

**Subpart 78.19—Auto Pilot****§ 78.19-1 Use of auto pilot.**

Except as provided in 33 CFR 164.15, when the automatic pilot is used in—

- (a) Areas of high traffic density;
- (b) Conditions of restricted visibility; and
- (c) All other hazardous navigational situations, the master shall ensure that—

(1) It is possible to immediately establish manual control of the ship's steering;

(2) A competent person is ready at all times to take over steering control; and

(3) The changeover from automatic to manual steering and vice versa is made by, or under, the supervision of the officer of the watch.

[CGD 75-074, 42 FR 5963, Jan. 31, 1977]

**Subpart 78.21—Maneuvering Characteristics****§ 78.21-1 Data required.**

For each ocean and coastwise vessel of 1,600 gross tons and over, the following apply:

(a) The following maneuvering information must be prominently displayed in the pilothouse on a fact sheet:

(1) For full and half speed, a turning circle diagram to port and starboard that shows the time and the distance of advance and transfer required to alter the course 90 degrees with maximum rudder angle and constant power settings.

(2) The time and distance to stop the vessel from full and half speed while maintaining approximately the initial heading with minimum application of rudder.

(3) For each vessel with a fixed propeller, a table of shaft revolutions per minute for a representative range of speeds.

(4) For each vessel with a controllable pitch propeller a table of control settings for a representative range of speeds.

(5) For each vessel that is fitted with an auxiliary device to assist in maneuvering, such as a bow thruster, a table of vessel speeds at which the auxiliary

device is effective in maneuvering the vessel.

(b) The maneuvering information must be provided in the normal load and normal light condition with normal trim for a particular condition of loading assuming the following—

(1) Calm weather—wind 10 knots or less, calm sea;

(2) No current;

(3) Deep water conditions—water depth twice the vessel's draft or greater; and

(4) Clean hull.

(c) At the bottom of the fact sheet, the following statement must appear:

**WARNING**

The response of the (name of the vessel) may be different from those listed above if any of the following conditions, upon which the maneuvering information is based, are varied:

(1) Calm weather—wind 10 knots or less, calm sea;

(2) No current;

(3) Water depth twice the vessel's draft or greater;

(4) Clean hull; and

(5) Intermediate drafts or unusual trim.

(d) The information on the fact sheet must be:

(1) Verified six months after the vessel is placed in service; or

(2) Modified six months after the vessel is placed into service and verified within three months thereafter.

(e) The information that appears on the fact sheet may be obtained from:

(1) Trial trip observations;

(2) Model tests;

(3) Analytical calculations;

(4) Simulations;

(5) Information established from another vessel of similar hull form, power, rudder and propeller; or

(6) Any combination of the above.

The accuracy of the information in the fact sheet required is that attainable by ordinary shipboard navigation equipment.

(f) The requirements for information for fact sheets for specialized craft such as semi-submersibles, hydrofoils, hovercraft and other vessels of unusual design will be specified on a case by case basis.

[CGD 73-78, 40 FR 2689, Jan. 15, 1975, as amended by CGD 79-165a, 45 FR 64189, Sept. 29, 1980]