



Safety and Quality in Engineering & Construction

“Protect Your High Value Assets”



Presenter

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What Are the Challenges Today?

- Major problems lie in the FIELD execution of the project. Severe delays in Civil Defence approval!
- A major disconnect between Design & Construction
- Down stream delays are often due to poor Construction, resulting in poor Commissioning, Operability/Reliability.
- A Facility with excellent specification has little or no value if the design is not properly translated into Construction and Start-up

What is a Successful Project?

"Built On Time, Within Budget, in a Safe Manner (i.e., No Accidents) with Great Design, Good Quality & Excellent Documentation"

- If you were able to deliver on ALL of the above, then most people would say that it was a successful projects!

"What about how well the facility performs Post Handover?"

" What about Safety, Operability, Availability, Reliability and Maintainability? "

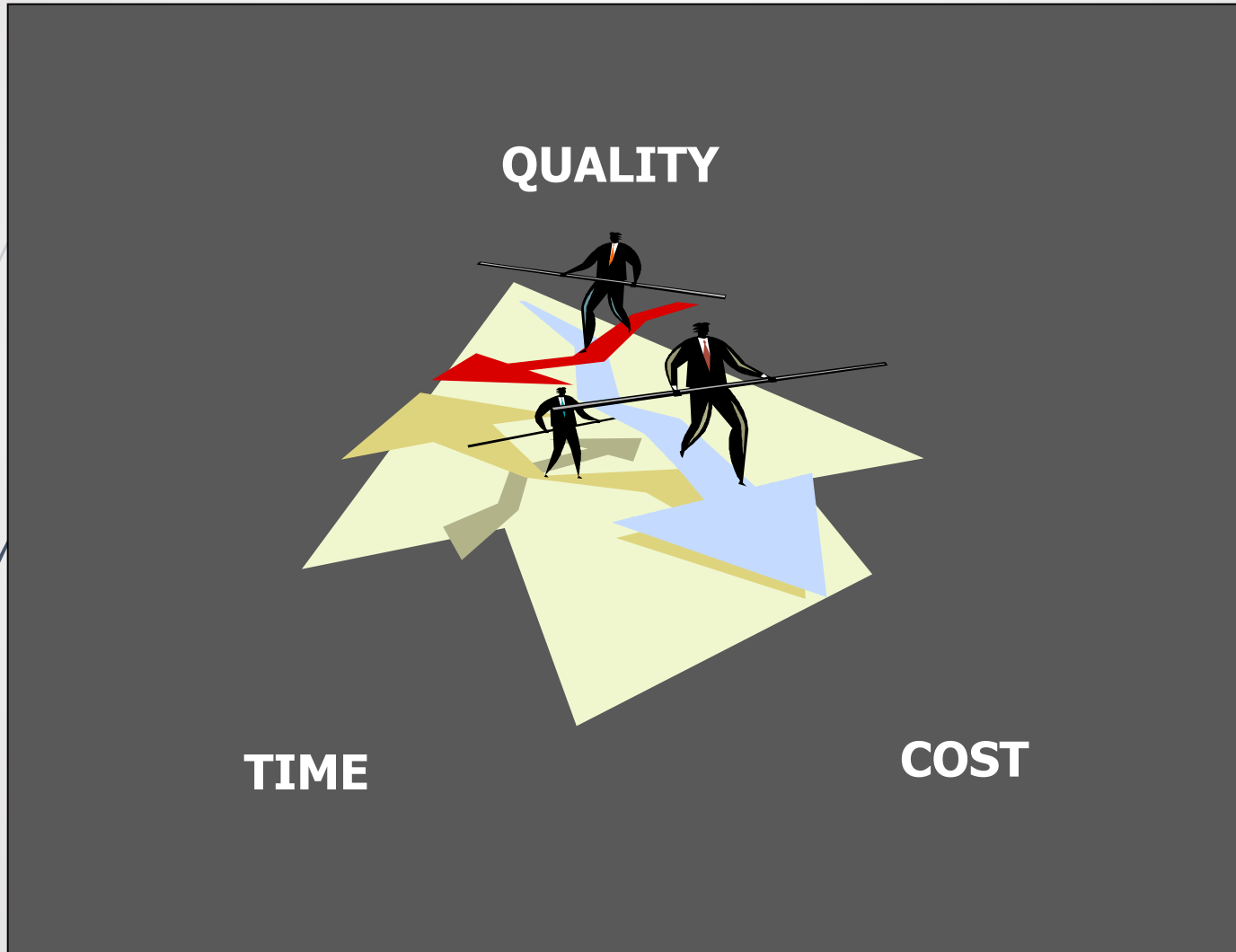
- A facility that breaks down after a month into production is of no use to anyone!

