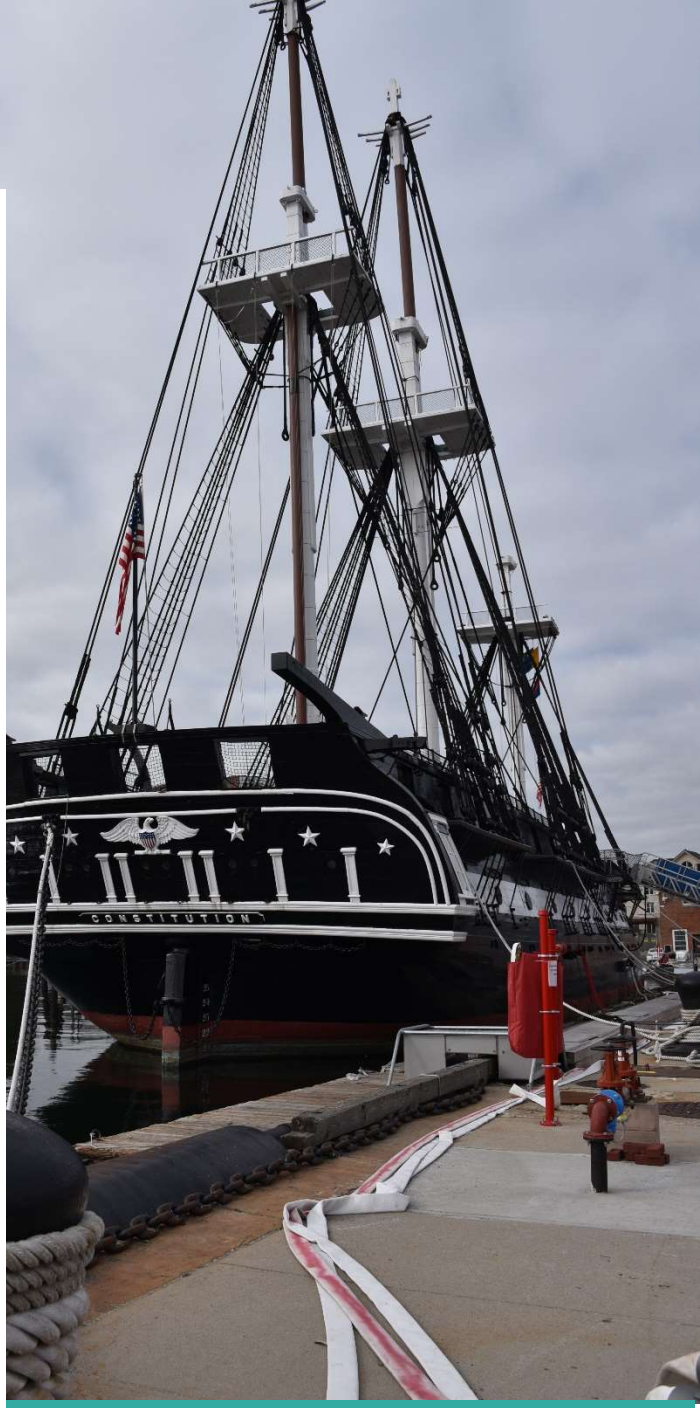
CASE STUDY

WATER EXPOSED EQUIPMENT



APRIL 8

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ROSEMONT ENGINEERING INCORPORATED

Water Exposed Equipment

What to do when a controller is subjected to water.

Request for service: **A customer calls and reports their fire pump controller got wet internally due to a broken pipe in the room. They are in the process of drying it out with fans, and want us to perform an emergency visit to "ensure the controller is operating properly again."**

Our Response: **Unfortunately, we cannot re-energize the controller since the internal components have been subjected to water. Even though the controller may operate at this time, there is no guarantee it will work long-term. You must replace the equipment.**

Consideration:

A fire pump controller lives next to a fire pump, in a fire pump sprinkler room. A quick look around the room will reveal a variety of other components; large diameter sprinkler pipes, gate valves and pressure relief valves, to name just a few. You'll even see a sprinkler head or two on the ceiling in the event of a fire.

Frequently, and not surprisingly, failures of these components occur in the room which result in water being introduced to equipment in the room. When this water comes in contact with a fire pump controller, a careful inspection must be made.

When any internal components are submersed in water, or have water or moisture evidence on their surfaces, the controller is deemed "unreliable," and must be replaced.

The Factory Position

Excerpt from Firetrol, a leading supplier of fire pump controllers:

The presence of water, or any other conductive material, on or in components and conductors of the controller compromise the dielectric integrity of the controller and seriously jeopardize its successful operation.

