Dar Al Riyadh Insight #58
Configuration Management Best Practices and Lessons Learned

Dar Al Riyadh Insights reflect the knowledge and experience of our Board, executives and staff in leading and providing PMC, design and construction management services. Dar Al Riyadh believes in the importance of broadly sharing knowledge with our clients and staff to improve project outcomes for the benefit of the Kingdom of Saudi Arabia.

Configuration management best practices and lessons learned include:

- Robust, comprehensive configuration management plan is essential
  - Identify all configuration items to be controlled, applicable baselines and level at which controls will be applied
  - Define configuration management hierarchy and identification system ensuring consistency across hardware and software
  - Initiate and confirm required configuration management system, processes, procedures and tools are in place at project startup (See the Insight on a Configuration Management Startup Checklist later in this series of Insights)
- Configuration control
  - Integral part of scope management processes
  - Hierarchy of configuration control boards in place
  - Ensure all changes are reflected in updated and approved baselines
  - Ensure specifications reflect the (updated) baseline including any control logic or software changes
  - Pay attention to version control
- Configuration continuous communication
  - All affected parties engaged including subcontractors, suppliers and other vendors
  - Cross function configuration control firmly in place (hardware/software)
  - Formal configuration control baseline hand offs as the project moves through various lifecycle stages
- Track and report configuration status
  - Broad, systemic changes should be highlighted, discussed and underlying drivers categorized and analyzed
  - Continuing configuration impacts from change drivers should be flagged and assessed
  - Configuration changes influencing items already in the supply chain should include impact assessments that tie out to supply chain reports
  - Changes to control logic or software should be assessed for any concomitant hardware impacts or imps to operating modes or margins

    - Configuration changes impacting acceptance testing at any stage should be clearly identified together with associated impacts on acceptance testing type, timing and required supplies and associated plant conditions for testing
- Audit configuration control
    - Assess completeness and consistency at any stage of the then approved baselines
    - Confirm tie-out of assumptions, calculations, specifications, drawings, BIM, acceptance tests, associated control logic, start-up and commissioning plans, operating modes
    - Confirm revised configurations are fit-for-purpose and meet established strategic business objectives
- Predict trends in overall project performance and operating margins
    - Analyze change drivers including any quality deficiencies or defects
    - Confirm originally established operating performance regimes are met or exceeded or reference specific approved deviation in plant performance criteria.
    - Assess performance against the scope baseline, note deficiencies in the baseline and project likely outturns.
- Utilize automated checking and artificial intelligence to address the inherent complexity of configuration control in large complex projects.