ADVANCED WORK PACKAGING SCORECARD



Process: This review tool has been developed to support the evaluation of project planning and execution as it pertains to the fundementals of Advanced Work Packaging.

Ideally the process is applied and scored at three different stages of project development:

Stage 1: Sections 1,2 & 3, will be applied in 'detailed design', before the 2nd model review.

Stage 2: Sections 4,5 & 6, will be applied as the project is entering mechanical construction.

Stage 3: The entire scorecard will be applied as the project enters turnover. (75% Complete)

Objective: The process of capturing a project's alignment with Advanced Work Packaging principles will establish a % of compliance that can then be weighed against the project's overall performance. When added to the databank of other projects characteristics this correlation is expected to quantify the impact of AWP.

The review also generates a direct benfit to the project through the identification of gaps that are opportunities for process improvement, which might otherwise not have been recognized.

Preparation:

- The Reviewer must have an overall understanding of Advanced Work Packaging and the contribution that each section of the scorecard contributes to the whole process.
- The Reviewer will develop a plan for a series of 'key personnel' interviews with support from the Project Manager.
- The interviews will address each section of the scorecard and be restricted to one hour for each interview.
- The Project Manager will ensure that each Stakeholder group provides full cooperation by making their employees available for interviews, with supporting documentation.
- Ideally, the Project Manager will forward the interview schedule to the interviewees with the scorecard attached at least two days prior to the interviews.

Application:

- The Reviewer will establish the intent of the scorecard with each interviewee as a process that will correlate an alignment with the fundamentals of Advanced Work Packaging
- The Reviewer will then ask the interviewee to describe their current planning and execution processes relative to the questions on the scorecard. The Reviewer may ask for copies of supporting documentation.
- Each interviewee will also be asked for their optimization suggestions.
- The Reviewer will record actions or efforts that are noteworthy.

Summary: The Reviewer will record highlights from the interviews and suggestions from the interviewees. When the scorecard is complete, the Reviewer will summarize the report to formulate an overall score as a % of the attainable. Then add the suggestions proposed by the interviewees and a list of recommendations that would align the existing processes with the requirements of Advanced Work Packaging.

| Project: | SCORE | | | | Date: | |
|----------|----------------------|----------|---------|-------|-------------------|----------|
| Question | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Comments |
| | 1 | 2 | 3 | 4 | 5 | |

1.0 Advanced Work Packaging: Engineering and Procurement

| 1.1 | The project has appointed a dedicated AWP Champion | | | |
|------|--|--|--|--|
| 1.2 | The project has a procedure that prescribes the AWP requirements for all stakeholders | | | |
| 1.3 | Requests for Proposals and contracts include the requirement for AWP. | | | |
| 1.4 | The project has identified Construction Work Packages from Construction Assemblies on the Plot Plan | | | |
| 1.5 | The project has used construction expertise to develop a Path of Construction based on CWPs | | | |
| 1.5 | The PoC has been vetted by Engineering and Procurment to create EWPs and PWPs that match CWPs | | | |
| 1.7 | The WBS is structured to support the progressive elaboration of work through CAs, CWPs, EWPs, PWPs and IWPs. | | | |
| 1.8 | The naming convention for drawings is based on the WBS and includes the CWP number | | | |
| 1.9 | The EWP release plan supports the PoC | | | |
| 1.10 | The PWP fabrication/module plan supports the PoC | | | |
| | Section 1.0 Total (out of 50) | | | |

| Project: | | S | COF | RE | Date: | |
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| Question | Strongly Disagree | | Neutral | Agree | Strongly Agree | Comments |
| | 1 | 2 | 3 | 4 | 5 | |

