INTERNATIONAL MARITIME ORGANIZATION

E

4 ALBERT EMBANKMENT
LONDON SE1 7SR
Telephone: +44 (0)20 7735 7611 Fax: +44 (0)20 7587 3210

Ref. T4/4.01

MSC.1/Circ.1385
10 December 2010

SCIENTIFIC METHODS ON SCALING OF TEST VOLUME FOR FIRE TEST ON WATER-MIST FIRE-EXTINGUISHING SYSTEMS

1 With regard to the scientific methods on scaling of test volume for fire test on water-mist fire-extinguishing systems, the Revised Guidelines for the approval of equivalent water-based fire-extinguishing systems for machinery spaces and cargo pump-rooms (MSC/Circ.1165) state in paragraph 2 of appendix B:

> "However, when based on the scientific methods developed by the Organization*, scaling from the maximum tested volume to a larger volume may be permitted. The scaling should not exceed twice the tested volume.
>
> * To be developed by the Organization."

2 The Maritime Safety Committee, at its eighty-eighth session (24 November to 3 December 2010), after having considered the proposal by the fifty-fourth session of the Sub-Committee on Fire Protection, approved the Scientific methods on scaling of test volume for fire test on water-mist fire-extinguishing systems, related to MSC/Circ.1165, as set out in the annex.

3 Member Governments are invited to apply the annexed Scientific methods when approving scaling from the maximum tested volume to a larger volume in conjunction with MSC/Circ.1165 and bring them to the attention of ship designers, shipowners, equipment manufacturers, test laboratories and other parties concerned.

***

ANNEX

SCIENTIFIC METHODS ON SCALING OF TEST VOLUME FOR FIRE TEST ON WATER-MIST FIRE-EXTINGUISHING SYSTEMS

1 Scaling from the maximum tested volume to larger volumes may be accepted based on the approval fire test scenarios in appendix B, paragraph 4.3.1, table 1 of the Revised Guidelines for the approval of equivalent water-based fire-extinguishing systems for machinery spaces and cargo pump-rooms (MSC/Circ.1165), provided that:

.1 none of the test fires 1 to 4 has an extinguishment time exceeding 10 min; and

.2 provisions of the table below are met.

Average time to extinguishment for the three fires with the longest extinguishing times (tests 1 to 8)	**Scaling factor**
≤ 10 min 12.5 min 15 min	2 1.5 1

2 Linear interpolation may be used for average extinguishing times between the values above. The ceiling height should not be increased over that tested. All the volumes referred to should be the net volume.