Chemical Blockage Leads to Fire Extinguisher Failure

In January 2020, a wheeled fire extinguisher failed to operate because of a blockage in the siphon tubing line. This failure resulted in two personnel requiring medical evaluation and led to a delay in extinguishing a fire.

An investigation of the fire extinguisher failure found that the device pressured up as intended, but the moisture disc did not rupture. The siphon tube had become packed with chemical, which prevented the chemical from flowing out of the hose. Records showed that the fire extinguisher was last inspected on December 1, 2019, but it did not include the manufacturer’s recommendation to clear the siphon tube and check the powder.

One contributing factor to the blockage in the siphon tube was the proximity of the fire extinguisher to a compressor. The vibration of a compressor or other vibrating equipment can cause chemical to navigate up a fire extinguisher’s siphon tube and become packed.
Therefore, BSEE recommends that operators and contractors consider the following:

- Follow manufacturer recommendations when performing annual fire extinguisher maintenance;
- Clear a fire extinguisher's siphon tube of chemical during annual inspection to prevent packing;
- Consider exchanging fire extinguishers when performing annual inspections or maintenance if clearing the siphon tube on the facility is not reasonable due to its humid atmosphere or the possible contamination of the chemical; and,
- Account for equipment vibration when placing fire extinguishers throughout a facility.

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