

# MSC Guidelines for Review of Lubricating Oil Systems

Procedure Number: E1-17

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## References

- a. Except as provided by this procedure, all CFR references will be from Title 46-Shipping.
- b. Except as provided below, all vessels need to meet 56.50-60 (systems containing oil) and 56.50-80 (lubricating-oil systems).
- c. For Tank Vessels (Subchapter D) refer to Subchapter F iaw 31.30-1.
- d. For Passenger Vessels (Subchapter H) refer to Subchapter F iaw 70.20-1.
- e. For Cargo ships (Subchapters I and I-A) refer to Subchapter F iaw 90.20-1(a).
- f. Small Passenger Vessels (Subchapter K) do not have specified requirements but requires "Piping for Vital Systems" to meet Subchapter F iaw 119.710.
- g. Offshore Supply Vessels L do not have to meet Subchapter F but materials for Class II vital system must meet 128.210.
- h. Small Passenger Vessels (Subchapter T) do not need to meet the above requirements but only meet 182.710.
- i. Research Vessels (Subchapter U) refer to Subchapter F iaw 188.20-1.
- j. Venting and sounding requirements for respective tanks are listed in MSC Procedure E1-29.

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## Disclaimer

These guidelines were developed by the Marine Safety Center staff as an aid in the preparation and review of vessel plans and submissions. They were developed to supplement existing guidance. They are not intended to substitute or replace laws, regulations, or other official Coast Guard policy documents. The responsibility to demonstrate compliance with all applicable laws and regulations still rests with the plan submitter. The Coast Guard and the U. S. Department of Transportation expressly disclaim liability resulting from the use of this document.

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## Contact Information

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## **Vessels Subject to Title 46 CFR Subchapter F**

### Materials

- ❑ Materials shall conform to the specifications/standards listed in 56.60. Alternatively, the materials may be selected from the specifications listed in sections I, III and VIII of the ASME code. (58.30-15(b))
- ❑ Oil piping passing through non-oil tank without stop valves must be of schedule 80 and its joints must be welded. (56.50-60(l))

### Systems Containing Oil

- ❑ Oil piping systems must be separate from other piping systems as far as practicable, and positive means shall be provided to prevent interconnection in service. Pumps used to transfer oil must have no discharge connections to fire mains, boiler feed systems, or condensers. (56.50-60(a))
- ❑ Filling pipes, with shutoff valves fitted at the filling end, may be led directly from the deck into the tanks or to a manifold. Oil piping must not be led through accommodation spaces, except that low pressure fill piping not normally used at sea may pass through accommodation spaces if it is of steel construction. (56.50-60(c))
- ❑ Piping subject to internal head pressure from oil in the tank must be fitted with remotely operable positive shutoff valves located at the tank. (56.50-60(d))
- ❑ Oil piping must not run through feed or potable water tanks. (56.50-60(h))

### Lubricating-Oil Systems

- ❑ Lubricating oil piping shall be independent of other piping systems and must be provided with necessary pumps, coolers, heaters, filters, etc. for proper operation. (56.50-80(b)-(e))
- ❑ Diesel engine lubrication systems shall be so arranged that vapors from the sump tank may not be discharged back into the engine crank case. (56.50-80(f))
- ❑ When oil needs to be heated to lower its viscosity, heating coils must be properly installed in each tank. (56.50-60(b))
- ❑ Piping conveying oil must run well away from hot surfaces. Piping, in proximity of equipment or lines having open flame or having parts operating above 500 degrees Fahrenheit, must be of seamless steel. (56.50-60(j))

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- ❑ Lubricating oil system shall be designed to function satisfactorily when the vessel has a permanent 15 degrees list and a permanent 5 degrees trim. (56.50-80(a))
- ❑ Sight-flow glasses may be used in oil systems provided that it can withstand exposure to a flame at a temperature of at least 1700 degrees Fahrenheit for one hour, without failure or appreciable leakage. (56.50-80(h))