

APPENDIX

**LIST OF INFORMATION TO BE INCLUDED IN THE SHIP CONSTRUCTION FILE (SCF)**

| Tier II items |                               | Information to be included   | Further explanation of the content  | Example documents   | Normal storage location   |
|---------------|-------------------------------|--|---|---|---|
| <b>DESIGN</b> |                               |  |   |   |   |
| 1             | Design life                   | <ul style="list-style-type: none"> <li>assumed design life in years</li> </ul>   | <ul style="list-style-type: none"> <li>statement or note on midship section</li> </ul>  | <ul style="list-style-type: none"> <li>SCF-specific</li> <li>midship section</li> </ul>                           | <ul style="list-style-type: none"> <li>on board ship</li> <li>on board ship</li> </ul>    |
| 2             | Environmental conditions      | <ul style="list-style-type: none"> <li>assumed environmental conditions</li> </ul>   | <ul style="list-style-type: none"> <li>statement referencing data source or Rule (specific rule and data) or;</li> <li>in accordance with Rule (date and revision)</li> </ul> | <ul style="list-style-type: none"> <li>SCF-specific</li> </ul>  | <ul style="list-style-type: none"> <li>on board ship</li> </ul>                           |
| 3             | Structural strength           |  |   |   |   |
| 3.1           | General design                | <ul style="list-style-type: none"> <li>applied Rule (date and revision)</li> <li>applied alternative to Rule</li> </ul>  | <ul style="list-style-type: none"> <li>applied design method alternative to Rule and subject structure(s)</li> </ul>  | <ul style="list-style-type: none"> <li>SCF-specific</li> <li>capacity plan</li> </ul>                             | <ul style="list-style-type: none"> <li>on board ship</li> <li>on board ship</li> </ul>    |
| 3.2           | Deformation and failure modes | <ul style="list-style-type: none"> <li>calculating conditions and results;                             <ul style="list-style-type: none"> <li>assumed loading conditions</li> <li>operational restrictions due to structural strength</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>allowable loading pattern</li> <li>maximum allowable hull girder bending moment and shear force</li> </ul>                             | <ul style="list-style-type: none"> <li>loading manual</li> <li>trim and stability booklet</li> </ul>              | <ul style="list-style-type: none"> <li>on board ship</li> <li>on board ship</li> </ul>    |
| 3.3           | Ultimate strength             |  | <ul style="list-style-type: none"> <li>maximum allowable cargo density or storage factor</li> </ul>   | <ul style="list-style-type: none"> <li>loading instrument instruction manual</li> </ul>                           | <ul style="list-style-type: none"> <li>on board ship</li> </ul>                           |
| 3.4           | Safety margins                | <ul style="list-style-type: none"> <li>strength calculation results</li> </ul>   | <ul style="list-style-type: none"> <li>bulky output of strength calculation</li> </ul>  | <ul style="list-style-type: none"> <li>operation and maintenance manuals</li> <li>strength calculation</li> </ul> | <ul style="list-style-type: none"> <li>on board ship</li> <li>on shore archive</li> </ul> |

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|---------------|--------------|--|---|---|--|
|               |              | <ul style="list-style-type: none"> <li>gross hull girder section modulus</li> <li>minimum hull girder section modulus along the length of the ship to be maintained throughout the ship's life</li> <li>gross scantlings of structural constituent parts</li> <li>net scantlings of structural constituent parts</li> <li>hull form</li> </ul> | <ul style="list-style-type: none"> <li>plan showing highly stressed areas prone to yielding and/or buckling</li> <li>structural drawings</li> <li>rudder and stern frame</li> <li>structural details of typical members</li> <li>hull form information indicated in key construction plans</li> <li>hull form data stored within an onboard computer necessary for trim and stability and longitudinal strength calculations</li> </ul> | <ul style="list-style-type: none"> <li>areas prone to yielding and/or buckling</li> <li>general arrangement</li> <li>key construction plans</li> <li>rudder and rudder stock</li> <li>structural details</li> <li>yard plans</li> <li>dangerous area plan</li> <li>lines plan</li> </ul> <p>or<br/>equivalent</p> | <p>on board ship</p> <p>on board ship</p> <p>on board ship</p> <p>on board ship</p> <p>on board ship</p> <p>on shore archive</p> <p>on board ship</p> <p>on shore archive</p> <p>on board ship</p> |
| 4             | Fatigue life | <ul style="list-style-type: none"> <li>applied Rule (date and revision)</li> <li>applied alternative to Rule</li> <li>calculating conditions and results;</li> <li>assumed loading conditions</li> <li>fatigue life calculation results</li> </ul>   | <ul style="list-style-type: none"> <li>applied design method alternative to Rule and subject structure(s)</li> <li>assumed loading conditions and rates</li> <li>bulky output of fatigue life calculation</li> </ul>  | <ul style="list-style-type: none"> <li>SCF-specific</li> <li>structural details</li> <li>fatigue life calculation</li> </ul>  | <p>on board ship</p> <p>on board ship</p> <p>on shore archive</p>  |

