

SERVICE BULLETIN

Date: March 11, 2024

Bulletin Number: SB24-001

Bulletin Subject: **SAFETY ISSUE – FIRE PROTECTION –
POTENTIAL FAILURE OF WATER DELUGE
SYSTEM DUE TO CORRODED PIPING**

ATTENTION: This Service Bulletin applies to all ICM-designed or modified gas fired and steam tube rotary dryer systems. Please review this Service Bulletin for important information to ensure the dryer's water deluge system functions as designed in the event it is required.

EFFECTIVE DATE: Immediately

BACKGROUND INFORMATION: ICM-designed or modified dryer systems have deluge water spray nozzles to allow for automated and/or operator-initiated introduction of deluge water into the system. ICM has been made aware of a potential issue relating to the deluge system and its ability to inject deluge water to the proper location due to corrosion of the interconnecting carbon steel water deluge piping.

Vapors in the dryer system from drying wet distillers grains are corrosive to carbon steel. If the corrosive vapors migrate into the carbon steel water deluge piping, the vapors will condense and pool, eventually corroding the carbon steel piping. If the piping is compromised to the point of failure, it will not allow for proper transfer of deluge water to the necessary location.

IMMEDIATE ACTIONS: Each plant should inspect and test all dryer deluge water systems for functionality and fitness for service. Testing and inspection should include all carbon steel deluge supply lines that may contact dryer vapors.

Specifically for ICM rotary gas fired dryers, corrosion to carbon steel deluge piping has primarily occurred in the drop box deluge system. This corrosion includes piping from the deluge supply manifold located at the inlet of the dryer, to the distribution header located at the drop box.

If corrosion is found during inspection, piping may need to be replaced and appropriate modifications made to minimize future corrosion.

ICM RECOMMENDATIONS:

- Inspect all carbon steel deluge lines that have the possibility of contacting dryer vapors.
- Replace any carbon steel deluge lines that do not pass inspection and modify the system to prevent future corrosion.
- Include carbon steel deluge lines that have the possibility of contacting dryer vapors in the plant's mechanical integrity program for future inspections.

The following are modifications to prevent corrosion to carbon steel deluge supply piping from dryer vapors:

- Replace piping or fittings that may contact dryer vapors with stainless steel.
- Add stainless steel check valves at injection locations. This will prevent dryer vapors from backflowing into the deluge supply piping. Piping and fittings after the stainless steel check valve should be installed to gravity drain to the deluge nozzle. ICM recommends cleaning and inspecting the deluge nozzles on a semi-annual basis. The check valves should be inspected when cleaning the deluge nozzles.

ICM SUPPORT:

If you have any questions or would like to receive a quote for deluge inspection or modification services, please contact your ICM Account Manager or ICM After Market Services at 877-456-8588 for assistance. ICM can provide services for inspecting carbon steel deluge water piping systems, installing an alternative stainless steel deluge system, or modifications to the deluge system.