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DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

NVIC 5-86
1 Aug 1986

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 5-86

Subj: Voluntary Standards for U.S. Uninspected Commercial Fishing Vessels

1. PURPOSE. The purpose of this circular is to establish voluntary minimum standards for U.S. uninspected commercial fishing vessels.

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B. Roll Period Test - The Coast Guard declines to endorse the use of a roll period test in IMO Resolution A/ES.IV/168 for several reasons.

1. First, a roll period test may be used by the operator to evaluate the vessel's stability while underway by operators who do not fully understand the limitations of measuring the roll period to evaluate stability. Measuring the roll period in still water is a case of free oscillation where the measured roll period is the vessel's natural roll period. This may or may not be the case when the vessel rolls in a seaway. If waves of a constant period act upon the vessel for a sufficiently long period of time, the measured roll period will be that of the waves. If waves of a constant period are not experienced, the measured roll period may be the natural period of the vessel or, more likely, a combination of the vessel's natural period of roll and the period of the seaway.

2. Second, the roll period is only indicative of the vessel's metacentric height (GM) and not the area under the righting arm curve or other important stability characteristics such as the maximum righting arm, the angle at which the maximum righting arm occurs or the range of stability.

3. Third, the data used to develop the nomogram shown in IMO Resolution A/ES.IV/168 was taken from European fishing vessels and coastal freighters. The Coast Guard is not convinced that the roll coefficients recommended are appropriate for U.S. fishing vessels considering the number of fisheries that U.S. fishermen are engaged in and the diversity of hull forms and arrangements used.

4. Finally, the Coast Guard is concerned that the roll coefficients do not accurately account for the changes in the roll gyradius as the vessel operates between full load and burned out conditions. A significant change in the roll gyradius means that the actual GM may be much different than that indicated from measuring the roll period and calculating the GM based in the equations given.

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