

Stability analysis - small passenger vessels

Often the builder of small passenger vessels is also the designer. In such cases, and without a naval architect on staff, the boatbuilder will call upon an independent naval architect to do stability calculations – at a minimum, sufficient calculations to verify that the design is in compliance with Coast Guard rules (Subchapter T or Subchapter S). Alan is experienced at carrying out analysis of intact stability, floodable length, and damage stability, for many different types of craft, in accordance with USCG rules and also in accordance with SOLAS Convention, IMO and ISO rules.

The diagrams below form part of a relatively simple analysis, for the US Coast Guard “wind-heel” criterion and “passenger heel” criterion. This was done for a small tour boat operating in Alaska, which was designed by the builder. Upon completion of the boat, the inclining experiment (stability test) and then the finalized stability calculations were carried out by Alan.

