RT-272 Advanced Work Packaging: Toolkit for Implementation Success

Contracts and Tools

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Next Slide – Agenda
Good Afternoon – during this session we hope to be able to guide you through what RT 272 developed that will assist your project with:

- What should your contract T & C’s include
- How do you Prequalify your contractors for AWP/WFP
- How do you do an internal review of your AWP/WFP
- How to audit your project
- Other Tools

Although we have left time at the end for Q & A, we highly recommend that if you have questions during the presentation, that perhaps is the best time to ask.

**Next Slide – Surfboard Slide**
AWP is the process of packaging work over the life cycle of the project whereas WFP is packaging work in the construction phase and should include commissioning and start up.

Note the overlap of the two areas. We propose this as a recommended practice – to ensure construction expertise is included in the front end process.

The work packaging strategy had to be formulated early in the front end, to support the construction execution strategy.

To successfully implement this strategy, it is important that each contract be suitable for the maturity of their AWP/WFP capabilities. This requires a prequalification process of your:

- Engineering Contractor(s)
- Construction Contractor(s), and
- Vendors

**Next Slide – Contractual Guidance**
We do not cover specific language for your contract, but instead have considered what you should ensure that your contract T & C’s has considered to implement a successful AWP/WFP Strategy.

We have also included a section of what deliverables will be different if your project is implementing this strategy and who should be responsible for producing them. This will be somewhat dependent on how you structure your contract and we have focused on the types of contracts most relevant to our industry.

**Next Slide – Contracting Requirements & Deliverables**
The contracts section of our deliverable focused on two areas –

1. AWP considerations by contracting structure (2 FEED and 3 EPC) and compensation type (RC and LS);

2. Identification of responsibility for development of contractual deliverables by stage so that appropriate provisions can be input into the applicable contracts to ensure efficient AWP implementation; and

   -Deliverables and requirements taken from the AWP flowcharts and tools.

NOTE – we have provided an “easy read” of what each of the deliverables are and how they should be considered. As there are so many variables of size, complexity, length etc. of projects, our guidance is very general but is applicable to all projects.

Next slide – Project Structures
The Guide covers common contract structures and compensation bases used in industry with a focus on interface management, both internal and external, and guidance on contractual assignment of responsibility for appropriate input into the development of project deliverables that are AWP-specific as well as traditional deliverables that now have AWP components.

AWP implementation guidance is provided for lump sum and reimbursable cost compensation contracts. Reimbursable cost compensation enables greater Owner input and control over the contractors' activities, however Owner retains cost and schedule risk. Lump sum shifts performance risk to the contractor, with less Owner control (and hence detailed contractual requirements must be included up front), and prior experience with AWP becomes more important in bid slate selection. It is therefore recommended that contractors considered for lump sum contracts have a higher AWP maturity rating.

Depending on the scope and scale of a project, a project's contract work breakdown structure may contain one of these structures, multiples of these structures, or a mixture of these structures. Hybrid structures can be extrapolated from the basic structures provided in the guide.

• FEED by Owner is straightforward – no interfaces so all deliverables and plans produced by Owner. FEED by Contractor provides a split between Owner and Contractor.

• The EPC contract structure is commonly used on oil and gas projects. Larger projects may have several “vertical splits”, for example one or more EPC contracts for grassroots process units and one EPC contract for revamp, offsites, and utilities. AWP implementation focuses on management of internal interfaces within the EPC firm and ensuring that the contract has appropriate requirements to ensure the EPC is following AWP. External interfaces between the Owner and multiple EPC firms, if employed, must also be managed and the exchange of information and split of responsibility assigned through contractual requirements.

• The EP-C contract structure is commonly used on oil sands projects and large industrial or commercial projects. Contractual requirements are provided to ensure that construction input is provided early in project planning to the EP contractor, even though the actual construction contractor may not have been selected when the EP contract is awarded. The EP contract structure has a combination of internal and external interfaces that must be contractually addressed to ensure proper AWP implementation.

