

Dr. Fridtjof Nansen – Building progress

Update by 30th September 2016



Main milestones:

- First steel cut: 13.01.2015**
- Keel laying: 23.04.15**
- Launch of vessel: 23.12.15**
- Dockside Trials: started 22.08**
- Sea trials: scheduled start/departure from yard 15-16. October**
- Scheduled Delivery – 24.11.16**

Progress:

- High activity in all areas. Commissioning work, start up and HAT (harbor trials) in progress. Yard is pushing hard to speed up progress, extra overtime and weekend work is initiated. Milestones this period: main generator sets started 23rd Sept. Inclining test performed 25th Sept.
- Revised start up and trial plan (Rev. 3) received 02.Sept. Start up of main engine systems and engine power up was almost according to plan, but dates for minor tests and trials on other equipment is by date falling behind schedule.
- Yard has not yet confirmed any change in departure date for sea trails (Oct 15th), but based on remaining work we can't see that this is achievable. A departure end Oct. or first week of Nov. is from our point of view a more realistic target. Good news is that results from dredging this summer has given less tidal restrictions and extended departure "windows". Place of dry dock not yet decided, but learnt that both Gijon and Santander has availability. Gijon is more restricted to tide slots than Santander.
- **Hull Construction/external outfitting:**
 - Inclining test carried out 25th Sept
 - Due to incomplete outfitting and missing equipment there was an extensive job to register all missing weights.
 - Mounting of antennas, searchlights and outside lightning ongoing.
 - Life raft crane installed

- **Piping:**
 - Minor pipework for evaporator and osmose systems remaining, and some smaller rebuild/completion of various systems ongoing.
 - Testing and flushing of maritime systems almost completed.
 - Pressure tests on Clean Seawater systems ongoing.
 - Final inspections and “closing” of tanks ongoing.

- **Propulsion and maneuvering:** Service engineers from major suppliers (MaK/Caterpillar, Ingeteam, Kongsberg, Teamtech, etc) on board for commissioning and start up.
 - Emergency Generator started 17.09
 - Generator sets started 23.09.
 Commissioning and set up of IAS & PMS continuing.
 HAT on starting air compressors and incinerator carried out.
 Fall back from plan on other scheduled testes, mainly due to incomplete work and internal tests.
 Generator tuning with load from load bank started 28 Sept.

- **Scientific equipment and Labs:** Pipework and cabling to Laboratories almost completed, paneling ongoing, Furniture installation planned to start week 40.
 Rapp winches: Modification work (changing bolts on drive motors for fishery winches) carried out by Rapp engineers. Rapp has also started installation inspections, commissioning work delayed due to incomplete Electrical installations.
 Triplex engineer started commissioning on cranes week 39.

- **Electrical: Cable trays and cabling**
 - Cable pulling to Kongsberg equipment, Rapp winches and some outside lightning pending.
 - Cables pulled by date 226.700m, approx. 1000m is pending.
 - Cable terminations: 10.500 connections completed by date, approx. 500 connections remaining.

- **Accommodation:** Fixed furniture installations in cabins almost completed, sofas and chairs still missing. Installation of galley equipment ongoing. All internal railing mounted. Chart table and radio console on bridge installed week 39.
 Wash down of cabins planned to start week 40

- **Sandblasting & Painting:**
 - Tanks: last coat on bilge, sewage and grey water tanks pending, all other areas completed.
 - Machinery spaces and technical areas: Propulsion room and aux. engine room completed, Engine room painting ongoing. Painting of Bow thruster room will start this weekend.
 - Outside areas: Sandblasting and Metalizing work finally completed.
 - Still lot of areas to be painted and /or repainted due to damage. With the hard push for completion, we do notice a reduction in quality of workmanship and a tougher inspection atmosphere!

