

Phase-based project management: A shipbuilding perspective

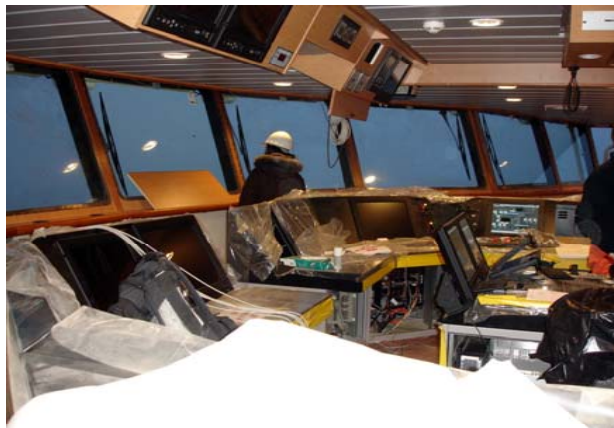
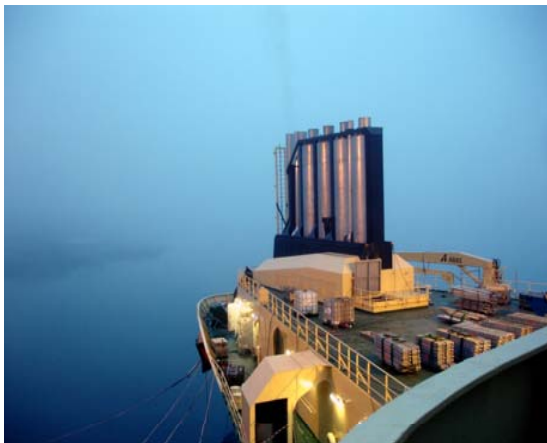
A report on the latest research in Norway
(part of the Lean Shipbuilding program)

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A shipbuilding project: Phases



Design and procurement



*Hull fabrication
and primary outfitting*



Outfitting



Testing

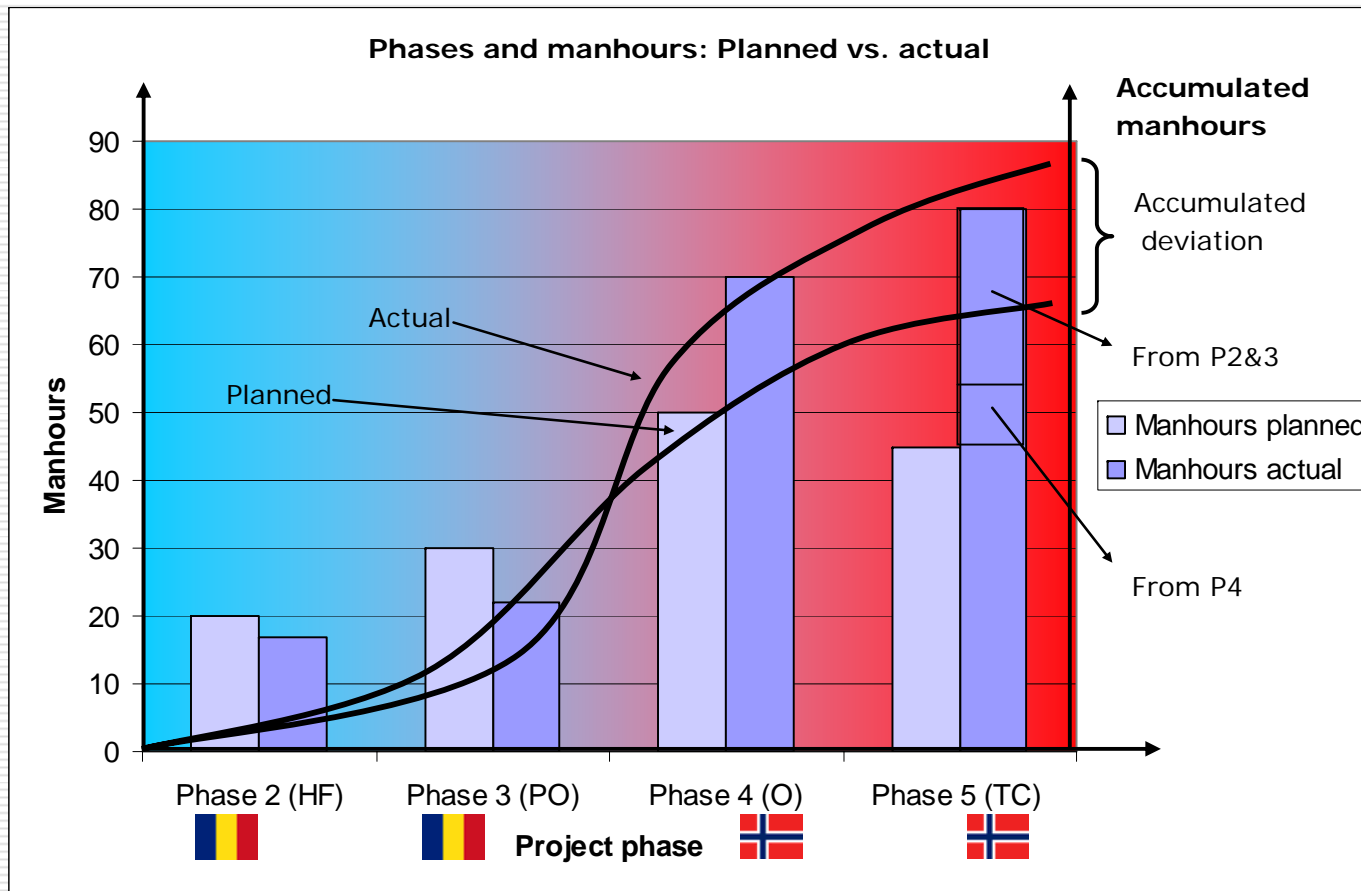


Current challenges

- Traditionally there is too little effort on assigning a project activity to the most economic project phase
- Activities are often not completed as planned (in the appropriate phase) and are "moved" to the subsequent project phases. Such activities are called "carried over" or "transferred" work. Romania → Norway.
- Such plan non-conformity results in: Significant increase in project cost, task congestion, late delivery...
- Completion of project activities in each phase and management of transition between phases are crucial challenges



Illustration



Early findings – MSc Thesis

MSc Thesis submitted by Cristina Ciobanu and Ganesh Neupane at the Molde University College, May, 2008.

Major problems regarding project phase management:

- Contractual shipbuilding conditions – Late design decisions lead to delay of engineering and procurement
- Information flow (communication)
- Lack of planning routines
- Physical and non-physical bottlenecks
- External conditions (overloaded capacity of the maritime industry due to the international market boom)



Early findings – MSc Thesis (cont.)

Identified internal reasons for non-conformity:

➤ **Information flow (communication)**

- Poor communication among project teams
- Poor communication between the shipyard and ship designers
- Mismatch of IT systems and software used

➤ **Lack of planning routines**

- Lack of "best schedule" - analysis
- Lack of control of project activities and necessary updates (change orders and revisions)
- Lack of statistical data for decision-making, mistake prevention and continuous learning

➤ **Physical and non-physical bottlenecks**

- Space constraints onboard the ship
- Lack of skilled personnel



Further research

- A discussion with the shipyard's project group, based on early findings:
 - Presentation of the identified problems and their scope
 - Reasons for non-conformity
 - Possible actions in order to prevent failure reoccurrence (application of Lean principles and tools)

- Development of improved planning system
- Implementation of the system
- Theory contribution to the Lean Shipbuilding concept



Thank You!

*Questions and comments are
appreciated...*



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