

No. 2B Procedure for Early Warning of Serious Hull Failure Incidents - “Early Warning Scheme - EWS”

(July 2015)

1 Objective

1.1 To improve ship safety and protection of the marine environment by providing information on serious hull failure incidents as hereinafter defined and where *sister* or *similar* ships exist that could be at risk. The information regarding such failures is to be provided to the involved Classification Societies, and other relevant parties as stipulated herein, with a view to reducing the likelihood of their reoccurrence.

2 Definitions: In the context of this procedure, the following definitions apply.

2.1 **Hull failure incident:** a hull failure (e.g. a visible through thickness fracture of any length in the oil/watertight envelope of the outer shell; a fracture or buckling which has weakened a main strength member to the extent that the ship’s structural strength may be compromised) that is known, or suspected, to be due to inadequate compliance with relevant standards for design, construction, modification or repair of the failed item or inadequacy in standards relevant to the failed item.

Damage incidents caused by all other causes, including but not limited to such things as collision, grounding, improper or inadequate operation, improper loading, human error or action, natural disaster, etc. are not “hull failure incidents” within the context of this procedure. Hull failure incidents are subject to the requirements of IACS PR2A.

2.2 **Serious hull failure incident:** A hull failure incident that:

- Resulted in loss of the ship, death or serious injury to the personnel on board, or severe pollution of the marine environment; or
- Endangering the ship, the personnel on board, or posed a threat of severe pollution of the marine environment. For guidance examples of events in this category are given, but not limited to:
 - a) Fracture or buckling of the ship’s longitudinal structure such that the global strength is reduced by a significant amount, for example; greater than 5% reduction in section modulus or section shear area.
 - b) Loss of steering capability by fracture/deformation of the rudder, rudder stock, or rudder horn.
 - c) Loss of tightness of a hatch cover, shell door/ramp, ventilator, sounding pipe, etc. causing the ingress of a significant amount of water, as determined by the Society.
 - d) The leakage of a significant amount of oil/pollutant from a containing tank into adjacent non-cargo space or through a hull breach, as determined by the Society.
 - e) An event of similar severity not listed above.

Note:

This Procedural Requirement applies from 1 January 2017.

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2.3 *Sister ship*: For the sole purpose of this PR, ships having the same hull form, dimensions and cargo tank or cargo hold configuration that have been built to the same plans, even if approved by different societies.

2.4 *Similar ship*: When considering *serious hull failure incidents*, ships of the same type and dimensions (L, B, D), nearly same frame spacing in way of damaged area (with max 10% deviation), having nearly identical deadweight or gross tonnage (with max 1% deviation) and having the same number and configuration of cargo holds/tanks. (Note; classification societies may expand this definition to include other vessels.)

2.5 *Hull*: Hull structure and appurtenant equipment and structure fitted on or through the hull envelope (including but not limited to such things as hatches, doors or ramps, ventilation and sounding pipes, rudder including rudder stock, sea connections, etc.)

2.6 *Incident Reporting Officer (IRO)*: The person designated by each Society to report and receive information and to undertake or manage the performance of the procedure within the Society.

2.7 *Incident Data Administrator (IDA)*: The person designated at IACS Secretariat to perform the data receipt, collation, and distribution functions required to administer the procedure under the Annex in accordance with the requirements of section 4, Confidentiality.

2.8 *Involved Society*: a classification society classing a sister or a similar ship to the one involved in the incident.

3 Early Warning of Serious Hull Failure Incidents

3.1 *Serious hull failure incidents* which are considered, owing to the severity of their consequences, to warrant investigation and/or action with respect to other ships which may be susceptible to such failures, or which are considered to be noteworthy and of possible utility for improving IACS resolutions, Societies' Rules or survey procedures and guidance are to be reported¹⁾ in accordance with the Annex to this procedure.

The IDA is to establish and maintain a secure communication protocol for use in association with this procedure.

3.2 In cases where the Builder has taken the responsibility to advise Owners and the relevant classification societies of ships which may be similarly affected, those societies are to report the failure incidents with a view to establishing recommendations towards collective action by IACS.

4 Confidentiality

4.1 Information provided or obtained in the course of application of this procedure, is to be considered confidential and is not to be divulged to any other party, except as needed to implement the present procedure, or as required by law.

4.2 Access to information identifying specific ships provided in accordance with the Annex is to be restricted by the involved Societies and the IACS Secretary General to those within their Society/Secretariat with a need to know in order to undertake appropriate studies, decisions or actions directly related to achieving the objective stated in 1.1.

