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GBS – IPR

Development of the Ship Construction File (SCF) Industry Standards

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Overview of Ship Construction File

- SCF shall be required in SOLAS II-1/3-10 (GBS) .
 - SCF shall include specific information on how the functional requirement of the GBS (Tier II items) applied in the ship design and construction.
 - SCF shall be kept on board the ship and/or ashore.
 - SCF shall be duly complied with Intellectual Property Rights (IPR).
 - Highly IP sensitive information shall be stored at ashore archive center.
 - ❑ Yard plan
 - ❑ Lines plan
 - ❑ Bulky output of strength calculation
- ⇒ **Cross industry team (Shipping industry, IACS, Shipbuilding industry) has been developing the SCF industry standards toward practical operation.**

The way of development of the SCF Industry Standards



March 2012

Shipbuilders' Meeting at Shanghai

May 2012

Shipbuilders' Meeting at London (MSC90)

October 2012

Cross Industry Meeting at Denmark



June 2013

Cross Industry Meeting at London (MSC92)

Shipbuilders' Meeting at London (MSC92)



18 October 2013

Tripartite Meeting at Tokyo (Reported by CESA)

19 October 2013

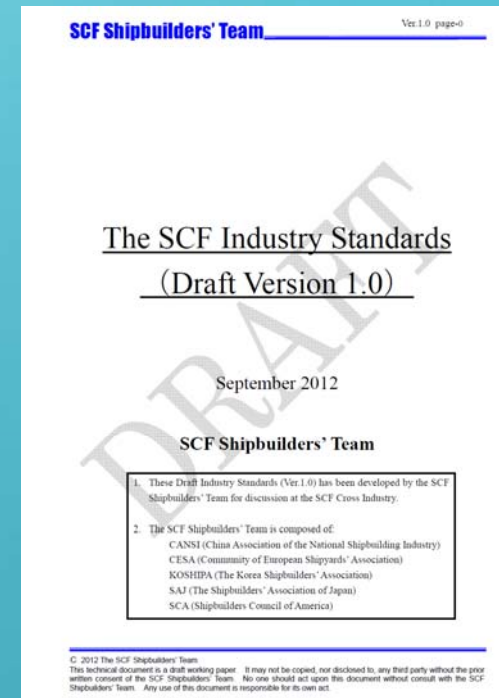
Shipbuilders' Meeting at Tokyo

Outline of the SCF Industry Standards (Version 1.0)

Principle :

In accordance with four IMO documents – MSC.287 (87) (adopted at MSC May 20, 2010), MSC.290 (87) (adopted at MSC May 21, 2010), MSC.1/Circ.1343 (circulated at MSC June 2, 2010) and MSC87/5/4 (submitted to MSC February 9, 2010).