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|---------------|------------------------------|---|--|--|-------------------------|
|               |                              |   | <ul style="list-style-type: none"> <li>plan showing areas prone to fatigue</li> </ul>              | <ul style="list-style-type: none"> <li>areas prone to fatigue</li> </ul>   | on board ship           |
| 5             | Residual strength            | <ul style="list-style-type: none"> <li>applied Rule (date and revision)</li> </ul>  |  | <ul style="list-style-type: none"> <li>SCF-specific</li> </ul>   | on board ship           |
| 6             | Protection against corrosion |   |  |  |                         |
| 6.1           | Coating life                 | <ul style="list-style-type: none"> <li>coated areas and target coating life and other measures for corrosion protection in holds, cargo and ballast tanks, other structure-integrated deep tanks and void spaces</li> <li>specification for coating and other measures for corrosion protection in holds, cargo and ballast tanks, other structure-integrated deep tanks and void spaces</li> <li>gross scantlings of structural constituent parts</li> <li>net scantlings of structural constituent parts</li> </ul> | <ul style="list-style-type: none"> <li>plans showing areas prone to excessive corrosion</li> </ul> | <ul style="list-style-type: none"> <li>SCF-specific</li> </ul>   | on board ship           |
| 6.2           | Corrosion addition           |   |  | <ul style="list-style-type: none"> <li>Coating Technical File required by PSPC*</li> <li>areas prone to excessive corrosion</li> </ul> | on board ship           |
|               |                              |   |  | <ul style="list-style-type: none"> <li>key construction plans</li> </ul>   | on board ship           |
| 7             | Structural redundancy        | <ul style="list-style-type: none"> <li>applied Rule (date and revision)</li> </ul>  |  | <ul style="list-style-type: none"> <li>SCF-specific</li> </ul>   | on board ship           |

\* Performance standard for protective coatings for dedicated seawater ballast tanks in all types of ships and double-side skin spaces of bulk carriers, adopted by the Organization by resolution MSC.215(82).

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| 8                   | Watertight and weathertight integrity | <ul style="list-style-type: none"> <li>applied Rule (date and revision)</li> <li>key factors for watertight and weathertight integrity</li> </ul>   | <ul style="list-style-type: none"> <li>details of equipment forming part of the watertight and weathertight integrity</li> </ul>                                  | <ul style="list-style-type: none"> <li>SCF-specific</li> <li>structural details of hatch covers, doors and other closings integral with the shell and bulkheads</li> </ul>       | <p>on board ship</p> <p>on board ship</p>   |
| 9                   | Human element considerations          | <ul style="list-style-type: none"> <li>list of ergonomic design principles applied to ship structure design to enhance safety during operations, inspections and maintenance of ship</li> </ul>                               |   | <ul style="list-style-type: none"> <li>SCF-specific</li> </ul>   | on board ship   |
| 10                  | Design transparency                   | <ul style="list-style-type: none"> <li>applied Rule (date and revision)</li> <li>applicable industry standards for design transparency and IP protection</li> <li>reference to part of SCF information kept ashore</li> </ul> |   | <ul style="list-style-type: none"> <li>intellectual property provisions</li> <li>summary, location and access procedure for part of SCF information on shore</li> </ul>          | <p>on board ship</p> <p>on board ship</p>   |
| <b>CONSTRUCTION</b> |                                       |   |   |  |   |
| 11                  | Construction quality procedures       | <ul style="list-style-type: none"> <li>applied construction quality standard</li> </ul>   | <ul style="list-style-type: none"> <li>recognized national or international construction quality standard</li> </ul>  | <ul style="list-style-type: none"> <li>SCF-specific</li> </ul>   | on board ship   |
| 12                  | Survey during construction            | <ul style="list-style-type: none"> <li>survey regime applied during construction (to include all owner and class scheduled inspections during construction)</li> <li>information on non-destructive examination</li> </ul>    | <ul style="list-style-type: none"> <li>applied Rules (date and revision)</li> <li>copies of certificates of forgings and castings welded into the hull</li> </ul> | <ul style="list-style-type: none"> <li>SCF-specific</li> <li>tank testing plan</li> <li>non-destructive testing plan</li> <li>Coating Technical File required by PSPC</li> </ul> | <p>on board ship</p> <p>on board ship</p> <p>on board ship</p> <p>on board ship</p> |

