



# Effective Project Start-Up & Commissioning

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# *Project Start-Up & Commissioning*

## *OVERVIEW*

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



# *Project Start-Up & Commissioning*

## Early Involvement

- \* Estimating phase
- \* Integrated project schedule
- \* Personnel planning
- \* Do not squeeze “float” out of start-up, need allowance for anticipated problems (not “contingency”)



## *Project Start-Up & Commissioning*

# 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



## *Project Start-Up & Commissioning*

### Build by Area, Complete by System

- \* Start-up group needs to define and prioritize systems
- \* Need detailed integrated schedule (the earlier the better)



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### **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



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### Integration with Owner / Operations

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



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### Required Tests

- \* Overspeed
- \* Other safety requirements





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# Performance Testing

- \* Demonstration tests
- \* Contractual tests
- \* Reliability test (allow double time in planning)



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# Project Close-Out

- \* Release people when not needed
- \* Final paperwork/acceptance



## *Project Start-Up & Commissioning*

# Communication



## *Project Start-Up & Commissioning*

# Summary

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



THE END