Therefore a Successful Project is:

"A successful project is where a facility reaches OPTIMAL OPERATION, in a safe manner, in the SHORTEST possible TIME-FRAME, generating CASH at the earliest possible opportunity"

"A successful project is where a facility achieves a HIGH AVAILABILITY & RELIABILITY during the first-cycle operation, maximising cash flow through the first-cycle operation"

RISK MANAGEMENT



What Does a Contractor do?

- A Contractor does NOT generally BUILD anything/everything!
- A Contractor will usually take a design:
 - Break it down into manageable packages
 - Sub-contract the work into packages which will allow the contractor to reduce his risks and make a reasonable fee on the project.
 - A contractor will usually select and manage sub-contractors.

What Does a Contractor do?

- A Constructor does NOT generally BUILD everything!

In a Nutshell:

*“ A facility one builds is as good as the
SELECTION & MANAGEMENT
of the **SUB-CONTRACTORS ! ”***

- A contractor will usually select and manage sub-contractors.

The Two Worlds

DESIGN/ENGINEERING

**QUALITY
(QbD)**

**QUALITY
& SAFETY
=
ZERO
ACCIDENTS
& DEFECTS**

**SAFETY
(ZERO
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The Two Worlds

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Construction Safety / Quality Challenges

- The construction site TRANSITROY
 - Teams specifically formed for projects
- The construction industry has a high number of collapses, especially during a downturn!
- Lack of commitment towards Safety/Quality as it may take several years to “Pay offs”
- Implementation of Safety/Quality in construction requires the selection of the appropriate sub-contractors who are committed to Safety & Quality

CQM Program to Mirror Safety Program

Safety Program

Contractor Safety Qualified
Safety Assessment
Job Specific Safety Plan
Safety Procedures
Safety Training
Safety Monitoring

Quality Program

Contractor Quality Qualified
Quality Assessment
Job Specific Quality Plan
Quality Procedures
Quality Training
Quality Monitoring

QM Program to Mirror Safety Program

Safety Program

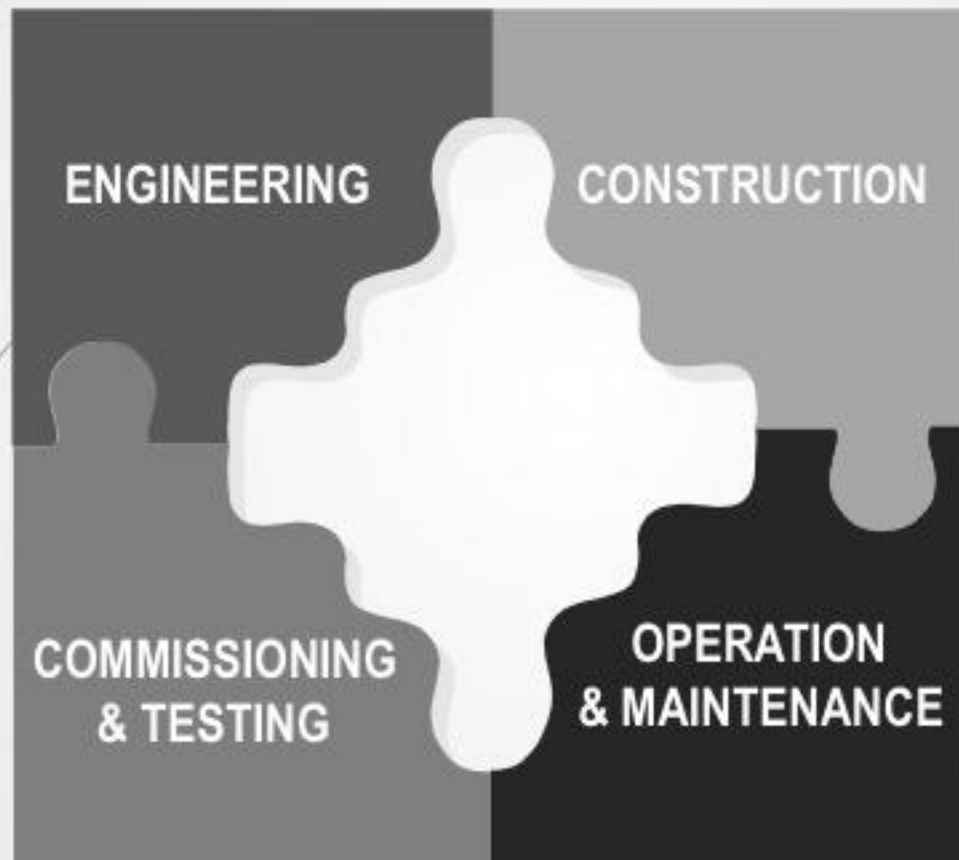
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Safety Assessment
Job Specific Safety Plan
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Quality Program

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Quality Assessment
Job Specific Quality Plan
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The Two Worlds Aligned !

An Important Piece in the Puzzle?



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