



UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

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Alert 03-09

Avoiding propulsion loss from fuel switching: American Petroleum Institute Technical Considerations

Ships switch fuel oil from residual fuels to distillate fuels in order to reduce emissions. The Coast Guard expects ships will switch fuel more frequently to comply with new emission reduction regulations. When switching fuel oil, some ships have experienced propulsion losses linked to procedural errors or fuel oil incompatibility.

API developed a paper titled "Technical Considerations of Fuel Switching Practices" that discusses problems that lead to propulsion loss while switching fuel. It is available at <http://marineinvestigations.us> >Safety Reports. This document may be useful to vessel owners, operators, and engineers interested in preventing fuel system failures and propulsion casualties while meeting current and future exhaust emission control requirements.

In order to prevent casualties associated with fuel oil switching, the Coast Guard **strongly recommends** that owner and operators:

- Consult engine and boiler manufacturers for fuel switching guidance;
- Consult fuel suppliers for proper fuel selection;
- Exercise tight control when possible over the quality of the fuel oils received;
- Consult manufacturers to determine if system modifications or additional safeguards are necessary for intended fuels;
- Develop detailed fuel switching procedures;
- Establish a fuel system inspection and maintenance schedule;
- Ensure system pressure and temperature alarms, flow indicators, filter differential pressure transmitters, etc., are all operational;
- Ensure system purifiers, filters and strainers are maintained;
- Ensure system seals, gaskets, flanges, fittings, brackets and supports are maintained;
- Ensure a detailed system diagram is available;
- Conduct initial and periodic crew training;
- Complete fuel switching well offshore prior to entering restricted waters or traffic lanes.

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