

SOLAS 2010

New regulations challenges and impact scenarios

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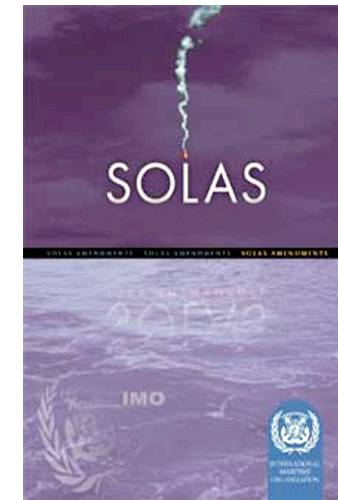
SOLAS 2010 Fire Protection Requirements In Brief

Third level On October 1, 2010, the International Convention for the Safety of Life at Sea (SOLAS) will require all ships to comply with the latest fire safety requirements. (April 1992 SOLAS amendments)

The latest regulations will apply to the oldest ships i.e. pre SOLAS -74 regulation build/converted ships. SOLAS 1974 built ships already comply with amendments made in 1992, 1997, 2000 and 2005. Furthermore, and all refurbishments made after 1997 for SOLAS 1948/1960 ships should have been carried out in accordance with the latest SOLAS rules.

SOLAS 2010 focuses principally on the use of combustible materials. Only a very restricted amount (set by SOLAS rules) of combustible materials will be allowed in the construction or conversion of passenger ships.

Ships built under SOLAS 1948 and/or SOLAS 1960 regulations that permitted unrestricted use of combustible materials will be most affected. These ships will have to undergo major, costly changes in order to comply with SOLAS 2010 and continue to serve in a passenger ship supply.



Market of pre SOLAS-74 cruise ships

There are at present at least 30 cruise ships, built 1953- 1973, still in operation.

SOLAS 1974 was not enforced until May 1980, which makes it possible that even ships built later than 1973 contain combustible materials. In practice only few ships built before 1980 will meet the new standards without any changes.

Market of pre SOLAS-74 cruise ships (classic cruise ships)

There are at least 30 cruise ships, built 1953- 1973, still in operation.

SOLAS 1974 was enforced May 1980. It's possible that ships built later than 1973 contain combustible materials.

- It's up to SOLAS 74 certificate

Historically the old vessels have been “cash cows” due to

- low capital cost
- easy penetration to market
- small size → limited business risk

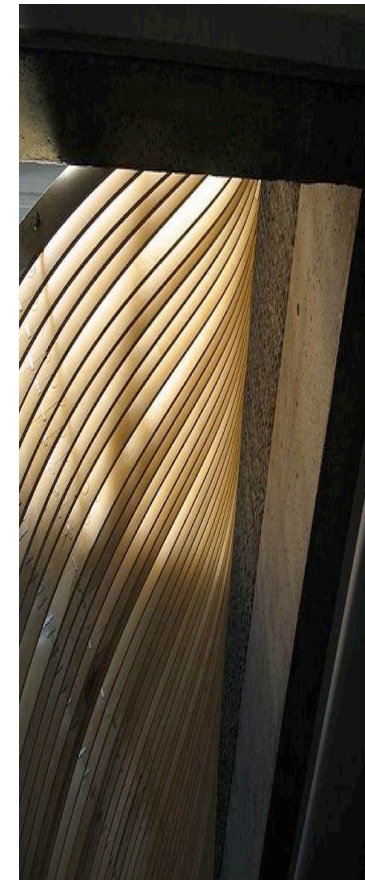
However, very old fleet have become less attractive compared to the modern fleet due to

- Higher operational cost (fuel + manning + maintenance) per passenger
- Challenges with sustainability (materials, emissions etc.)

Classic cruise ships will become rare. It will have positive impact on SOLAS 2010 refurbished vessels market value.

Some owners of small and medium-size ships have challenging times. With the current business model the new building or purchase of 5 years old vessels are not feasible

→ Refurbishing ships to SOLAS 2010 compliant is attractive solution for owners.



Refurbishment Ideas

To avoid replacing all existing materials corrections can be made

If original surfaces are retained

- dedicated sprinklers

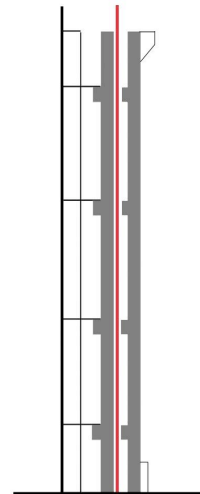
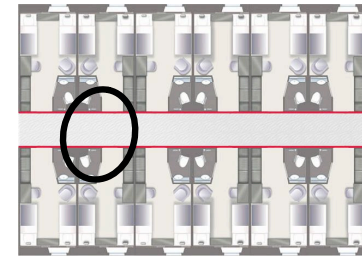
If original surfaces can be covered

- cover plates over combustible materials
- covering tiling
- adding fire insulation
- changing the fire integrity and utilization of a space