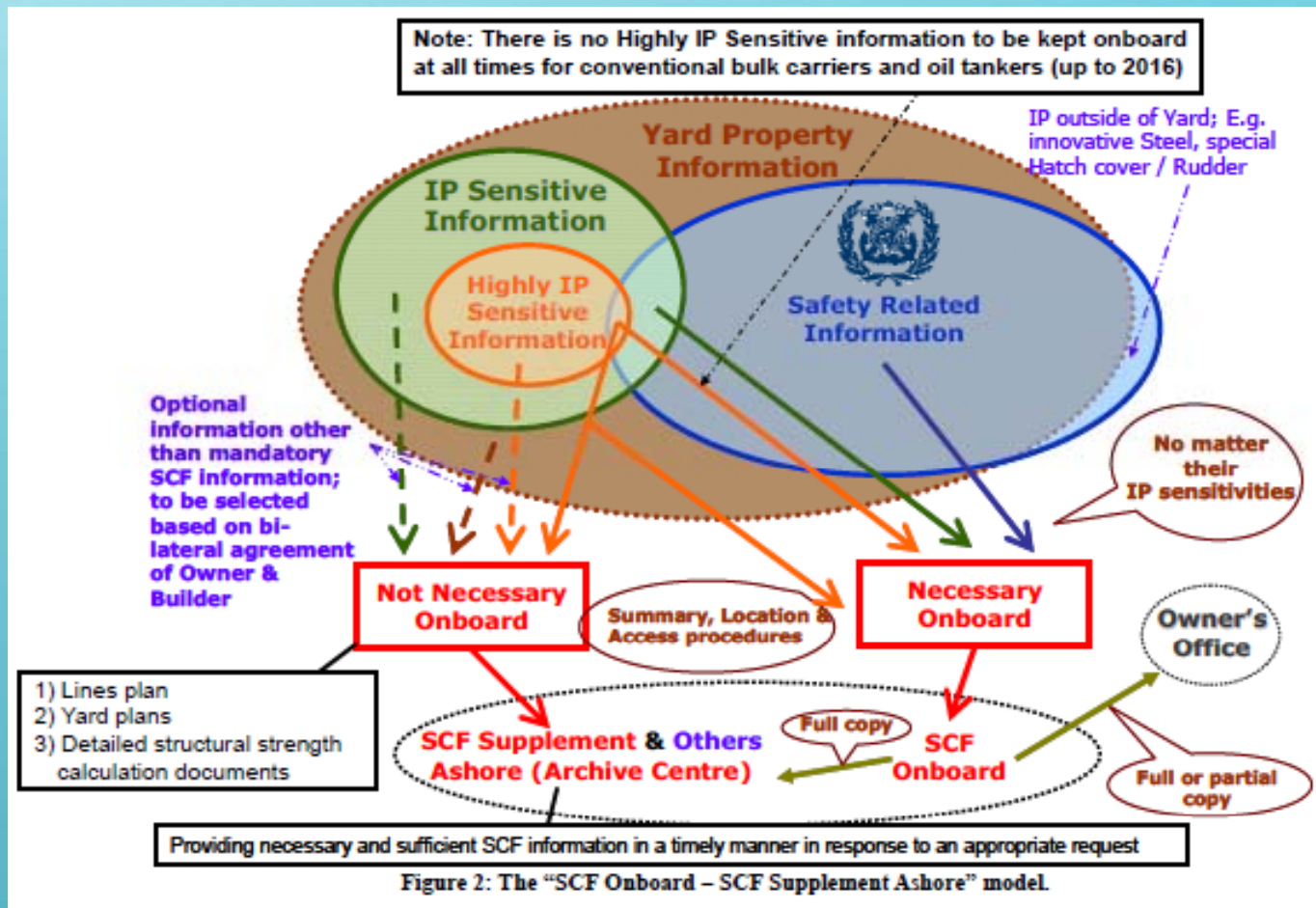
- Safe Operation Purpose
- Design Transparency
- Intellectual Property Rights (IPR)



Outline of the SCF Industry Standards (Version 1.0)

SCF Information :

