INSPECTION AND MAINTENANCE

BLADDER TANKS

It is recommended by N.F.P.A. that fixed Bladder Tank Foam Fire Protection Systems be maintained and inspected on at least a semiannual basis; however, certain requirements can affect the frequency of inspection:

- Location of the system.
- System use.
- Local authority/insurance company requirements.

Any of the above may require that the system be inspected more frequently than the recommended semiannual requirement.

To ensure that the system is full and operable, the following should be checked.

- The general appearance of the tanks, supports and installed piping. Check for any corrosion or mechanical damage.
- Inspect all valves to ensure correct operation and that they are in their normal operating position. These valves should either have a ring pin or a seal that locks and secures the valve in the correct position.
- Check foam concentrate level in tank. This can only be carried out after the water has been drained from around the bladder. As water is being drained from the tank shell drain valve, it will be necessary to open the bladder vent valve and the tank shell vent valve to allow air into the tank.
- Check all name plates on tank for legibility and corrosion.
- If a hydraulic concentrate control valve is installed in the foam concentrate piping to the proportioning controller and/or on the waterline into the bladder tank, ensure the valve operates when the system is activated. Once satisfactory operation is achieved, return the valve to the normal operating position.
- Take a sample of the foam concentrate from the bladder tank by discharging the concentrate from the bladder drain/fill valve into a clean plastic container.

This sample should be sent to the foam concentrate manufacturer for analysis. Approximately 1 quart will be sufficient.

Recheck all valves installed in the waterline supplying the tank and on the foam concentrate line to the proportioning controller to ensure that they are in the correct normal operating position.

ENGINEERING NOTE

N.F.P.A. recommends that on an **ANNUAL** basis the following also be carried out.

- The system should be flow tested to ensure accurate proportioning of the foam concentrate into the water stream.
- Ensure that the system flow rate through the proportioning controller is within the recommended flow requirements and pressure for the size controller installed in the system. After approximately one minute of foam solution flow, collect a sample of the discharging foam in a clean container. Shut down the system.
- Check the drained foam solution in the container with a refractometer or a conductivity meter to ensure correct proportioning of the foam concentrate into the water steam.
- On an open discharge device type system, flush the system with fresh water to remove any foam solution residue.
- If the foam proportioning controller is metering the correct rate of foam concentrate into the water stream and no further flow testing is required, place all valves in their normal operating position and ring pin or seal in that position.
- Drain the water from the space between the shell and the bladder and replace the concentrate used during the system flow test.