2.0 Information Management

| 2.1 | The project has appointed a dedicated Information Manager | | | |
|------|--|--|-------|--|
| 2.2 | The project has a procedure that prescribes the IM requirements for all stakeholders | | | |
| 2.3 | The Project has specified the 3D model attributes required to support AWP | | | |
| 2.4 | The project has developed a standard nomenclature based upon the WBS | | | |
| 2.5 | The project has implemented WFP software for all stakeholders | | | |
| 2.6 | The project has established a common project platform (Cloud) that facilitates access for all project stakeholders | | | |
| 2.7 | Document Control is hosted in a cloud or common area that provides electronic access for all stakeholders | | | |
| 2.8 | Material Management is hosted in a cloud or common site that provides electronic access for all stakeholders | | | |
| 2.9 | The project has applied RFID or Barcodes for material tracking | | | |
| 2.10 | Contracts specify electronic fabrication data as a weekly deliverable | | | |
| | Section 2.0 Total (out of 50) | | | |
| | | | • | |

| Project: | | COF | RE | Date: | |
|----------|----------------------------------|---------|-------|-------------------|----------|
| Question | Strongly Disagree Disagree | Neutral | Agree | Strongly Agree | Comments |
| | 1 2 | 3 | 4 | 5 | |

3.0 Project Controls

| 3.1 | The Level 3 project schedule demonstrates the PoC through EWPs, PWPs and CWPs. | | | |
|------|---|--|--|--|
| 3.2 | The rolling wave level 5 schedule is developed by the construction contractor from IWPs | | | |
| 3.3 | Project Controls have established standard installation rates that are used to generate the estimate and populate the WFP software. | | | |
| 3.4 | Rules of credit have been established for the tracking of Engineering progress | | | |
| 3.5 | Rules of credit for construction have been established and agreed, with the Construction Contractor | | | |
| 3.6 | Cost codes have been developed based on the WBS to identify work packages and to be used on time sheets | | | |
| 3.7 | Delay codes are used by the foremen on their timesheets to identify plan deviations | | | |
| 3.8 | The field supervisors develop and maintain a 'three week look ahead' of IWPs | | | |
| 3.9 | The project has developed a War Room for project meetings and reporting | | | |
| 3.10 | The Project Management Team have established a standard format for weekly stewardship reports from the contractors. | | | |
| | Section 3.0 Total (out of 50) | | | |

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4.0 Workface Planners

| The Construction Contractors have appointed dedicated Workface Planners Workface Planners have supervision experience in field construction. Workface Planners utilize WFP software to develop IWPs Workface Planners report directly to their Construction Superintendent onsite. The ratio of Workface Planners to direct craft labour is 1 - 50 Scaffolds are ordered and walked down by the Workface Planners The removal of constraints is managed by the Workface Planners The removal of constraints is managed by the Workface Planners Workface Planners a desk, phone, computer, internet access and access to a site radio. Workface Planners spend at least one hour in the field everyday. Workface Planners have attended formal training for Workface Planning. Section 4.0 Total (out of 50) | | | | | | |
|---|------|--------------------------------------|--|--|--|--|
| 4.2 experience in field construction. 4.3 Workface Planners utilize WFP software to develop IWPs 4.4 Workface Planners report directly to their Construction Superintendent onsite. 4.5 The ratio of Workface Planners to direct craft labour is 1 - 50 4.6 Scaffolds are ordered and walked down by the Workface Planners 4.7 The removal of constraints is managed by the Workface Planners 4.8 Each Workface Planner has a desk, phone, computer, internet access and access to a site radio. 4.9 Workface Planners spend at least one hour in the field everyday. Workface Planners have attended formal training for Workface Planning. | 4.1 | | | | | |
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| 4.4 Construction Superintendent onsite. The ratio of Workface Planners to direct craft labour is 1 - 50 Scaffolds are ordered and walked down by the Workface Planners The removal of constraints is managed by the Workface Planners Each Workface Planner has a desk, phone, computer, internet access and access to a site radio. Workface Planners spend at least one hour in the field everyday. Workface Planners have attended formal training for Workface Planning. | 4.3 | | | | | |
| 4.5 craft labour is 1 - 50 4.6 Scaffolds are ordered and walked down by the Workface Planners The removal of constraints is managed by the Workface Planners Each Workface Planner has a desk, phone, computer, internet access and access to a site radio. Workface Planners spend at least one hour in the field everyday. Workface Planners have attended formal training for Workface Planning. | 4.4 | | | | | |
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| 4.10 training for Workface Planning. | 4.9 | | | | | |
| Section 4.0 Total (out of 50) | 4.10 | | | | | |
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| Project: | | SCORE | | | | Date: |
|----------|----------------------|----------|---------|-------|-------------------|----------|
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| | 1 | 2 | 3 | 4 | 5 | |