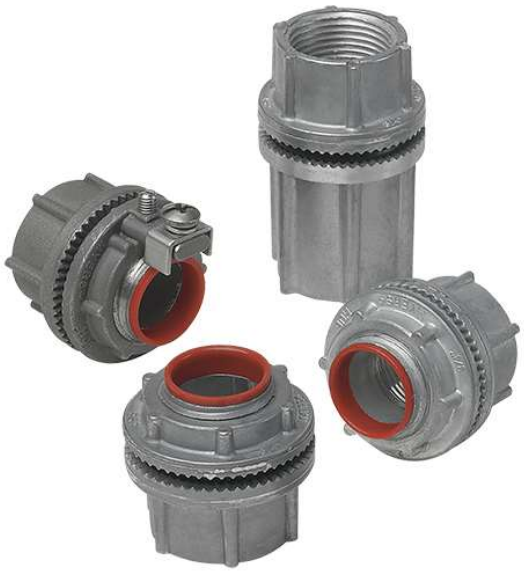
As a result of this damaged condition, no warranty applies to the subject controller, and power should not be applied. No attempt should be made to remedy the condition by cleaning or replacing selected components since the contaminating material cannot be removed to an extent of assuring successful performance.

How to prevent exposure to water?

The #1 reason of contamination damage of a controller due to water is improper penetration thru the top of an enclosure with electrical conduit.

Code requires an installing contractor, when penetrating an enclosure, to meet or exceed the rating of the enclosure as designated by the manufacturer. Firetrol controllers are rated NEMA 2, drip proof as standard. This prevents water from entering the enclosure when sprayed from the top.

Firetrol and Rosemont Engineering recommends the use of watertight hubs to ensure a NEMA 4 watertight connection. This prevents any water pooling on the top of the controller from entering thru non-watertight fittings; thus damaging internal equipment.



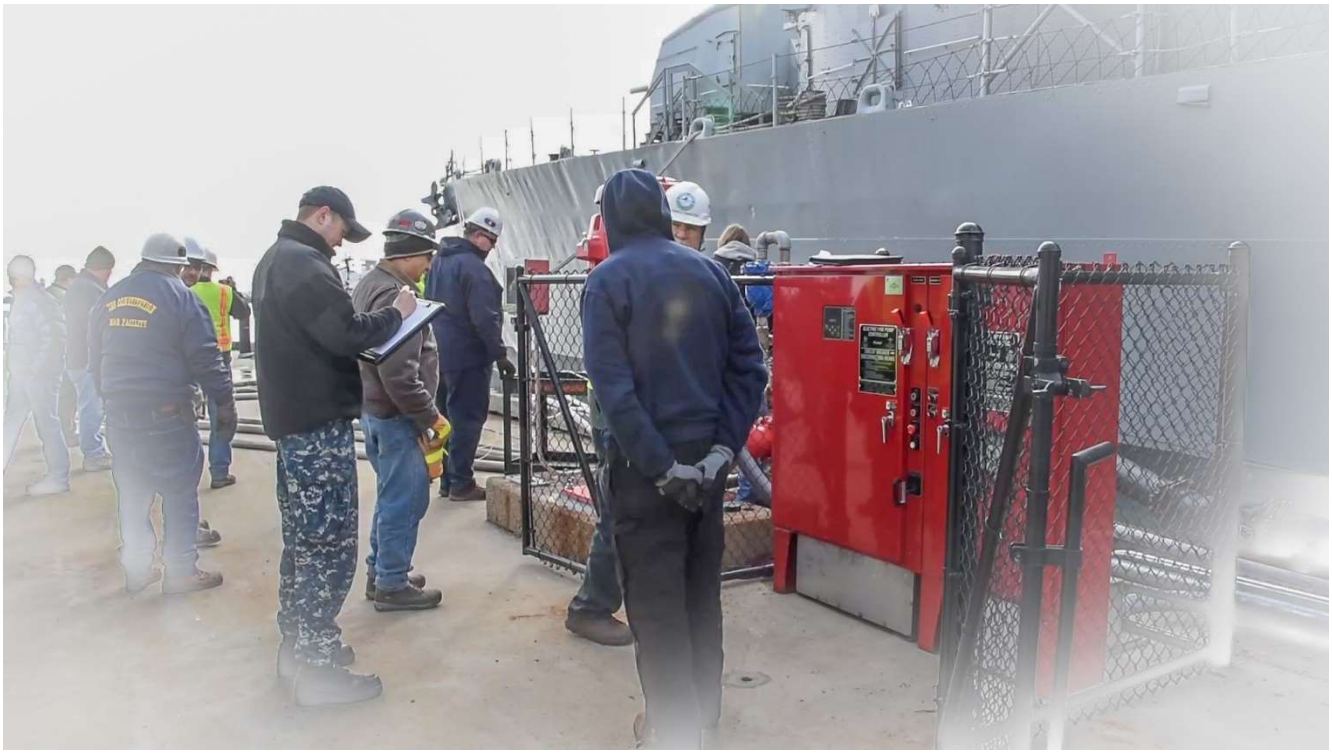
Watertight Hubs

Cover Photo

The ***USS Constitution*** is the oldest commissioned warship in the US Navy. Berthed in Charlestown Massachusetts, it is a museum and historical site traditionally opened to visitors.

The ship was placed into dry-dock for a major overhaul between 2015 and 2107.

Before being allowed into dry-dock, a fire suppression system was installed to protect the ship during its time there. Even with its close proximity to Boston Harbor, we are happy to report there was no water damage!



A Firetrol FTA1930 soft-starter controller, with an emergency power transfer switch, stood guard for the 26 months "Old Ironsides" was undergoing her overhaul.

Note: This controller was manufactured for outdoor service; NEMA 4.

<Rosemont Engineering Photos>