ADVANCED WORK PACKAGING & WORKFACE PLANNING SCORECARD

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| **Project:** | | **SCORE** | | | | | **Date:** |
|  | **Description** | **Strongly Disagree** | **Disagree** | **Neutral** | **Agree** | **Strongly Agree** | **Comments / Observations** |
|  |  | **1** | **2** | **3** | **4** | **5** |  |
| **1.0** | **Project Definition & Planning** |  | | | | | |
| 1.1 | Early Scope definition documents include construction sequencing, phases, and limits to support packaging of design and construction. |  |  |  |  |  |  |
| 1.2 | Early allowance is made to develop high level divisions of responsibility to support contracting plan and procurement. |  |  |  |  |  |  |
| 1.3 | A detailed project execution plan is developed at the earliest stages of planning and includes basic construction sequencing planning. |  |  |  |  |  |  |

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| 1.4 | Early decisions are made relevant to the level of detail required in engineering deliverables to support down-stream work packaging.  **Clarification: Steel design & connections, min sized piping to be incorporated in isometrics, design detail for physical raceways & conduit.** | | | | |  |  |  |  |  |  |
| 1.5 | A responsibility matrix has been developed that tracks the work packaging process through the phases of planning, design, procurement and execution. | | | | |  |  |  |  |  |  |
| 1.6 | Construction sequence engineering plan. | is | integrated | into | the |  |  |  |  |  |  |
| 1.7 | Physical site constraints, procurement constraints, environmental constraints, permitting constraints, etc., are incorporated into the CWP and EWP development. | | | | |  |  |  |  |  |  |
| 1.8 | An ongoing feedback loop exists between the construction planning and engineering planning so that both are proceeding in alignment with work packaging planning. | | | | |  |  |  |  |  |  |
| 1.9 | A level two schedule has been developed that reflects the construction execution plan, engineering plan, established boundaries, and constraints. | | | | |  |  |  |  |  |  |
|  | **Section 1.0 Total** (out of 45) | | | | |  |  |  |  |  |  |

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| **2.0** | **Installation Work Package** | | | | |  | | | | | |
| 2.1 | Work is always Packages (IWP). | packaged | in | Installation | Work |  |  |  |  |  |  |
| 2.2 | IWPs always identify the work to be completed by the team c/w technical data, drawings, and specifications. | | | | |  |  |  |  |  |  |
| 2.3 | All IWPs identify the general sequence of the work and the labor necessary to complete the work.  **Clarification: The planned job task steps and the actual crew allocation for planned activities is a foreman’s responsibility.** | | | | |  |  |  |  |  |  |
| 2.4 | All IWPs identify all required material necessary to complete the work.  **Clarification: The Bill of Material is segregated by IWP.** | | | | |  |  |  |  |  |  |
| 2.5 | Work face Planners start creating virtual IWPs as soon as the level three schedule has been issued. | | | | |  |  |  |  |  |  |
| 2.6 | All virtually created IWPs are backed up in a safe location. | | | | |  |  |  |  |  |  |
| 2.7 | IWPs are generally retained in virtual format and are not issued in hard copy format until 1 to 2 weeks prior to execution and/or until known constraints have been met. | | | | |  |  |  |  |  |  |
| 2.8 | IWPs are not being issued too far in advance, which would cause un-issued packages to build up. | | | | |  |  |  |  |  |  |
| 2.9 | The IWP process is well documented in a written procedure with input from Planning and Document Control. | | | | |  |  |  |  |  |  |

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| 2.10 | IWP issuance and status is controlled through the formal use of transmittals. |  |  |  |  |  |  |
| 2.11 | IWPs released by Document Control are complete and bound, i.e., not partial and no loose documents. |  |  |  |  |  |  |
| 2.12 | All IWPs identify all required specialty tools, scaffolding, and construction equipment necessary to complete the work. |  |  |  |  |  |  |
| 2.13 | All IWPs identify all relevant special conditions.  **Clarification: Examples of special conditions include: Elevated, Confined Space.** |  |  |  |  |  |  |
| 2.14 | All IWPs include or reference all quality control and NDE requirements. |  |  |  |  |  |  |
| 2.15 | Appropriate stakeholders have signed off on issued IWPs that constraints have been met. |  |  |  |  |  |  |
| 2.16 | IWPs include or reference all major execution risk response plans.  **Clarification: The foreman is responsible**  **at the beginning of each shift to prepare a detailed Field Level Risk or Safety Task Analysis, specific to the site conditions** |  |  |  |  |  |  |
| 2.17 | All IWPs identify their interdependencies.  **Clarification: Interdependencies refer to other IWPs that could impact the completion of this IWP; these could be from any discipline.** |  |  |  |  |  |  |
| 2.18 | Issued IWP progress in the field is monitored on a daily basis by the planner. |  |  |  |  |  |  |

