UI SC258 “For Application of Regulation 3-11, Part A-1, Chapter II-1 of the SOLAS Convention (Corrosion Protection of Cargo Oil Tanks of Crude Oil Tankers), adopted by Resolution MSC.289 (87) The Performance Standard for Alternative Means of Corrosion Protection for Cargo Oil Tanks of Crude Oil Tankers”

Part A. Revision History

Version no.	Approval date	Implementation date when applicable
New (Jan 2013)	23 January 2013	01 January 2013

• New (Feb 2013)

.1 Origin for Change:

☒ Based on IMO decision

.2 Main Reason for Change:

New UI developed for the application of IMO PSPC.

.3 List of non-IACS Member Classification Societies contributing through the TC Forum and/or participating in IACS Working Group:

Nippon Steel Corporation, Kobe Steel Ltd, JFE Steel Corporation and Sumitomo Metal industries Ltd.

.4 History of Decisions Made:

See technical background.

.5 Other Resolutions Changes

None

.6 Dates:

Original Proposal: *07 March 2012 (By PT59)*
Panel Approval: *13 November 2012 (By Hull Panel)*
GPG Approval: *23 January 2013 (10105_IGi)*

Part B. Technical Background

Annex 1. **TB for New (Jan 2013)**

See separate TB document in Annex 1.

Technical Background document for UI SC258 (New, Jan 2013)

1. Scope and objectives

The UI has the scope to clarify the proposals given in Resolution MSC.289 (87), Performance Standard for Alternative Means of Corrosion Protection for Cargo Oil Tanks.

2. Engineering background for technical basis and rationale

The Performance Standard for Alternative Means of Corrosion Protection for Cargo Oil Tanks of Crude Oil Tankers (IMO Resolution MSC.289 (87)) allows for the use of "*Corrosion Resistant Steel*". This steel is modified ship steel with micro additions of certain chemical elements that have been found to have a beneficial effect by retarding the corrosion rate in the environments found in cargo tanks of crude oil carriers.

This raises several issues for IACS:

a) The materials need to comply with strength and toughness in accordance with UR W11.

b) There is no IACS unified approach to the approval, manufacture, certification and shipyard application of these steels. Their application has no effect on fabrication in shipbuilding, but there are no requirements in the IMO resolution addressing approval, manufacture and certification and these processes need to be addressed.

c) The steel must be approved to confirm the corrosion resistance.

d) No practicable production release test is available for these steels. Although a type approval test method has been developed in the IMO PSPC it is noted that this test method allows variation in the composition of the test medium, such as concentration of H_2S. This creates uncertainty in the assessment of the corrosion resistance of the steel.

e) The application of these steels must consider a likely combination of steels from different manufacturers which may involve subtle chemical composition changes from manufacturer to manufacturer.

f) In a repair scenario these steels may be in combination with normal ship steels which require coating. For such arrangements guidance needs to be provided to industry.

g) The application of such steel needs certain control measures to prevent corrosion, for example where such steel forms a boundary between the cargo oil and a sea water ballast tank, in such cases the side of the material facing the ballast tank must be coated in the same manner as surrounding normal ship building steel. Corrosion resistant steel is not effective in seawater.

h) The IACS unified approach may be developed as a Unified Interpretation rather than a Unified Requirement as the IMO resolution is a statutory requirement.

Taking the above into account the resolution has been reviewed for clarity and where ambiguity was found, a technical proposal is given to aid the interpretation of the resolution. The interpretations are numbered in accordance to the sections they represent.

Many issues arise because Corrosion resistant Steels are newly developed materials. Indeed it has been necessary to produce a new IACS UR, W30, to explain the manufacture, testing and certification of these steels. The new UI provides an explanation into the application in construction of the materials and the detail of the process to approval the materials.

3. Source / derivation of the proposed IACS Resolution

The IMO Performance Standard comes into effect on 1 January 2013 for new building contracts. It was aimed to have a UI in place by 1 June 2012 to allow time for designs to be considered before contracts are signed.

4. Summary of Changes intended for the revised Resolution:

Not applicable

5. Points of discussions or possible discussions

None

6. Attachments if any

None