SOLAS regulations allows restricted use of combustible materials

- SOLAS Chapter II-2: *The total volume of combustible facings, mouldings, decorations and veneer in any accommodation and service space shall not exceed a volume equivalent to 2.5 mm veneer on the combined area of the walls and ceilings.*

- It is possible to save some of the original interior “as is”

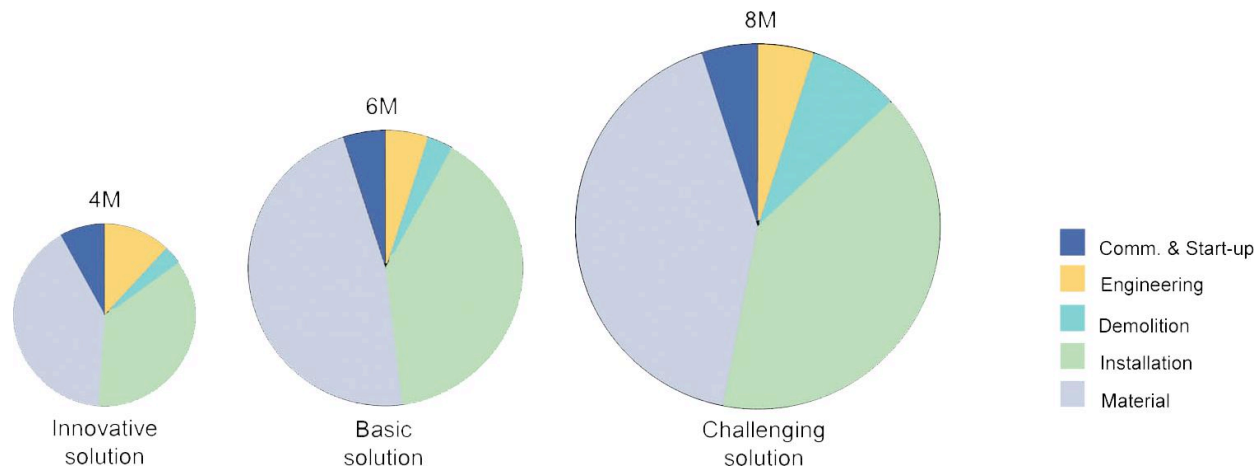


Picture: Innovative solution.
New steelplate on old structure.

Refurbishment Costs

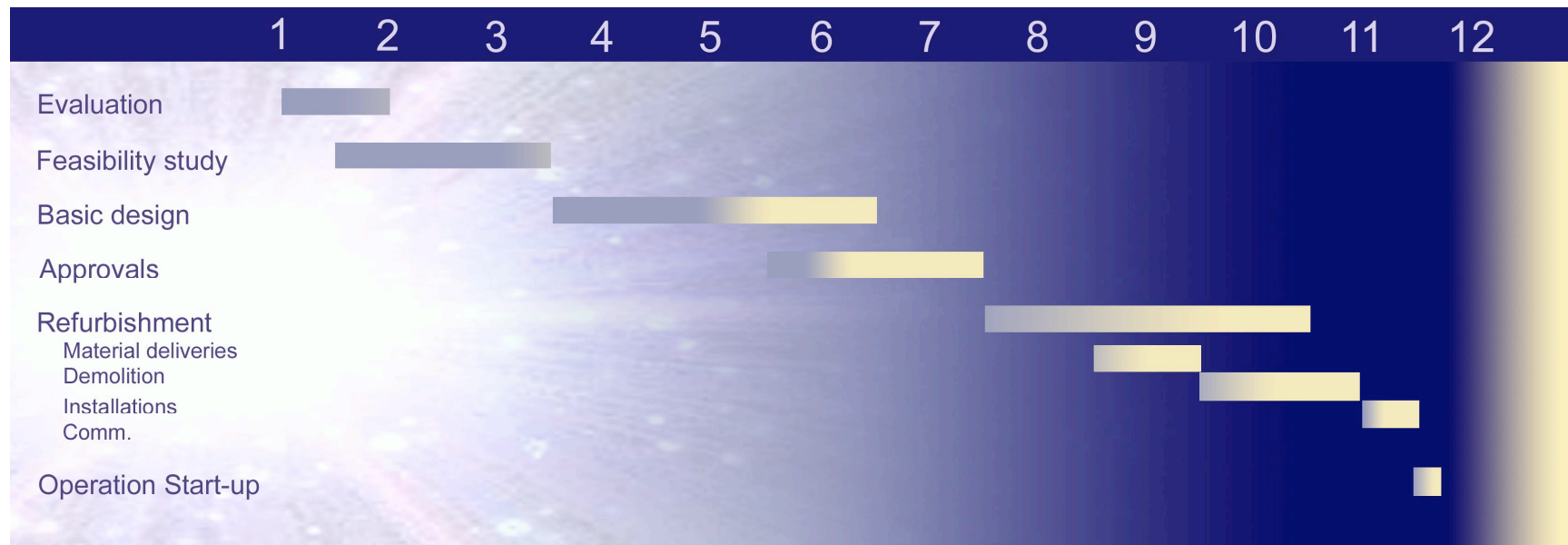
To fulfill SOLAS 2010 the estimated capital expenditure is 4- 20 M€. The cost, which depends on the area subjected to refurbishment and existing materials, comprises of costs for:

