



Introduction to Environmental Project Management

Part 2 – Post Tender

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Presentation Content

- Introduction to Project Management
- Common steps in a project
- PMI/PMBOK – 5 processes
 - Executing
 - Monitoring and Controlling
 - Closing
- PMI/PMBOK – 10 Knowledge Areas

Introduction

- PMI (<http://www.pmi.org/>)
 - Project Management Institute
 - Certification body
- PMP (<http://www.pmi.org/Certification/Project-Management-Professional-PMP.aspx>)
 - Project Management Professional
 - Certification process
- PMBOK (<http://marketplace.pmi.org/Pages/ProductDetail.aspx?GMProduct=00101388701>)
 - Project Management Body of Knowledge
 - Provides knowledge for basis of certification

Introduction

- Plan to Plan
- Concept of a Project
- 5 W's & How
- Apply to this conference
- Triple constraint
 - Time & Scope & Cost
- Plan > Do > Check > Act



Common Steps in a Project

- Identify/Initiate project – Owner/Proponent
 - *Perform feasibility study - Consultant*
 - *Approve study recommendations*
 - Perform design - Consultant
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- Tender - Consultant
 - Construct - Contractor
 - Close out project – Owner/Proponent

PMBOK 5 Processes

- Experts in project management have identified 5 major processes that assist delivering a successful project.
 - Initiating
 - Planning

 - Executing
 - Monitoring and Controlling
 - Closing

5 Processes - Executing

- Uses 6 knowledge areas
 - “Work the Plan” concept
 - Where one
 - builds the new waste disposal site,
 - holds the conference,
 - teaches the workshop
 - Direct and manage the work
 - Perform quality assurance
 - HR, Communications, procurement and stakeholder management

5 Processes - Executing

- Not every project advances according to plan
 - During execution, some components may have to be re planned.
 - Start excavation and find archeological site – may have to delay project; move site, halt the project.
 - Funding may cease to flow
 - Regulatory change in effluent quality

5 Processes - Monitoring and Controlling

- Major task using 9 knowledge areas
- Scope, time, cost and quality
 - Change one then the others will change
 - Change control process is needed
 - Change order process
 - Work order, CCO
 - Recommend corrective action



5 Processes - Monitoring and Controlling

- Monitor against the original plan.
 - Are team members, sub consultants / contractors performing acceptably?
 - Use to identify areas that need more help or time
 - If procurement is falling behind you may have to intervene.
 - Purchasing agent vs expeditor
 - If schedule is slipping
 - More workers? Longer days?
 - Monitor risks
 - Is bad weather approaching?

5 Processes – Closing

- The project ends
 - Close procurements
 - Get final drawings
 - Get shop drawings
 - Get maintenance manuals
 - Get operation manuals
 - Make final payments
 - Deficiency correction, warranty, holdback payments

5 Processes – Closing

- Obtain acceptance from client / customer
- Conduct post project review
 - Document the lessons learned
- Assess the team members performance
- Release project resources

10 Knowledge Areas – Project Integration Management

- Used in:
 - Execution – direct and manage the work
 - Lead and direct the team
 - Make decisions based on review of situation
 - Monitoring and Controlling
 - Conduct project meetings
 - Review and approve/recommend changes
 - Analyze data from other knowledge areas
 - Closing

10 Knowledge Areas – Project Scope Management

- Used in the Monitoring and Controlling process
 - Verify
 - Use project documentation (plans and specifications)
 - Inspection of components and full project
 - Site inspection
 - Compaction, concrete, structure,
 - May be by an outside agency and lab
 - Silt control measures