5.0 Installation Work Packages

| IWPs represent 1 rotation of work for 1 foreman and crew. (500–1000hrs) | | | | | | |
|---|---|---|---|---|---|---|
| IWPs are free of constraints immediately prior to release. | | | | | | |
| All IWPs identify all relevant special conditions. | | | | | | |
| Every IWP is reviewed and signed off by the superintendent prior to release. | | | | | | |
| Every IWP is reviewed and signed off by the safety representative prior to release. | | | | | | |
| Every IWP is reviewed and signed off by the QA representative prior to release. | | | | | | |
| Every IWP contains a complete Bill of Materials | | | | | | |
| Every IWP is checked for latest revision drawings immediately prior to release. | | | | | | |
| Every IWP appears in the project schedule as a level 5 activity for at least 2 rotations prior to release. | | | | | | |
| IWPs that are in the three week look ahead are stored on the project cloud as PDFs for reference by the project stakeholders. | | | | | | |
| Section 5.0 Total (out of 50) | | | | | | |
| | IWPs are free of constraints immediately prior to release. All IWPs identify all relevant special conditions. Every IWP is reviewed and signed off by the superintendent prior to release. Every IWP is reviewed and signed off by the safety representative prior to release. Every IWP is reviewed and signed off by the QA representative prior to release. Every IWP contains a complete Bill of Materials Every IWP is checked for latest revision drawings immediately prior to release. Every IWP appears in the project schedule as a level 5 activity for at least 2 rotations prior to release. IWPs that are in the three week look ahead are stored on the project cloud as PDFs for reference by the project stakeholders. | IWPs are free of constraints immediately prior to release. All IWPs identify all relevant special conditions. Every IWP is reviewed and signed off by the superintendent prior to release. Every IWP is reviewed and signed off by the safety representative prior to release. Every IWP is reviewed and signed off by the QA representative prior to release. Every IWP contains a complete Bill of Materials Every IWP contains a complete Bill of Materials Every IWP appears in the project schedule as a level 5 activity for at least 2 rotations prior to release. IWPs that are in the three week look ahead are stored on the project cloud as PDFs for reference by the project stakeholders. | IWPs are free of constraints immediately prior to release. All IWPs identify all relevant special conditions. Every IWP is reviewed and signed off by the superintendent prior to release. Every IWP is reviewed and signed off by the safety representative prior to release. Every IWP is reviewed and signed off by the QA representative prior to release. Every IWP contains a complete Bill of Materials Every IWP is checked for latest revision drawings immediately prior to release. Every IWP appears in the project schedule as a level 5 activity for at least 2 rotations prior to release. IWPs that are in the three week look ahead are stored on the project cloud as PDFs for reference by the project stakeholders. | IWPs are free of constraints immediately prior to release. All IWPs identify all relevant special conditions. Every IWP is reviewed and signed off by the superintendent prior to release. Every IWP is reviewed and signed off by the safety representative prior to release. Every IWP is reviewed and signed off by the QA representative prior to release. Every IWP contains a complete Bill of Materials Every IWP contains a complete Bill of Materials Every IWP appears in the project schedule as a level 5 activity for at least 2 rotations prior to release. IWPs that are in the three week look ahead are stored on the project cloud as PDFs for reference by the project stakeholders. | IWPs are free of constraints immediately prior to release. All IWPs identify all relevant special conditions. Every IWP is reviewed and signed off by the superintendent prior to release. Every IWP is reviewed and signed off by the safety representative prior to release. Every IWP is reviewed and signed off by the QA representative prior to release. Every IWP contains a complete Bill of Materials Every IWP is checked for latest revision drawings immediately prior to release. Every IWP appears in the project schedule as a level 5 activity for at least 2 rotations prior to release. IWPs that are in the three week look ahead are stored on the project cloud as PDFs for reference by the project stakeholders. | IWPs are free of constraints immediately prior to release. All IWPs identify all relevant special conditions. Every IWP is reviewed and signed off by the superintendent prior to release. Every IWP is reviewed and signed off by the safety representative prior to release. Every IWP is reviewed and signed off by the QA representative prior to release. Every IWP contains a complete Bill of Materials Every IWP contains a complete Bill of Materials Every IWP appears in the project schedule as a level 5 activity for at least 2 rotations prior to release. IWPs that are in the three week look ahead are stored on the project cloud as PDFs for reference by the project stakeholders. |

