



Construction Work Packaging

Best Practice
A Consensus...





CWP Agenda

- Introduction
- CWP in the Literature
- Definitions
- EWP/CWP/IWP Flow Chart
- CWP Template
- Report Summary



Introduction

The subcommittee's strategy for determining if a CWP can be called a best practice included:

- research into the origins of the CWP,
- discussion around the need for and characteristics of the CWP,
- the development of a CWP flow chart,
- a CWP template,
- a formal report,
- and a presentation of the CWP findings and conclusions to the WFP committee for discussion and consensus.



CWP Literature Summary

- The literature on CWPs was prevalent in the 70's and 80's, specifically CII developed an "information" publication on Work Packaging in 1988
- During the 90's work packaging software was developed
- Productivity studies in the late 90's and early 2000 site difficulties in areas governed by CWPs
- In 2006 a paper was written specifically around developing effective CWPs in the Oil & Gas Industry as a means of improving productivity



CWP Literature

- CWPs according to CII are a staged process, updated as information becomes available at different schedule levels, this is confirmed by a recent paper called “Effective Construction Work Packages”
- The CII defined CWP is continually refined into Crew Work Packages or what we call IWPs



CWP Literature

- “The CWP provides integration between estimating, field engineering, safety, project controls, and materials management. This process does not eliminate the need for effective WorkFace Planning, but rather forms an integral part.” [6]
- “The CWP development process was developed as a result of root cause analysis, lessons learned and the need to take a more proactive approach to project execution.” [6]



Proposed COAA CWP Definition

- Construction Work Package (CWP) - A construction work package is an executable construction deliverable that defines in detail a specific scope of work and should include a budget and schedule that can be compared with actual performance. The scope of work is such that it does not overlap another CWP and can be used as a scoping document for Requests for Proposal and Contracts.



Proposed COAA EWP Definition

- Engineering Work Package (EWP) - An engineering work package is an engineering deliverable that is used to develop CWPs and that defines a scope of work to support construction in the form of drawings, procurement deliverables, specifications and vendor support and that is released on an agreed upon sequence consistent with the CWP schedule. The scope of work is typically by discipline by area.



Proposed COAA IWP Definition

- Installation Work Package (IWP) - A Installation Work Package is a detailed execution plan that ensures all elements necessary to complete the scope of the IWP are organized and delivered before work is started to enable craft persons to perform quality work in a safe, effective and efficient manner. The scope of work associated with the IWP should be small enough that it could be completed by a single foremen team in a one or two week time frame.



CWP Flow Chart and Template

- The “how” of execution is addressed in the CWP flow chart
- [Click here for Flow Chart](#)
- A CWP template was developed in order to harness consistency in the construction industry with respect to CWPs.
- [Click here for Template](#)



Report Summary

- An assumption was made during the development of the COAA WFP model that the term CWP was known and accepted in industry. As WFP initiatives gained steam, reports by COAA members revealed confusion around the term CWP. A subcommittee was formed to define the CWP and to determine if CWPs can be considered a best practice in relation to WFP and the development of IWPs.



Report Summary

- The literature review made it clear that work packaging is not a new concept. Construction work packages on the other hand have developed in an environment where there are many different types of construction that have different needs, different systems, not to mention the different types of organizations (E, EP, EPC EPCM, C). It is no surprise then that construction work packages do not look the same, have the same name or have all the same attributes.



Report Summary

- A CWP is a **construction deliverable** that defines a specific scope of work and should include a budget and schedule that can be compared with actual performance. The boundaries of the CWPs, the complete list and the priorities must be developed by Construction during the front end of the Engineering phase, in conjunction with the path of Construction so the sequence of the Engineering and Procurement deliverables can support Construction requirements.
- CWPs are rolled out in a staged process, updated as information becomes available at different schedule levels and are continually refined into IWPs.



Conclusions

- CWPs are a construction deliverable developed by the construction contractor performing the work at site. It is the preplanning of construction related essentials at the workface that requires early attention and consideration.
- The CWP is a prerequisite of the IWP, it is not the detailed plans it is the high level forethought that can be reasonably captured by senior level construction.



Conclusions

- Today COAA endorses WorkFace Planning as a best practice; CWPs are a prerequisite to this best practice. Consistent use of the CWP packaging process will help projects to align construction plans with engineering and procurement and as a consequence improve the overall project execution and management.



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Questions