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|----------------------------------|----------------------------|---|---|---|---|
| <b>IN-SERVICE CONSIDERATIONS</b> |                            |   |   |   |   |
| 13                               | Survey and maintenance     | <ul style="list-style-type: none"> <li>• maintenance plans specific to the structure of the ship where higher attention is called for</li> <li>• preparations for survey</li> <li>• gross hull girder section modulus</li> <li>• minimum hull girder section modulus along the length of the ship to be maintained throughout the ship's life</li> <li>• gross scantlings of structural constituent parts</li> <li>• net scantlings of structural constituent parts</li> <li>• hull form</li> </ul> | <ul style="list-style-type: none"> <li>• plan showing highly stressed areas prone to yielding, buckling, fatigue and/or excessive corrosion</li> <li>• arrangement and details of all penetrations normally examined at dry-docking</li> <li>• details for dry-docking</li> <li>• details for in-water survey</li> <li>• hull form information indicated in key construction plans</li> </ul> | <ul style="list-style-type: none"> <li>• SCF-specific</li> <li>• operation and maintenance manuals (e.g., hatch covers and doors)</li> <li>• docking plan</li> <li>• dangerous area plan</li> <li>• Ship Structure Access Manual</li> <li>• Means of access to other structure-integrated deep tanks</li> <li>• Coating Technical File required by PSPC</li> <li>• key construction plans</li> <li>• rudder and rudder stock</li> <li>• structural details</li> <li>• yard plans</li> <li>• lines plan or equivalent</li> </ul> | <ul style="list-style-type: none"> <li>on board ship</li> <li>on board ship</li> <li>on board ship</li> <li>on board ship</li> <li>on board ship</li> <li>on board ship</li> <li>on board ship</li> <li>on board ship</li> <li>on board ship</li> <li>on board ship</li> <li>on board ship</li> <li>on board ship</li> <li>on board ship</li> <li>on board ship</li> <li>on shore archive</li> <li>on shore archive</li> <li>on board ship</li> </ul> |
| 14                               | Structural accessibility   | <ul style="list-style-type: none"> <li>• means of access to holds, cargo and ballast tanks and other structure-integrated deep tanks</li> </ul>   | <ul style="list-style-type: none"> <li>• plans showing arrangement and details of means of access</li> </ul>  | <ul style="list-style-type: none"> <li>• Ship Structure Access Manual</li> <li>• means of access to other structure-integrated deep tanks</li> </ul>  | <ul style="list-style-type: none"> <li>on board ship</li> <li>on board ship</li> </ul>  |

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| <b>RECYCLING CONSIDERATIONS</b> |           |   |   |  |                         |
| 15                              | Recycling | <ul style="list-style-type: none"> <li>identification of all materials that were used in construction and may need special handling due to environmental and safety concerns</li> </ul> | <ul style="list-style-type: none"> <li>list of materials used for the construction of the hull structure</li> </ul> | <ul style="list-style-type: none"> <li>SCF-specific</li> </ul> | on board ship           |

**Notes:**

- 1 "SCF-specific" means documents to be developed especially to meet the requirements of these Guidelines.
- 2 "Key construction plans" means plans such as midship section, main O.T. and W.T. transverse bulkheads, construction profiles/plans, shell expansions, forward and aft sections in cargo tank (or hold) region, engine-room construction, forward construction and stern construction drawings.
- 3 "Yard plans" means a full set of structural drawings, which include scantling information of all structural members.
- 4 "Hull form" means a graphical or numerical representation of the geometry of the hull. Examples would include the graphical description provided by a lines plan and the numerical description provided by the hull form data stored within an onboard computer.
- 5 "Lines plan" means a special drawing which is dedicated to show the entire hull form of a ship.
- 6 "Equivalent (to Lines plan)" means a set of information of hull form to be indicated in key construction plans for SCF purposes. Sufficient information should be included in the drawings to provide the geometric definition to facilitate the repair of any part of the hull structure.
- 7 "Normal storage location" means a standard location where each SCF information item should be stored. However, those items listed as being on board in the table above should be on board as a minimum to ensure that they are transferred with the ship on a change of owner.
- 8 "Shore archive" is to be operated in accordance with applicable international standards.