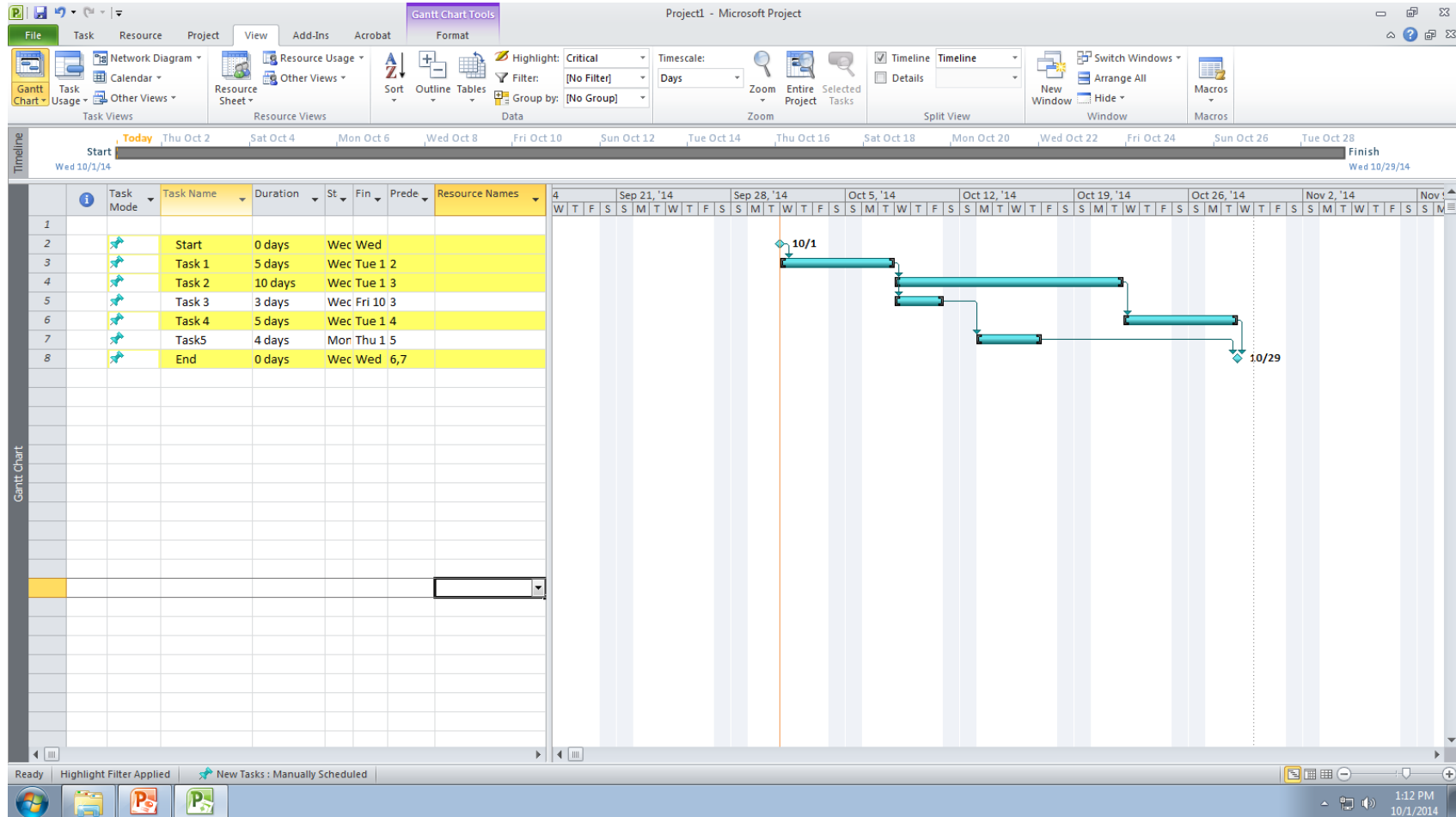
10 Knowledge Areas – Project Scope Management

- Control
 - Change order process
 - Work Order or CCO, if accepted becomes change order
 - Needs to be recorded to keep financial group happy
 - Fixed price – for the original scope
 - Additions / deletions to scope need to be documented