- Demolition (including asbestos removal and certification)
- Engineering
- Cabins (material and installation)
- Public spaces including stairs (material and installation)



➤ In practise volumes depends on the extent of refurbishment made during the past 15 years

Refurbishment Schedule



Three phases model to comply with SOLAS 2010

STX Europe supports Owners with SOLAS 1948/1960 vessels through following three phases

1. Evaluation and feasibility study

- Evaluation of different possibilities (sale to scrap, purchase of new 2nd hand vessel, refurbishment of existing vessel)
- Feasibility study (technical outline study for selected alternatives and financial prospects to support discussions with financiers)

2. Basic Design and approvals

- Engineering of changes and innovative solutions
- Approval discussions with relevant authorities with equivalent safety approach

3. Refurbishment

- Contract package for the works
- Execution of changes

... And support through the Lifecycle of the vessel..



Thank you for your attention.



Lifecycle Services



Name: Princess Dane
Built: 1955
Builder: Harland & Wolff, Belfast, UK
Operator: Classic International Cruise



Name: The Emerald
Built: 1958
Builder: Newport News, USA
Operator: Louis Cruise Lines



Name: Ivory
Built: 1957
Builder: Cantieri Riuniti dell'Adriatico, Italy
Operator: Louis Cruise Lines



Name: Kristina Regina
Built: 1960
Builder: Oskarshamn, Sweden
Operator: Kristina Cruises

Lifecycle Services



Name: Funchal
Built: 1961
Builder: Helsingør Værft, Denmark
Operator: Classic International Cruise



Name: Arion
Built: 1965
Builder: Brod. Uljanik, Croatia
Operator: Classic International Cruises



Name: Black Prince
Built: 1966
Builder: Flender Werft, Germany
Operator: Fred. Olsen Cruise Lines



Name: Blue Monarch
Built: 1966
Builder: Chantiers de l'Atlantique, France
Operator: Monarch Classic Cruises

Lifecycle Services



Name: National Geographic Endeavour
Built: 1966
Builder: AG Weser, Germany
Operator: Lindblad Expeditions



Name: Marco Polo
Built: 1965
Builder: Mathias-Thesen-Werft, East- Germany
Operator: Transocean Tours



Name: Discovery Sun
Built: 1968
Builder: O-K und L Maschinenbau, West- Germany
Operator: Quail Cruises



Name: Pacific
Built: 1971
Builder: Rheinstahl Nordseewerke, Germany
Operator: Quail Cruises

References

At least 7 old cruise ships face uncertain future due to SOLAS 2010

Found at: <http://cruisebusiness.com>

Solas 2010 signals death knell for 'classic' cruiseships

Found at: <http://dieselduck.blogspot.com/2007/11/solas-will-retire-classics.html>

SOLAS Safety Rules: Will Old Ships Die?

Found at: <http://www.cruisecritic.com/news/news.cfm?ID=3250>

SOLAS 2010

Found at: <http://www.rhondasand.com/2008/12/15/solas-2010/>

2010 SOLAS Deadline Looms For Older Ships

Found at: <http://www.cruisecritic.com/articles.cfm?ID=488>

Classic Cruise Ships And SOLAS 2010

Found at: <http://www.oldsaltblog.com/2009/06/classic-cruise-ships-and-solas-2010>

SOLAS 2010 conversion may cost up to €20 million – STX Europe

Found at: <http://www.cruisebusiness.com/>

History of SOLAS fire protection requirements

Found at: http://www.imo.org/TCD/mainframe.asp?topic_id=777

New IMO Requirements – Present and Future Amendments

DNW, January 2002

Implementation Dates Of Requirements

Subject	SOLAS 1948/1960	SOLAS 1974
Plans and booklets, Radios for fire patrol, Loose equipment	1.10.1994	1.10.1994
Smoke detectors, Fire door indication, Fire door remote release (hinged doors), Galley exhaust duct arrangement	1.10.1997	1.10.1997
Stairway arrangements (within stairways, spaces opening to stairway, stairway furniture)	1.10.1997	1.10.1997
Low- location lighting, Alarm noise level, Public address system/ audibility	1.10.1997	1.10.1997
Smoke detectors above ceilings	1.10.1997	-
Sprinklers	1.10.1997	1.10.2005
Fire door remote release (sliding doors), Stairway arrangements (stairway construction)	1.10.2000	1.10.2000
Machinery space extinction, Ventilation ducts and dampers, Special category spaces	1.10.2000	1.10.2000
Non- combustible construction	1.10.2010	-