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| **IHO RESPONSE TO DISASTERS** | **1/2005 as amended** | **IHO A-1** | **K4.5** |

**1 Introduction**

In recent years, huge earthquakes, tsunamis, hurricanes and other natural disasters occurred all over the world and not only severely affected local communities through the widespread loss of life and the extensive destruction of most facilities, but also severely affected safety of navigation through the destruction of port facilities and the creation of new navigational obstacles. A huge number of refugees were created and immediately suffered from shortages of food, water and fuel. In such circumstances support by sea transport was vital and depended on the immediate restoration of appropriate hydrographic and charting services.

Hydrographic Offices should therefore have a plan beforehand to respond immediately after the occurrence of such severe disasters and participate in and cooperate in the development and implementation of the restoration plans for the damaged coastal areas and the strategies for disaster risk reduction within their area of responsibility, which may vary from Member State to Member State.

Various data and information obtained from hydrographic and charting activities are beneficial for sharing information right after a disaster, the development of restoration plans for damaged coastal areas and for strategies for disaster risk reduction. It would be important to provide hydrographic information effectively in the process from the occurrence of the disaster to the recovery.

Furthermore, it should be noted that “the Sendai Framework for Disaster Risk Reduction 2015-2030” was adopted at the 3rd UN World Conference on Disaster Risk Reduction (WCDRR3), where international organizations are expected to implement activities to understand and manage disaster risks.

The International Hydrographic Organization, its Member States and the Regional Hydrographic Commissions should ensure that appropriate procedures and guidelines are in place so as to enable an immediate and appropriate response to any future disaster affecting coastal areas of the world.

These procedures should provide guidance to be followed at the national, regional and international levels within the over-arching structure of the IHO.

**2 Procedures and Guidelines**

a) By Coastal States:

All Coastal States should have contingency plans developed in advance in order to be prepared in case a disaster occurs.

Contingency plans may contain the following key elements as appropriate:

1. Immediately upon the occurrence of a disaster, including tsunami, promulgate appropriate navigational warnings and necessary information and advice to shipping through existing channels (e.g. NAVTEX, SafetyNET, etc…) using appropriate ways, such as graphical information on maps. In addition and following further monitoring and assessment, promulgate updated warnings, information and advice in accordance with the development of the event.
2. Co-operate with the NAVAREA Co-ordinator and other national co-ordinators so that warnings, information and advice can be made available to mariners beyond the area of national jurisdiction as soon as is practicable.
3. Assess the extent of damage to the coastal area particularly to ports, harbours, straits, approaches, and other restricted areas.
4. Assess, in co-operation with other national agencies, for example, lighthouse and port authorities, the extent of damage to navigational aids.
5. Prioritize actions and allocate resources in order to identify requirements and undertake preliminary re-surveys starting with the most critical areas for navigation, aiming at ensuring the passage of support and supplies through maritime channels and ports, and the marking of new dangers where necessary.
6. Assess the specific effects on shipping of the existence of obstacles and any changes to the seafloor that can hinder navigation, taking full account of the effects of drifting obstacles which may also hinder preliminary survey results.
7. Take the following action to assess and define new hydrographic or cartographic requirements, including:
   1. Conducting hydrographic surveys in harbours and approaches as soon as practicable wherever the depth is likely to have changed due to geomorphic change, obstacles, or accumulation of sediment. Surveys should be progressed incrementally in support of progress in reconstruction of port facilities.
   2. Checking and confirming relevant benchmarks. Re-defining chart datum, if necessary.
   3. Providing nautical information as soon as practicable. Providing chart correction information or new editions of charts incrementally according to priorities and available resources. Indicating newly surveyed areas in chart correction information or on new editions of charts in order to highlight areas of more reliable information in areas where significant changes of depth have taken place.
   4. Noting that, in case of earthquake, the ground level may continue to change for many years due to post-seismic crustal deformation, which may accumulate and affect charted depths significantly.

Also, actions to be taken in ordinary period may contain the following key elements as appropriate:

1. Prepare equipment and information and conduct exercises to implement the contingency plan effectively.
2. Share information about disaster response with the Chair of the RHC and the IHO Secretariat at appropriate timing during recovery phase.

b) By Regional Hydrographic Commissions:

1. Regional Hydrographic Commissions (RHC) may include disaster preparedness and response into Agenda item on RHC meetings as appropriate.
2. RHC should consider the implementation of capacity building for disaster preparedness and response as appropriate.

c) By the IHO Secretariat:

1. The IHO Secretariat should enhance actions by member states and RHCs above as appropriate.
2. The IHO Secretariat should enhance sharing best practices regarding disaster preparedness and response provided by member states for the world resilience.