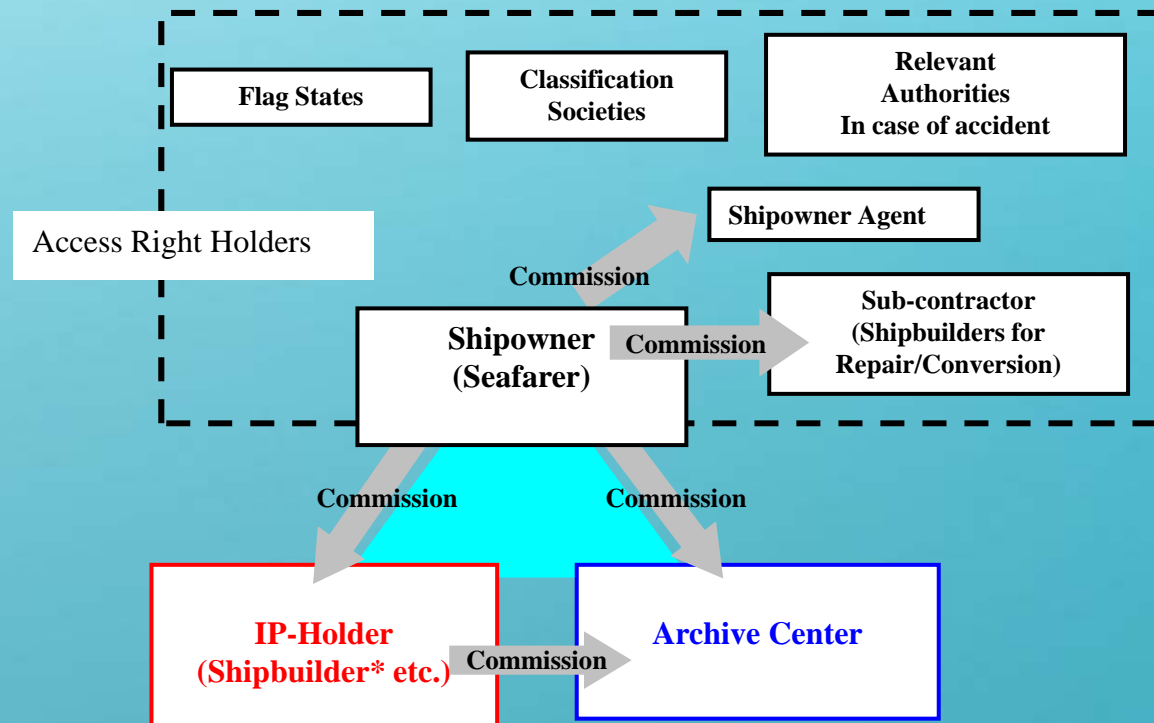
SCF Information = SCF Onboard + SCF Supplement Ashore



Outline of the SCF Industry Standards (Version 1.0)

Characters :

- Shipowner (Shipowner Agent, Seafarer, Sub-contractor, etc.)
- IP-Holder (Shipbuilder, etc.)
- Archive Center



Remarks * Shipbuilders for repair/Conversion may also become an IP-Holder of the Update of SCF Information of the Ship.

Outline of the SCF Industry Standards (Version 1.0)

IP Security Level :

4 Levels : Minimum, Low, Medium and High

IP security level	IP Class(*3)	Document name used in Industry Standards	Normal storage location
Minimum	B	Capacity plan (*2)	on board ship
	B	Loading manual (*1)	on board ship
	B	Trim & stability booklet (*1)	on board ship
	C	Loading instrument instruction manual (*1)	on board ship
	C	Operation and maintenance manual (*1)	on board ship
	B	General arrangement (*2)	on board ship
Low	C	Docking plan	on board ship
	C	Calculation of hull girder section modulus	on board ship
	C	Dangerous area plan	on board ship
	C	Coating technical file	on board ship
	C	Structural details of hatch covers, doors and other closings integral with the shell and bulkheads	on board ship
	C	Intellectual property provisions	on board ship
	C	Summary, location and Access procedure for part of SCF Information on shore	on board ship
	C	Inspection schedule for ship structures	on board ship
	C	Copies of certificates of forgings and castings welded into the hull	on board ship
	C	Tank testing plan	on board ship
	C	Non destructive testing plan	on board ship
	C	Areas prone to yielding and/or buckling	on board ship
	C	Areas prone to fatigue	on board ship
	C	Areas prone to excessive corrosion	on board ship
	C	Detail of bottom plug	on board ship
Medium	C	Details for in-water survey	on board ship
	C	Means of access to other structure-integrated deep tanks and large void spaces	on board ship
	B	Ship structure access manual	on board ship
	C	SCF-specific (1) to (15)	on board ship
	B	Midship section	on board ship
	B	Main O.T. and W.T. transverse bulkheads	on board ship
	B	Construction profiles/plans	on board ship
	B	Shell expansions	on board ship
	B	Forward and aft sections in cargo tank (or hold) region	on board ship
	B	Engine-room construction	on board ship
High	B	Forward construction	on board ship
	B	Stern construction	on board ship
	B	Rudder and rudder stock	on board ship
	B	Stern frame	on board ship
	B	Structural details	on board ship
	B	Equivalent to Lines plan	on board ship
	A	Strength calculation	on shore archive
A	Fatigue life calculation	on shore archive	
A	Yard plans	on shore archive	
A	Lines plan	on shore archive	

