

# Design For Production Workshop

Developed by

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on  
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## Training Exercise 2 Engine Room

### Category B Data

This document contains Category B Data as defined in Section G.23 of NSRP Sub No. 012306, Subcontract Number 2007-391. The material contained in this document is approved for public release with unlimited distribution.

# General Sequence for Developing the Layout



1. Start with each deck layout template as there are crossovers between each level.
2. Place the main propulsion equipment with associated walkways etc.
3. Place the power generation equipment with associated walkways etc.
4. Locate the main control room.
5. Place the lube oil purifying equipment with associated walkways etc.
6. Place the remaining secondary equipment.
7. Place the remaining walkways and check the access between the levels.
8. Identify the outline of the deck openings in both machinery spaces.
9. Minimize the length of the Auxiliary Machinery Space.
10. Identify modules shapes and weights and check to see if they match the given facility limitations.



# Templates Required for the Training Exercise

## Base Templates

- Base Template - Lower level x 1
- Base Template - Middle level x 1
- Base Template - Upper level x 1

## Functional Templates

- Walkways x 1 set of strips
- Exhaust systems: Main Engine x 2 and Diesel Generator x 4 sets
- Ladders x 3 - between the lower and middle deck levels

## Main Equipment Templates

- Main Engines x 2 – for each deck level
- Gearboxes x 2 – for each deck level
- Stern Gear x 2 – for each deck level
- Main Control Room x 1 - one each for the middle and upper levels
- Diesel Generators x 4 - one set per deck level
- Lub. Oil Purifiers x 2



# Templates Required for the Training Exercise

## Secondary Equipment Templates

- Pumps
- Compressed Air Panels
- Coolers
- Local Control positions
- Hydraulic Power Packs
- Fresh Water Generators
- Air Panels
- Pneumatic Supply Frame
- Starting Air Receivers
- Fresh Water Hydrophone Tank
- Starting Air Compressors



# Assumptions

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- Ship breadth fixed
- Two machinery spaces to be arranged (Main Engine Room and Auxiliary Machinery Space)
- Transverse bulkhead locations fixed
- Built-in tank location and size fixed
- The longitudinal spacing is set to 0.5m
- The transverse spacing is set to 1.0m
- The transverse numbering is from left to right starting at 0.
- The longitudinal numbering is from the center line outboard, starting at 0, positive to port negative to starboard.
- Shaft line locations are fixed
- Structural sections are fixed 900mm for shell, all other structure 400mm
- All the equipment is chosen (parts library available and restricted)
- Walkways limited to 1m width
- Control room footprint is fixed