

Can Lessons Learnt from North Sea Oil Projects Contribute to Successful Governmental Construction Projects?

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The structure of the presentation covered these three main topics:

- Norwegian Centre of Project Management
- Experience from Offshore oil projects
- Lessons for governmental projects

For more information about the Norwegian Centre of Project Management, please consult the web pages of the center: www.nsp.ntnu.no.

Rolstadås divided the North Sea offshore projects into three generations:

- First generation (pioneer projects) 1970 – 1980
 - Ekofisk
 - Frigg
 - Statfjord
- Second generation (mature projects) 1980 – 1995
 - Gullfaks
 - Oseberg
 - Mongstad
- Third generation (effective projects) 1995 –
 - Åsgard

A cost study from 1980 revealed the following experiences about the First Generation Projects:

- Complex projects require advanced project management tools
- Traditional organizational models from the construction industry insufficient
- Front end engineering is crucial for success
- Split of work in phases improves controllability
- Risk analysis and contingency planning required

As an example of a Second Generation Project, the Mongstad oil refinery project was presented. Important lessons learnt from this project:

- Political goals can influence professional judgment
- Delays in early engineering can be damaging to project success
- Large, complex projects need an external control mechanism
- To improve profitability by acceleration of a delayed project is an illusion

For the Third Generation Projects, both the CRINE study in UK and the NORSOK study in Norway (1995) estimated cost and schedule reductions of 40 –50% through a New execution model covering:

- Risk and responsibility sharing
- Trust and partnership
- Reduced amount of documents
- Standardized design

However, also these projects showed cost overruns, and the NORSOK experience was:

- Less contingency in contracts and unrealistic estimates
- New execution model created cooperation problems
- New suppliers from low cost countries lacked experience

- Shortened execution time involved increased risk
- Contractors lacked experience as main contractor
- Substantial reductions compared to second generation projects

The major lessons learned from Third Generation Projects were:

- New models like NORSOK requires attention and change by all stake holders
- There was no estimating baseline for the new model
- Time critical projects are often started on insufficient engineering and design
- Risk analysis is crucial for this type of projects

In general some success factors for offshore projects seem to be:

- Risk and contingency plans
- Front end engineering
- Project organization – contract strategy
- External control mechanisms
- Owner – contractor partnership model
- Decision gate project control model

Rolstadås went on to public projects and asked the question: Unsuccessful governmental construction projects – what do they have in common? Some of his answers:

- Strong political and user influence leading to a number of changes at a late stage in the project
- Unclear interface between the users' (owner's) responsibility and the project's responsibility
- Risk management insufficiently handled

What can construction projects learn from offshore projects?

- Stronger focus on front end engineering, risk analysis and contingency plans
- Develop a governance strategy including best practices for the decision chain from political bodies to users
- Simplify organization model and contract strategy
- Enforce productivity and progress control – develop competence at governmental bodies
- Revise contract standards
- Adopt the offshore project model (NORSOK cooperation model, external control, decision gates)