


Title / document name: Recommended restriction for the use of GES40 and GES40MB free fall lifeboats due to wind loads		Category: <input type="checkbox"/> Budget / cost <input type="checkbox"/> Drawing or pic <input type="checkbox"/> Report/findings <input type="checkbox"/> Governing doc <input type="checkbox"/> Meeting doc <input type="checkbox"/> Letter <input type="checkbox"/> Memo <input type="checkbox"/> Plan or contract <input type="checkbox"/> Presentation <input checked="" type="checkbox"/> Recommendation		
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Subject / scope:
It is recommended that operational restrictions are considered for GES40 and GES40MB with launch height 32m. Proposed restriction is wind conditions exceeding 25m/s (50knots) within a wind sector of up to +/-30 degrees relative to head wind.

Remarks:
 Ref. enclosed Marintek memo GES40MB, Model Tests in Waves and Wind dated 2008-02-15

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1.0 Background

Forward speed performance immediately after water impact is studied by model tests in wind and wave conditions in head and bow-quarter seas. Tests are performed with fully loaded GES40MB (1:12.5 scale model) from launch height 32m in regular waves up to 9.4m and wind up to 35m/s. From launch height 25m more limited number of tests are performed in wind up to 35m/s and wind and regular waves up to H=6.3m / wind 25m/s. Model test results show that effects of wind are significant on water entry angle and thus forward speed after water impact. It shall be noted that the GES40MB launched from 32m and 25m obtain a positive forward distance as measured from the stern of boat in stored skid position to stern of boat immediately after water impact of 25m (2xLoa) and 22m, respectively. With zero forward speed after water impact the positive forward distance is thus above 20m. Model test results show that GES40MB launched from 32m height obtains a 25m positive forward distance with variable to none forward speed after water impact in wind condition and combined wind and wave conditions with wind 25m/s (50 knots).

2.0 Recommendation

It is recommended that operational restriction is considered for GES40MB with launch height 32m. Proposed restriction is wind conditions exceeding 25m/s (50knots) within a wind sector of up to +/-30 degrees relative to head wind. Limited tests in wind and waves from launch height 25m indicate that forward distance above 20m will be obtained in wind conditions up to 35m/s (70 knots).

The angle of the boat when it enters the sea (impact angle) is found to be a critical factor. The tests performed on GES40MB indicate an acceptable angel of max 69 degrees when measured between sea and keel. The tests indicate that the impact angle will stay below this value with the recommended restrictions.

The current results are not final but the OLF Lifeboat Project, as a precautionary action, recommends that the GES40 and GES40MB should not be used above the stated limits. A final result for these boats will be issued when all tests and analyses are complete.

3.0 References

Enclosed memo from Marintek dated 15.02.2008: GES40MB, Model Tests in Waves and Wind.