Advanced Work Packaging
A Fit For Purpose Approach

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What is Advanced Work Packaging?

- CII / COAA - Advanced Work Packaging is the overall process flow of all detailed work packages.

- Eichleay - A **construction driven** systematic approach to delivering engineering and procurement deliverables to align with the construction plan, means and methods.
“Globally, there is a 35% failure rate for small to large size projects, and 65% on Megaprojects.”

“Failure is often the result of ‘running too fast’ on the front end of the project.”
“Failure is defined as:

- Schedule slippage or overspending of 25%
- Execution time is 50% longer than planned”
Construction Industry Institute Research

- **Research Efforts**
  - RT 272-1 Circa 2009
  - RT 272-2 Circa 2011

- **Publications**
  - RT 272-1 “Enhanced Work Packaging – Design through Workface Installation”
  - Research Reports, Summaries & Implementation Resources
Advantages of Advanced Work Packaging

- CII / COAA Research
  - Predictability
    - A better plan for the unpredictable variables
  - Productivity
    - Improved Tool time
    - Get the work in front of the works
Advantages of Advanced Work Packaging

- Evidence
  - Two similar scope construction projects performed by the same contractor in the same geographic region:
    - Fifty % more efficient rate of installation
    - One time schedule performance vs. two month overrun
    - Average time from piping spool delivery to installation 3.5 months vs. 8.5 months
    - Lower re work rate 6.5 % vs. 7.0%
Advantages of Advanced Work Packaging

- Other Research Benefits Sited
  - Improved safety planning and awareness
  - Improved up front planning
  - Improved overall project predictability
  - Improved housekeeping
  - Reduced cost
  - Better progress tracking
  - Improved foreman performance
  - Better craft retention due to improved moral
Advantages of Advanced Work Packaging

- **Eichleay EPCM View**
  - Construction driven projects
  - Easy incorporation of constructability early on
  - Improved construction risk analysis and mitigation
  - Improved objective construction progress assessment during construction
  - Just-in-time engineering and procurement to support fast track construction
Construction Work Package Scoping
Rule of Work Packaging

- Work packaging is geographical area and boundary specific
- CWA / CWP structure developed prior to engineering
- CWA or CWP boundaries will not cross into other CWA’s or CWP’s
- Work Packages will follow same WBS as CPM Schedule
- Major discipline specific work packages (and minor discipline work packages) can be combined to make subcontract packages
Construction Work Package Content

- Safety/work permitting information and requirements
- Quality information and requirements
- Applicable drawings, specifications & standards
- Material /equipment Information and vendor data
- Schedule
- Scaffold plan
- Termination /turn-over and completion information
## Construction Work Package Content

### Contents Sheet

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Barriers and Challenges to Advanced Work Packaging

- Engineering driven projects
- Project managers buy in on the value
- Client buy in on the value
- No budget
- No schedule
- Late construction input
- No internal construction resources
Successful Implementation

- Recognition of value to your project
- Team or internal buy in
- Selecting appropriate work process for your project
- Consider outside recourse for development and implementation
- Measure outcomes to confirm value is added