects, at least on a semi-annual basis and after use.

- Hose should be examined for jacket defects, coupling damage and worn or defective gaskets. Any defects should be corrected if possible.

- If damaged, the hose should be tagged, marked, and taken out of service.

Cleaning

- Hard rubber booster line, hard suction, and rubber jacket collapsible hose require little more than rinsing with clear water. When hose is exposed to petroleum products, paints, acids, or alkalis, hose should be thoroughly cleaned as soon as possible.

    - Scrub hose with a mild soap to clean off foreign products and rinse thoroughly.
    - Thoroughly scrub and brush all traces of acid contacts with a solution of baking soda and water. The baking soda neutralizes the acids.