



# UNITED STATES COAST GUARD

U.S. Department of Homeland Security

## MARINE SAFETY ALERT

### Inspections & Compliance Directorate

June 9, 2026  
Washington, DC

Safety Alert 08-26

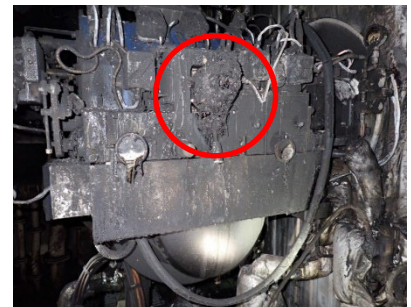
## MARINE BOILER BURNER INSPECTION AND OPERATIONAL SAFETY RECOMMENDATIONS

On January 4, 2025, while moored in the Port of Mobile, Alabama, a foreign-flagged cargo vessel equipped with a SAACKE Monoblock Rotary Cup Burner SKVJ-M 14 Mark I burner system on a marine boiler experienced a significant engine room fire. The incident began with a high-pressure fuel leak from the oil fittings block, which caused atomized marine diesel oil to ignite on the hot surface of a nearby auxiliary generator exhaust stack. The fire rapidly spread from the boiler flat through two upper deck levels, resulting in extensive structural and equipment damage, though no personnel were injured.

The subsequent marine casualty investigation identified critical mechanical and control system failures related to the burner's fuel system. The vessel's fixed water mist fire suppression system actuated automatically but was unable to control the fire, which was ultimately extinguished by manual activation of the engine room's fixed carbon dioxide (CO<sub>2</sub>) suppression system.

The Coast Guard investigation revealed two primary causal factors:

- **Seal Failure:** During assembly of the oil fittings block, an O-ring intended to seal the high-pressure fuel interface between the oil flow meter and the oil fittings block was improperly seated, resulting in a pinched seal. This improper installation compromised the seal's integrity, leading to material failure over time and the eventual high-pressure release of fuel.
- **Control System Misconfiguration:** A software configuration error was identified in the burner control system. Following a normal shutdown sequence, the external marine gas oil (MGO) fuel supply pumps feeding the burner unit were not de-energized. This failure to secure the fuel pumps kept the fuel lines pressurized up to the burner's internal rapid shut-off valves. The residual high-pressure was a significant contributing factor to the volume and velocity of the MGO fuel released when the O-ring failed.



*Oil Fittings/Oil Flow Meter - Post Fire*



*Pinched Seal on the Oil Flow Meter Block*

A subsequent investigation by the vessel's parent company identified identical risks of improper O-ring installation and software misconfiguration on several sister vessels utilizing the same burner model.

The Coast Guard **strongly recommends** that vessel operators utilizing the SAACKE Monoblock Rotary Cup Burner SKVJ-M 14 Mark I take the following precautions:

Oil Fittings Block Integrity:

- Conduct periodic visual inspections of the burner's oil fittings block assembly for any indication of fuel leakage, paying attention to the oil flow meter and associated seals. O-rings and seals should be replaced at the manufacturer's recommended intervals and in accordance with the manufacturer's recommended procedures.
- Ensure that the oil block anti-splash hood, a key component in controlling fuel release and fuel spray, is installed in accordance with manufacturer's requirements.
- Ensure all flanged connections in pressurized fuel systems are fitted with spray shields, designed and installed to prevent fuel spray from contacting hot surfaces in the event of gasket failure.
- Ensure potential ignition sources in the vicinity of the burner unit, such as engine exhaust stacks, are adequately shielded or insulated as a mitigation against a potential fuel leak.
- If misalignment or damage to the oil fittings block or its seals is suspected, it is recommended to contact the manufacturer, SAACKE, for technical guidance.

Fuel Pump and Control System Verification:

- Verify the correct shutdown sequence of the fuel supply while in MGO mode, ensuring fuel pumps are de-energized when the burner completes its shutdown cycle.
- Review, validate, and maintain the burner control system software and its configuration to ensure full compliance with the manufacturer's specifications and safety interlocks.
- Maintain comprehensive records of all software modifications. Ensure these records are available to support proper system maintenance and troubleshooting.

This Safety Alert is provided for informational purposes only and does not relieve any domestic or international safety, operational, or material requirement. Developed by Sector Mobile and distributed by the Office of Investigations and Casualty Analysis. Questions may be sent to [HQS-SMB-CG-INV@uscg.mil](mailto:HQS-SMB-CG-INV@uscg.mil).