10 Knowledge Areas – Project Time Management

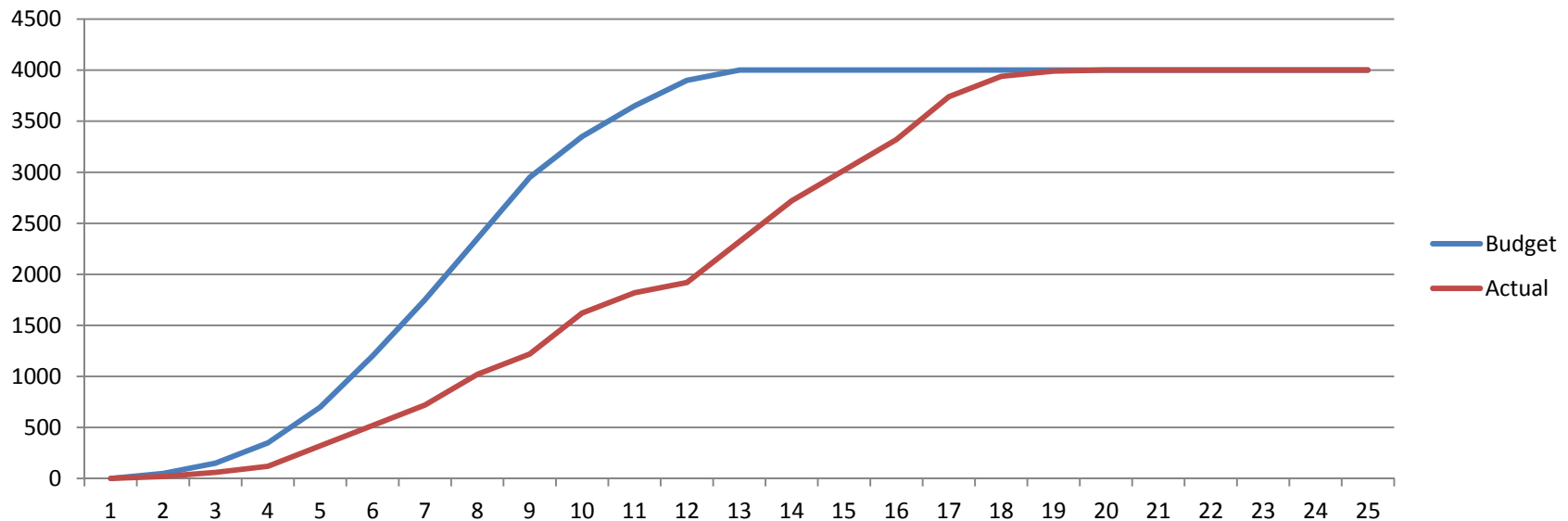
- Monitoring and Controlling Process
 - Record activities
 - Start time
 - Finish time
 - Monitor against baseline schedule
- Software to assist with this
 - MS Project
 - Primavera (high end)
- Critical Path

10 Knowledge Areas – Project Time Management



10 Knowledge Areas – Project Cost Management

- During Monitoring and Controlling
 - Control costs
 - Forecasting – EV (earned value), CV (cost variance)



10 Knowledge Areas – Project Cost Management

- Holdbacks
 - Construction lien act (http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90c30_e.htm)
 - For protection of workers
 - Nothing to do with defective work
- Deficiencies
 - Don't pay for defective work
 - Consider the cost to correct or redo
- Incomplete work
 - Don't pay for incomplete work
 - Consider the cost to complete

10 Knowledge Areas – Project Quality Management

- Used in
 - Executing
 - Concrete testing, soils analysis, material testing
 - May be done by a 3rd party under contract
 - May be the contractors responsibility
 - Monitoring and Controlling
 - Random samples – water testing for bacteria, metals, disinfection
 - Record keeping – location, date, time, weather, tested by

10 Knowledge Areas – Project Human Resource Management

- Executing
 - Acquire the team
 - Local team vs virtual team
 - Pre assign members
 - Negotiate on benefits, compensation
 - Subject matter experts
 - Biologists, chemists
 - Survey developers and analysts
 - Financial such as CA, CMA

10 Knowledge Areas – Project Human Resource Management

- Develop the team
 - Is some specialized training required?
 - Develop team approach
 - How?
- Manage the team
 - Observe, appraisals, conflict management

10 Knowledge Areas – Project Communications Management

- During the Executing process you should:
 - Distribute the information
 - Manage stakeholders expectations
 - Update the project documents
 - Utilize various communications methods
 - Name some
- During Monitoring and Controlling process:
 - Report performance
 - Present change requests to client / owner / funder

10 Knowledge Areas – Project Risk Management

- During Monitoring and Controlling
 - Deal with change due to risk event occurring
 - Bad storm damages work
 - Things beyond contractors control
 - Contractor should have insurance
 - Update project documents
 - Reassess risks if needed and update the risk management plan

10 Knowledge Areas – Project Procurement Management

- Procurement has involved
 - Materials
 - Need on time delivery
 - Winter road, fly in, barge
 - Has the proper quantity and quality arrived? Checklist is valuable
 - Equipment
 - Control the use, fuel availability so it can be used
 - Human resources
- Close procurement contracts

10 Knowledge Areas – Project Stakeholder Management

- Create issue log
 - Identify change requests
 - Update other documents as needed

Summary

- Project Management requires understanding in 10 knowledge areas
- Applied to 5 processes
- Common sense is critical
- Recording and reporting of activities and events
- Project can be one phase of overall project
 - For you the solid waste site is a project
 - For someone, the required feasibility study is a project

Closing

Questions?

Comments

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