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Construction Industry
BEST PRACTICES

What is a Best Practice? It's a process or method that, when executed effectively, leads to enhanced project performance. To qualify, a practice must be sufficiently proven through extensive industry use and validation. Best Practices are validated by quantifiable results from widely accepted use and construction industry research.

The Construction Industry Institute (CII) was formed over 20 years ago to improve cost effectiveness of the nation's largest industry. Drawing from members nationally who represent a cross section of owners and contractors, it combines industry based experience with academic based research. Through that process, CII has identified 17 Best Practices that produce quantifiable results. What kind of results? Compared to standardized practice, use of the Best Practices:

- ✦ Reduce project cost growth
- ✦ Improve schedule reductions
- ✦ Improve safety with reduced lost work day incidence rates.

The research has validated them with the numbers to prove it! The 17 Best Practices that have been validated are:

Advanced Work Packaging
AWP is the overall process flow of all the detailed work packages (construction, engineering, and installation work packages). AWP is a planned, executable process that encompasses the work on an EPC project, beginning with initial planning and continuing through detailed design and construction execution. AWP provides the framework for productive and progressive construction, and presumes the existence of a construction execution plan.

Alignment
Alignment is the condition where appropriate project participants are working within acceptable tolerances to develop and meet a uniformly defined and understood set of project objectives. Alignment exists in three dimensions: 1) Top-to-bottom alignment within an organization; 2) Cross organizational alignment between functional groups; 3) Alignment of objectives throughout the project life cycle.

Benchmarking and Metrics
Benchmarking is the systematic process of measuring an organization's performance against recognized leaders for the purpose of determining best practices that lead to superior performance when adapted and utilized. It includes identifying what is important to your organization (critical success factors); utilizing measurement, comparison, and gap analysis against leaders; and adapting practices to your organization.

Change Management
Change management is the process of incorporating a balanced change culture of recognition, planning and evaluation of project changes in an organization to effectively manage project changes.

Constructability
Constructability is the effective and timely integration of construction knowledge into the conceptual planning, design, construction and field operations of a project to achieve the overall project objectives in the best possible time and accuracy at the most cost-effective levels.

Disputes Prevention and Resolution
Dispute prevention and resolution techniques include the use of a Disputes Review Board as an alternate dispute resolution process for addressing disputes in their early stages before affecting the progress of the work, creating adversarial positions and leading to litigation.

Front End Planning
Front end planning is the essential process of developing sufficient strategic information with which owners can address risk and make decisions to commit resources in order to maximize the potential for a successful project. Front end planning is also known as front end loading, pre-project planning, feasibility analysis, conceptual planning, programming/schematic design, and early project planning.

Implementation of CII Research

Implementation of CII Research is the comprehensive and effective use of proven products outlined in the CII Implementation Model. The model includes 9 steps: 1) Corporate commitment; 2) Corporate implementation champion; 3) Self audit; 4) Implementation plan & goals; 5) Product champions / review boards; 6) Product(s) training; 7) Product implementation; 8) Measure results; 9) Celebrate success

Lessons Learned

An effective lessons learned program is a critical element in the management of institutional knowledge. It will facilitate the continuous improvement of processes and procedures and provide a direct advantage in an increasingly competitive industry. Conversely, great benefits come from repeating positive project experiences. When organizations are able to transfer knowledge through a lessons learned program, they can increase project efficiency — an important capacity in the fast-paced engineering and construction industry.

Materials Management

Materials management is an integrated process for planning and controlling all necessary efforts to make certain that the quality and quantity of materials and equipment are appropriately specified in a timely manner, are obtained at a reasonable cost, and are available when needed. The materials management systems combine and integrate the takeoff, vendor evaluation, purchasing, expediting, warehousing, distribution, and disposing of materials functions.

Partnering

Partnering may be a long-term commitment between two or more organizations as in an alliance, or it may be applied to a shorter period of time such as the duration of a project. The purpose of partnering is to achieve specific business objectives by maximizing the effectiveness of each participant's resources. This requires changing traditional relationships to a shared culture without regard to organizational boundaries. The relationship is based on trust, dedication to common goals and the understanding of each other's individual expectations and values.

Planning for Modularization

Planning involves the evaluation and determination of offsite construction in the front end planning phase to achieve specific strategic objectives and improved project outcomes. It includes developing a business case and execution strategy for large-scale transfer of stick-build construction from the jobsite to fabrication shops or yards.

Planning for Start-up

Plant startup is defined as the transitional phase between plant construction completion and commercial operations, including all of the activities that bridge these two phases. Critical steps within the startup phase include systems turnover, check-out of systems, commissioning of systems, introduction of feedstocks, and performance testing. Mechanical completion is not the project objective; it is successful commercial operation that defines a successful project.

Project Risk Assessment

Project Risk Assessment is the process used to identify, assess, and manage risks on a project. The project team evaluates risk exposure for potential project impact to provide focus for mitigation strategies.

Quality Management

Quality management incorporates all activities conducted to improve the efficiency, contract compliance and cost effectiveness of design, engineering, procurement, QA/QC, construction, and start-up elements of construction projects.

Team Building

Team building is a project-focused process that builds and develops shared goals, interdependence, trust and commitment, and accountability among team members and that seeks to improve team members' problem-solving skills. Teamwork involves how well the members interact, cooperate, and support one another while working together. Team building is the process used to develop and enhance teamwork.

Zero Accidents Techniques

Zero accident techniques include the site specific safety programs and implementation, auditing and incentive efforts to create a project environment and a level of training that embraces the mind set that all accidents are preventable and that zero accidents is an obtainable goal.

For additional guidance, visit us on the web at ***www.slccc.net***

or the **Construction Industry Institute** at
https://kb.construction-institute.org/Best-Practices