1. Safe Return to Port (SRtP) requirements

New requirements to all passenger ships built on or after 1st July 2010 having:

- a length of 120 m or more
- three or more vertical main fire zones (MVZ)

The purpose of the regulations is to establish design criteria for a ship’s safe return to port under its own propulsion after a casualty that does not exceed the casualty threshold stipulated. The regulation also provides functional requirements and performance standards for safe areas.

2. Exemptions

Some Flag Administrations have already exempted large yachts from compliance (PYC Code) (LR)

Considering that large yachts have low passenger densities and generally operate near to shore, the SRtP requirements seem overly onerous. It has been indicated by the industry policy makers that SRtP will not be applied to passenger ships carrying 36 passengers or less. (Nigel Gee Ltd paper on recent regulatory Changes and their impact on the Design of Large Yachts).

3. Size of vessel for which SRTP is not required

For a yacht the transition between two and three Main Vertical fire Zones (MVZs) will generally occur in vessels with a waterline length greater than 104 m.

4. Consequences if SRtP rules are applied

The SRtP regulations impact on the conceptual arrangement, arrangement of equipment and systems, amount of components and also sets operational requirements on the ship.
Distance and time to safe port  07.04.2015

The distance to the nearest safe port is determined by the operating pattern of the ship.

A minimum speed of 6 knots while heading into Beaufort 8 weather and corresponding sea conditions is recommended.

For worldwide operation the minimum distance to the nearest port could be 2000 nm. Considering that the ship will not face Beaufort 8 weather all the time, we can use an average speed of 10 knots which means 8 days cruising during which the passengers and crew shall have a safe area to stay in (requirements for safe area explained below).

Arrangement

- Machinery

Main diesel generating sets and switchboards to be split into two separate engine rooms.

Fuel oil settling and service tanks, fuel treatment and transfer equipment to be split for each engine rooms.

Pods to be separated into two rooms by a steel bulkhead.

El cables for port and starboard pods to be routed separate ways

- Safe area
A safe area located outside the damaged compartment must be available for the passengers during the Safe Return to Port.

The requirements for the safe area are: el, ventilation, sanitation, water, food, medical care, shelter from the weather, means of preventing heat stress and hypothermia, light etc.

**Operational requirements**

- **Fuel availability**
  
  Assuming minimum power requirements of 2500 kW, the fuel consumption is 500 kg/h. During 8 days required amount of fuel is 96 t.

- **Systems to remain operational for Safe Return to Port**
  
  Propulsion (for the required speed and maneuverability)
  
  Ship’s electrical-generation systems and their auxiliaries
  
  Steering systems and steering control systems
  
  Systems for fill, transfer and service of fuel oil (duplicated or added with a supplement)
  
  Internal communication between the bridge, engineering spaces, safety centre, firefighting and damage control teams, and as required for passenger and crew notification
  
  External communication
  
  Fire main system
  
  Fixed fire extinguishing system
  
  Fire and smoke detection system
  
  Bilge and ballast system
  
  Navigation systems
  
  Power operated watertight and semi-watertight doors
  
  Systems intended to support safe areas
  
  Flooding detection systems
  
  Other systems required

5. **Conclusion**

Based on the above we have three options for the design:

1. Reduce the ships overall length so that the SRtP rules are not required to fulfill
2. Negotiate with the authorities for an exemption to the rules
3. Design the vessel to fulfill the SRtP rules. This will impact the general arrangement, systems, operational requirements and most probably increase the overall size of the vessel.