4.3 Information obtained under this procedure is not to be used to seek commercial advantage.

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5 Exceptions

5.1 Inability to provide information for use in conjunction with this procedure as a result of expectation of litigation shall not be held against the Society involved.

- 1) In judging whether an incident should be treated as a *serious hull failure incident* consideration is to be given to the risk involved in terms of the probability of future occurrences resulting in severe or unacceptable consequences as well as the likelihood of identifying and implementing safety improvements which will effectively reduce that risk.

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(cont)**Annex
Early Warning of Serious Hull Failure Incidents****1 General**

1.1 In the event of the occurrence of a *serious hull failure incident*, the IRO of the Society classing the ship involved is to provide the information specified below to the IDA:

Ship's main characteristics, viz:

- Type;
- Year of build;
- Cargo Spaces (type and no.)
- Deadweight;
- Gross Tonnage;
- L, B, D; and
- Frame spacing in way of damaged area.

Details of the incident, as applicable:

- Nature and extent of damages;
- Factors likely to have contributed to the damages;
- Global locations of damages;
- Details of damage with scantlings and material of associated structures;
- Details of repairs, if any, with scantlings and material of any modified structures;
- Lessons learned;
- Any additional information considered relevant to pursuing the objective of this procedure.

1.2 If authorization has been given by the owner to disclose the ship specific information, additional details are to be provided as follows:

- Ship's Name and IMO Number;
- Builder's Name and Yard Number;
- Any known sister ships and the classing Societies.

1.3 With the information provided by the initiating IRO the IDA is to query available databases to identify any *sister* or *similar ships*, as applicable and the involved classing societies. IDA informs the IROs of involved societies of the details of the case.

The IDA is also to identify other societies with which each ship was previously classed and notify the IROs. The IDA may approach individual member societies (which may not be the Society classing the ship involved) to verify through their databases the identified *sister* and/or *similar ships*. In order to confirm that ships so identified are *sisters* (as defined), the IDA may request copies of approved plans, as necessary, provided permission for use by IDA is obtained by the involved societies from the owner of the plans.

1.4 In order to determine whether the incident is one of a series of similar incidents *on sister ships* or whether it appears to be an isolated case, written feedback from the IROs of the involved Societies of any information held on file concerning surveys, damages or repairs undertaken on the ship or the identified *sister ships* in their class or previously in their class, which is relevant to the case, is to be made available to IDA and IROs of the involved societies and added to the case file maintained by IDA within 10 working days.

1.5 Written feedback from IROs with respect to relevant follow-up information obtained during subsequent surveys is to follow the same procedure as in 1.4 above.

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1.6 The IDA is to request one of the IROs of the involved societies to take a leadership role in monitoring and assessing the case information, which may require a meeting of the IROs of the involved societies. The group of the involved IROs is to initiate immediate proactive actions relevant only to the involved societies, covering:

- A detailed structural survey with close-up examination of similar locations on the involved ships, and
- An assessment of the *serious hull failure incident* with a scope of, but not limited to:
 - a. The possible cause of failure²⁾,
 - b. Structural analysis (simple beam or finite element analysis) and/or fatigue assessment where considered necessary,
 - c. The need for proactive repairs, reinforcements and/or modifications,
 - d. Effective and practical repairs,
 - e. Detailed structural surveys on sister/similar ships.

The group of involved IROs is also to recommend any further follow-up actions considered necessary or appropriate to GPG prior to closing the case file. Such recommendations might include, but are not necessarily limited to, such things as follow-up action on a broader group of *similar ships*, or issue IACS safety notice, review CSR, URs, PRs, etc. with a view to minimizing reoccurrence of the *serious hull failure incident* in question.

1.7 GPG is to consider the appropriate Panel to execute the recommendations from the group of IROs of the involved societies.

2 Annual Review

2.1 The IDA is responsible for the preparation of an annual review report on the Annex activity for consideration by Council at its first regularly scheduled meeting of each year. The scope of the review should include:

- Any difficulties regarding confidentiality considerations with respect to identification of ships or Societies involved in cases not in the public domain;
- A summary of the number and nature of cases dealt with or in process;
- Identification of perceived problems with the operation of the procedure together, where appropriate, with recommendations for improvement;
- In the report, information shall be presented in anonymous form and Society's names shall be kept confidential by the IDA.

²⁾ Refer, for example, to the Guidance in Recommendation No. 96.

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