• The E-P-C contract structure is commonly used on projects with long schedule spans due to extensive regulatory approval processes or very large capital investment, like nuclear power projects. An Engineering contract is awarded and work completed before procurement and construction contracts are awarded, so contractual requirements and early procurement and construction services or consulting contracts must be let to ensure downstream input is incorporated into project planning to effectively implement AWP.

Next Slide – Tools and Templates
Each tool is an “easy to follow” checklist (questionnaire) that your project or organization can utilize preferably as a team exercise so that all members participate and understand where the potential gaps are or alternately use as a tool to establish how qualified your contractors are in their AWP/WFP implementation process.

QUESTION – how many here have use the COAA WFP Scorecard.

**Scorecard Summary.**

**Installation Work Package:** Score: _____/70 = ____%

**Planners:** Score: _____/25 = ____%

**CWP Release Plan and Approvals:** Score: _____/10 = ____%

**IWP Release Plan and Approvals:** Score: _____/15 = ____%

**Integration and Coordination of IWP:** Score: _____/30 = ____%

**Total** Score: _____/150 = ____%

**Next Slide – AWP/WFP Tools**
The actual chart in our deliverable is quite “busy” and not worth putting up on the screen but covers the items shown on the screen.

The chart lists contractual deliverables with AWP/WFP content & assigns responsibility for creating or providing input into those deliverables to each major stakeholder so that appropriate contractual requirements can be included in the respective stakeholder’s contract. Four of the most common contract structures have been included. All AWP/WFP deliverables specified in the Implementation Flowcharts are included in the chart.

Many existing deliverables have been modified to incorporate AWP/WFP content. For example, several AWP focused questions have been provided that may be added to a firm’s existing prequalification questionnaire. Deliverables that are specifically created to support AWP/WFP implementation, such as a Construction Work Package Plan, Engineering Work Package Plan, and AWP audit tool, are identified.

Next Slide - Prequalification
Prequalification

- Questions fundamental components of AWP
- Can be added to existing prequalification forms
- First step to gauge maturity and abilities

Would everyone please open the handout that each of you received when you came in to “Appendix B: Contractor Prequalification

It is a very easy read – and each question is very open ended. The checklist can easily be customized for your specific project.

Provides your contractor the opportunity to show you what they have developed in the way of tools, processes, procedures to support their implementation of AWP/WFP.

Each of their responses would provide you with an auditable trail to follow for you to determine their capability – and hence develop a risk profile to ensure you have the right contract structure to support their maturity of implementation.

Next Slide - Summary of Contractor Prequalification
We have a series of questions using the “clicker technology” to try to determine “Are we there yet” as far as Prequalification of our Contractors today.

Next Slide – Question 1
What we are trying to determine is whether the industry is presently specifically asking questions related to each contractor’s ability to support an AWP/WFP implementation strategy.

For this and all following questions – if this is not applicable to your organization, don’t vote.
CONTRACTOR PREQUALIFICATION

Can you see the value of using this type of AWP prequalification to audit contractors?

A. Yes
B. No
C. Don’t use a specific AWP/AWP prequalification
D. Don’t know
Will everyone open “Appendix A” in the handout.

It is a 2 sided colour page that is a very useful tool to be used internally for a project team or organization to discuss how they feel they are progressing in their maturity of an AWP/WFP implementation.

We will be going thru this in a fair amount of detail, as we are trying to ascertain where the industry feels they are today. “ARE WE THERE YET?”

We will be using the clicker technology again – and please don’t respond if it doesn’t apply to your organization.
Let's look at the first page of the Maturity Model and look at “View of AWP”
Look across at the three descriptions and pick the one that best fits where your project or organization is NOW. Not where you are heading to, but where you are now.
MATURITY ASSESSMENT MODEL

Where do you see your organization / project?

Project AWP Strategy?

A. Level 1
B. Level 2
C. Level 3
D. Don’t know

Now let's do the same thing with Project AWP Strategy.
How far are your processes and deliverables developed NOW.