Alongside outfitting berth



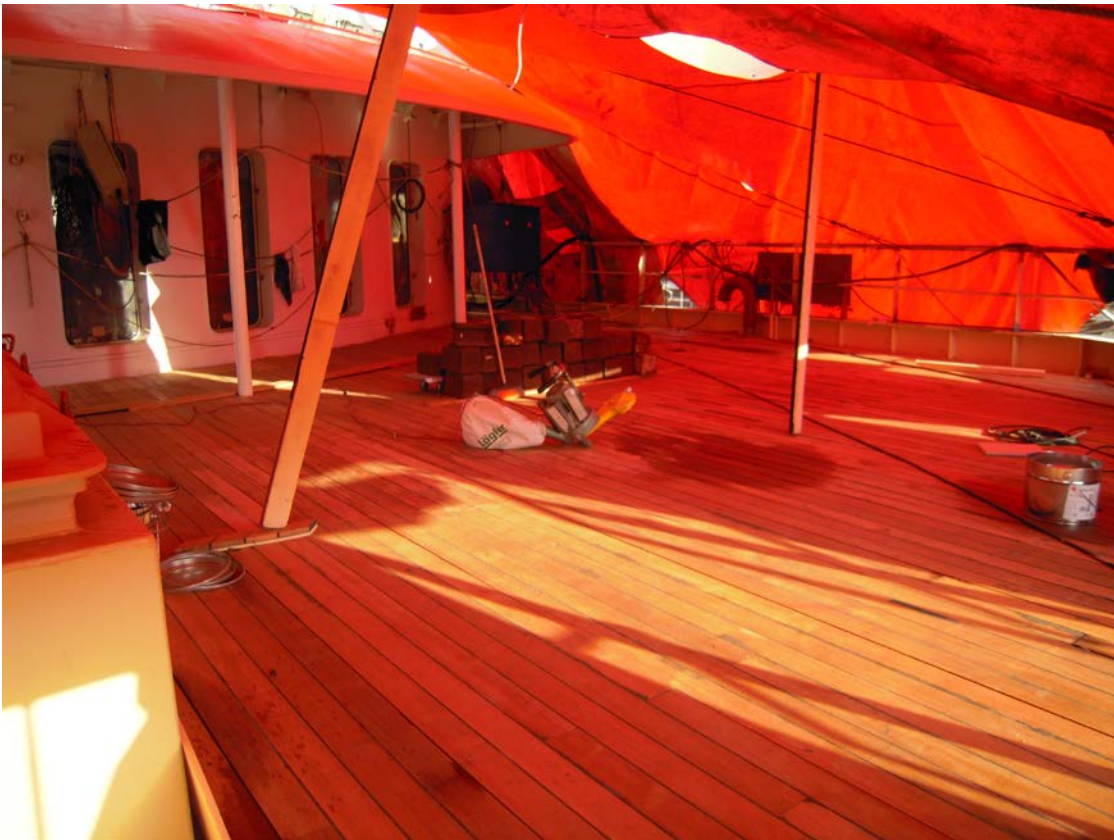
Stern view



Bird view - aft deck



Wooden deck progressing



Illuminated name plate.



Chart table installation



Installation of fixed cabin furniture almost completed



Internal railings



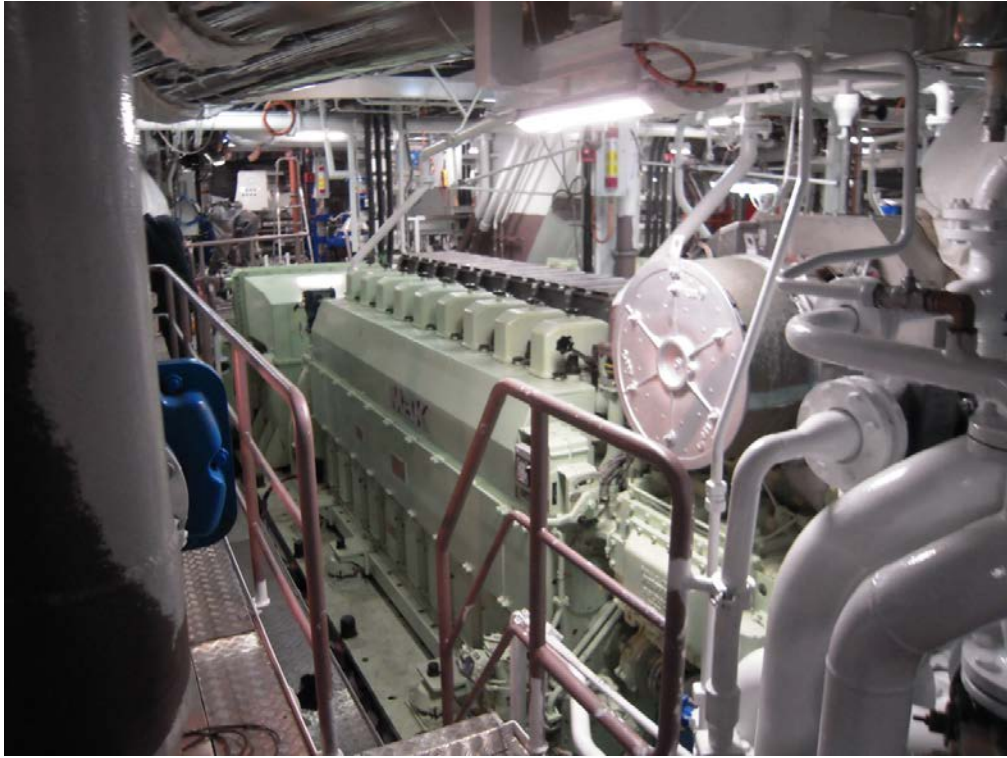
Installation of galley equipment ongoing





Diesel engine tuning





Propulsion room



CTD Lab – paneling started



Fish dry Lab



Data floor in Ops center



Still some cable pulling and terminations on scientific winches



Mob-boat



Crane for life rafts installed