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| 2.19 | assigned to key individuals for the correct close-out of an issued IWP. |  |  |  |  |  |  |
| 2.20 | Requirements for verification of as built quantities, man hours and redlines are communicated effectively for proper IWP close-out. |  |  |  |  |  |  |
| 2.20 | Periodic audits are conducted to ensure the IWP close out process is working and is accurately collecting and validating planned versus actual data. |  |  |  |  |  |  |
| 2.21 | Lessons learned are being captured in the IWP close-out process. |  |  |  |  |  |  |
| 2.22 | There are adequate controls to ensure all resources required to complete the IWP are identified and are available prior to construction mobilization, and in place before IWP release.  **Clarification: Release refers to issuance by parties completing the IWP. Parties could include engineering, procurement, construction, or commissioning.** |  |  |  |  |  |  |
| 2.23 | Dedicated Planner completes IWP and signs-off as ready before IWP is released to crew.  **Clarification: An IWP Checklist is discipline specific (civil, structural, piping, electrical, etc.) and itemizes all the information and documentation that should be part of the completed IWP.** |  |  |  |  |  |  |
| 2.24 | The General Area Superintendent has a sufficient backlog of IWPs that can be issued to replace a scheduled IWP delayed due to unforeseen circumstances. |  |  |  |  |  |  |

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| 2.25 | The requirement for Work Face Planning, including the expectations of contractor/sub- contractor/planner and owner role and responsibilities, is written into all contracts and/or sub-contracts. |  |  |  |  |  |  |
|  | **Section 2.0 Total** (out of 125) |  |  |  |  |  |  |

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| **3.0** | **Planners** |  | | | | | |
| 3.1 | Dedicated planner(s) develop the Field IWP.  **Clarification: A dedicated planner spends virtually all of their time developing IWPs.** |  |  |  |  |  |  |
| 3.2 | All dedicated planners have the experience as described in the job description developed during the FEED phase. |  |  |  |  |  |  |
| 3.3 | Dedicated planners are on the distribution list for all project documentation or have access to the latest information required for preparation of IWPs. |  |  |  |  |  |  |
| 3.4 | Work processes have been established to ensure planners have access to the latest information. |  |  |  |  |  |  |
| 3.5 | The information provided to the dedicated planners is clear and complete. |  |  |  |  |  |  |
|  | **Section 3.0 Total** (out of 25) |  |  |  |  |  |  |

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| **4.0** | **EWP/CWP Release Plan and Approvals** |  | | | | | |
| 4.1 | A schedule is developed, prior to the start of detailed engineering, for all Construction and Engineering Work Packages (CWP/EWP), required to maintain the agreed path of construction and the Engineering and Procurement sequence to support the construction plan.  **Clarification: The work breakdown structure for a specific design area consists of a series of EWPs/CWPs by discipline and sub-area. The schedule for release of EWPs/CWPs is determined by the priority of the process systems and the required path of construction.** |  |  |  |  |  |  |
| 4.2 | Experienced construction personnel approve the schedule, scope, sequence, and timing of EWPs/CWPs. |  |  |  |  |  |  |
|  | **Section 4.0 Total** (out of 10) |  |  |  |  |  |  |

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| **5.0** | **IWP Release Plan and Approvals** |  | | | | | |
| 5.1 | A schedule and release plan is developed for all Field IWPs, based on the CWP. |  |  |  |  |  |  |
| 5.2 | General foremen, planners, and construction superintendents review and agree to the schedule, scope, sequence, and timing of the IWP. |  |  |  |  |  |  |
| 5.3 | Final approval by Construction superintendent (or their designate) of the schedule, scope, sequence, and timing of the IWP. |  |  |  |  |  |  |
|  | **Section 5.0 Total** (out of 15) |  |  |  |  |  |  |

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| **6.0** | **Integration and Coordination of IWP** |  | | | | | |
| 6.1 | Responsibility for integration planning has been determined to resolve anticipated conflicts proactively between IWPs. |  |  |  |  |  |  |
| 6.2 | Responsibility for material coordination of IWPs has been assigned to dedicated Coordinator(s). |  |  |  |  |  |  |
| 6.3 | Responsibility for specialty tools and construction equipment coordination of IWP has been assigned to dedicated Coordinator(s). |  |  |  |  |  |  |
| 6.4 | The tracking levels and coordination procedures are established for the planners, general foremen, construction superintendent, and resource coordinators to drive the performance during the construction phase.  **Clarification: Consider the use of a “war room”, a space dedicated to the planning group that allows the planners, coordinators, construction supervisors, and senior construction management to graphically display the schedule for updates to progress status and make timely decisions to resolve conflicts.** |  |  |  |  |  |  |
| 6.5 | IWP Status (progress and cost) is tracked in a visible way, including completion of IWP against targets.  **Clarification: The project control tools are capable of providing the information on cost and schedule for the agreed IWP status tracking level.** |  |  |  |  |  |  |

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| 6.6 | Adequate management audits undertaken to ensure that the above rules are being followed. |  |  |  |  |  |  |
|  | **Section 6.0 Total** (out of 30) |  |  |  |  |  |  |