MATURITY ASSESSMENT MODEL

Where do you see your organization / project?

Work Processes & Deliverables?
A. Level 1
B. Level 2
C. Level 3
D. Don’t know
Is the culture of your organization or project a problem. Have you established metrics. Are you still very silo oriented? Do you have any metrics that you are using on a broad term?

<table>
<thead>
<tr>
<th>Organization Culture &amp; Performance Metrics?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Level 1</td>
</tr>
<tr>
<td>B. Level 2</td>
</tr>
<tr>
<td>C. Level 3</td>
</tr>
<tr>
<td>D. Don’t know</td>
</tr>
</tbody>
</table>
We believe that training is a very essential portion of an AWP/WFP implementation. Have you determined the roles and responsibilities for all positions across the project, for each stakeholder with expectations of what capabilities are required and what training is needed to support the implementation?

MATURITY ASSESSMENT MODEL

Where do you see your organization / project?

Training and Support?
A. Level 1
B. Level 2
C. Level 3
D. Don’t know
MATURITY ASSESSMENT MODEL

Where do you see your organization / project?

Overall?
A. Level 1
B. Level 2
C. Level 3
D. Don’t know

If you were to consider all 5 items, how would you describe your organization or project?
Now – let’s flip over the page and look at the maturity model somewhat differently.

Take a moment to look at the 3 levels. Are you stuck at the first level, or are you starting to make some progress towards AWP Effectiveness. As long as you are making some progress on some of the issues and not stuck entirely at Level 1 – consider yourself at Level 2. You would only be at Level 3 if AWP/WFP if your organization or project has fully integrated this entirely into how you do your business and others are looking at you as an industry leader.
DISCUSSION OF RESULTS OF THE MATURITY MODEL AND RESPONSES

Could this be used to internally review your maturity with your team?
Do you need facilitation?
Could this be used for a Gap Analysis to allow you to see where you need some work. Prioritize and work on items. You can’t fix it all at once.

Next Slide – Project Definition Assessment Tool
Now lets look at Appendix “C: in your handout.

This has similar look to the COAA WFP Scorecard.

**Next Slide – TOC of Project Definition Assessment Tool**
As you look through Appendix C – you will see the sections that we focused on which although some of them are good project best practices, but are very specific for successful implementation of AWP/WFP Strategy.

It is up to each project to determine if they are ready for a proper implementation. This would provide a “score” and a gap analysis. It is up to each project to determine what a passing score would be – but we would expect that a score of 4 in each question would be a passing score. This would be an 80% overall. If you are under 4, you need more work. If you are over 4, you more than meet the expectations of a successful implementation.

Next Slide – Question related to this Tool being used NOW?
PROJECT DEFINITION ASSESSMENT TOOL

My organization / project does a proper AWP “readiness” assessment prior to implementing an AWP strategy.

A. Yes
B. Perhaps
C. No
D. Don’t know
Now let’s look at Appendix “D”

As opposed to the previous tool, this specifically is structured to allow a project audit to be done during each of the phases of a project to determine how you are doing with your implementation of major factors. This could be done by a 3rd party, or be a facilitated team discussion. Up to the project to determine.

It will let you know if you are ready to progress to the next phase with a fairly good sense that your present phase is complete.

The questions are more specific than Appendix C

Next Slide – questions related to Appendix D
AWP Audit Tool

My organization / project conducts audits specifically related to AWP / WFP.

A. Yes
B. Not to the detail as proposed by COAA/CII
C. No
D. Don’t know
AWP Audit Tool

When does your organization / project conduct audits of AWP / WFP?

A. Only during Construction Execution Phase
B. During Construction and Detailed Engineering
C. During all phases
D. Don’t conduct audits related to AWP / EWP
E. Don’t know
We won’t go thru these – but wanted to let you specifically know that these documents are well developed with very clear Tables of Contents and narrative as to what should be included in each section.

These are part of Volume 2 of IR272. Total of 240 pages

Next Slide – Wrap Up and Q & A
PRESENTATION WRAP UP

Q & A