Effective Project Start-Up & Commissioning

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OVERVIEW

* When does “start-up” start?
* What is “mechanical completion?”
Early Involvement

* Estimating phase
* Integrated project schedule
* Personnel planning

* Do not squeeze “float” out of start-up, need allowance for anticipated problems (not “contingency”)

Integration with Engineering, Procurement, and Construction

* Early review of key documents such as PFDs, P&IDs, and 1-lines
* Review key procurement documents
* Close coordination with construction, particularly as systems near completion
Build by Area, Complete by System

* Start-up group needs to define and prioritize systems

* Need detailed integrated schedule (the earlier the better)
Watch the Details

* Turnover packages and paperwork should not be “left until later”

* Safety needs added focus with hot pipes, flammable fluids, etc.

* Cleanliness during construction / effective cleaning, flushing, and laying up
Integration with Owner / Operations

* Clear definition of requirements such as Lock-Out/Tag-Out
* Early training of operators
* Involvement of operators during start-up
Required Tests

* Overspeed

* Other safety requirements
Performance Testing

* Demonstration tests
* Contractual tests
* Reliability test (allow double time in planning)
Project Close-Out

* Release people when not needed
* Final paperwork/acceptance
Communication
Summary

* Begin start-up planning early
* Consider start-up during all phases of the project