- Capacity plan
- Loading manual
- General arrangement
- Operation manual
- etc.

- Hatch covers, doors, etc
- Detail of bottom plug
- Ship structure access manual
- etc.

- Structural drawings

- Bulky output of strength calc.
- Yard plans
- Lines plan

Outline of the SCF Industry Standards (Version 1.0)

IP Security Measures :

- **Storage Format**
Digital format in principle
(Printed document provided, if necessary)
- **Authentication**
Password and/or Biometric data authentication depends on IP Security Level
- **Printout**
Minimum Level : All printed enable
Low Level : One page printed per job enable
Medium Level : Printed disable
- **Validity and Periodical Renewal**
Expired validity for Electric Media Onboard
- **Access Log**

Outline of the SCF Industry Standards (Version 1.0)

Definition of SCF Information :

Definition and examples of some SCF Information are introduced as supplementary explanation of SCF guidelines.

Tier II items	Information to be included	Further explanation of the content	Example documents
6.	Protection against corrosion		
6.1	Coating life	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> SCF-specific
6.2	Corrosion addition	<ul style="list-style-type: none"> specification for coating and other measures for corrosion protection in holds, cargo and ballast tanks, other structure-integrated deep tanks and void spaces gross scantlings of structural constituent parts net scantlings of structural constituent parts 	<ul style="list-style-type: none"> Coating Technical File required by PSPC area of corrosion key construction plans
7.	Structural redundancy	<ul style="list-style-type: none"> applied Rule (date and revision) 	<ul style="list-style-type: none"> SCF-specific

• plans showing areas prone to excessive corrosion (See Item 6-1)

Item 6-1: Plan showing areas prone to excessive corrosion

Definition
This figure shows the parts where relatively severe corrosion is expected more than other parts.

Models & Examples
Members with bigger corrosion additions according to CSR, such as parts of $t_c=4.0$ in the following figure, namely

- Steel members until 3 meters from the upper deck
- Inner skin
- Inner bottom

OIL TANKER

BULK CARRIER

- "Corrosion" of GBS is a general term including mechanical wear. Therefore, members

Directions for revised SCF Industry Standards

Contentious items of SCF IS finalization

- Style (legally-styled or flexible)
- Format of SCF documents (electr. or paper)
- Practicality of access procedures
- SCF IS implementation
- Specification for archive provider

These issues are connected to the legal status and protective measures and not to the content. SCF IS will harmonize and improve usability of the SCF Information.

Directions for revised SCF Industry Standards

New approach: restructuring, reduction, simplification and more flexibility

- ✓ Style ⇒ user-friendly and flexible guidance
 - ✓ Format ⇒ electronic and paper, both protected
 - ☺ Access ⇒ simple procedures for low / medium sensitivity documents
 - ? Implementation ⇒ bilateral agreement or ship's safety management system (ISM Code ?)
 - ? Archive provider ⇒ acc. to spec or R.O.
- ✓ solved ☺ compromise pending ? proposal needed

Short-term Milestone

End of 2013

The SCF Industry Standards (revised version) is distributed to cross industry

Beginning of 2014

Cross Industry Meeting

May 2014

submit for information paper to IMO MSC93

Long-term Milestone

By 1 July 2016

cross industry issues the final package for GBS application (detailed examples of IT systems, etc.)

By end 2017

SCF Archive centers may start operation for GBS application

Thank you for your attention