§ 171.050 Passenger heel requirements for a mechanically propelled or a non-self propelled vessel.

(a) Each mechanically propelled or non-self propelled vessel other than a pontoon vessel must be shown by design calculations, in each condition of loading and operation, to have a metacentric height (GM) in feet (meters) of not less than the value given by the following equation:

\[
GM = \frac{(W/\Delta)(\%)(b)}{(\tan(T))}
\]

Where—
\(\Delta\) = displacement of the vessel in long (metric) tons.
\(W\) = total weight in long (metric) tons of persons other than required crew, including personal effects of those persons expected to be carried on the vessel.
\(T\) = 14 degrees or the angle of heel at which the deck edge is first submerged, whichever is less; and
\(b\) = distance in feet (meters) from the centerline of the vessel to the geometric center of the passenger deck on one side of the centerline.