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| Question | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Comments |
| | 1 | 2 | 3 | 4 | 5 | |

6.0 Field Execution

| All direct work is executed from IWPs Workface Planners attend daily coordination meeting with all of the Superintendents. Responsibility for material coordination of IWPs has been assigned to dedicated coordinator. Responsibility for construction equipment assignment has been assigned to a dedicated coordinator. Responsibility for scaffold erection has been assigned to a dedicated coordinator. IWP progress is entered into the WFP software and rolled up into the project schedule. IWPs are returned to the Workface Planners upon their scheduled completion date and are not left in the field waiting for scope completion. The Foremen apply their current IWP number to their timesheets and work permits. A backlog of constraint free IWPs is maintained. Adequate management audits are undertaken to ensure alignment with Workface Planning fundamentals. | | ieiu Execution | | | | |
|--|------|---|--|--|--|--|
| 6.2 coordination meeting with all of the Superintendents. 6.3 Responsibility for material coordination of IWPs has been assigned to dedicated coordinator. 6.4 Responsibility for construction equipment assignment has been assigned to a dedicated coordinator. 6.5 Responsibility for scaffold erection has been assigned to a dedicated coordinator. 6.6 IWP progress is entered into the WFP software and rolled up into the project schedule. 6.7 Planners upon their scheduled completion date and are not left in the field waiting for scope completion. 7. The Foremen apply their current IWP number to their timesheets and work permits. 6.9 A backlog of constraint free IWPs is maintained. 6.10 Adequate management audits are undertaken to ensure alignment with Workface Planning fundamentals. | 6.1 | All direct work is executed from IWPs | | | | |
| 6.3 IWPs has been assigned to dedicated coordinator. Responsibility for construction equipment assignment has been assigned to a dedicated coordinator. Responsibility for scaffold erection has been assigned to a dedicated coordinator. IWP progress is entered into the WFP software and rolled up into the project schedule. IWPs are returned to the Workface Planners upon their scheduled completion date and are not left in the field waiting for scope completion. The Foremen apply their current IWP number to their timesheets and work permits. A backlog of constraint free IWPs is maintained. Adequate management audits are undertaken to ensure alignment with Workface Planning fundamentals. | 6.2 | coordination meeting with all of the | | | | |
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| 6.9 maintained. Adequate management audits are undertaken to ensure alignment with Workface Planning fundamentals. | 6.8 | number to their timesheets and work | | | | |
| 6.10 undertaken to ensure alignment with Workface Planning fundamentals. | 6.9 | | | | | |
| | 6.10 | undertaken to ensure alignment with | | | | |
| Section 6.0 Total (out of 50) | | Section 6.0 Total (out of 50) | | | | |

| Project: | SCORE | | | RE | Date: | |
|----------|----------------------|---|---------|-------|-------------------|----------|
| Question | Strongly Disagree | g | Neutral | Agree | Strongly Agree | Comments |
| | 1 | 2 | 3 | 4 | 5 | |

Summary

| | | 1 | 2 | 3 | 4 | 5 | Total score/ 50 |
|---|-----------------------------------|---|---|---|---|---|-----------------|
| 1 | AWP - Engineering and Procurement | | | | | | |
| 2 | Information Management | | | | | | |
| 3 | Project Controls | | | | | | |
| 4 | Workface Planners | | | | | | |
| 5 | Installation Work Packages | | | | | | |
| 6 | Field Execution | | | | | | |
| | Totals | | | | | | |