

Project Design and Project Management

May 24-28, 2006
Kabul, Afghanistan

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Course Outline

- Part 1. Basics of Project Design and Project Management
- **Part 2. Risk Management and Project Scheduling**
- Part 3. Project Budgeting, Tracking and Control
- Part 4. Project Reporting and Closing
- Part 5. Project Management Tools
- Part 6. Team Exercise

Part 2. Risk Management and Project Scheduling

Risk Management....

What is risk?

- For Project management, risk is something that may have negative impact in completing the project
 - On time
 - Within budget
 - Of the expected quality

Sources of project risks....

- People
- Technology
- Organization
- Finance
- Contract
- Physical
- Environment

How to avoid **People** risk...

- **Right skill** on the team
- Team members **availability**
- Team understand **project purpose and objective**
- Team work together

How to avoid **Technology** risk...

- Access to right tools
- Tools should be
 - Appropriate for the project
 - Robust enough to meet project needs
 - Scalable

How to avoid **Organizational** risk...

- Stakeholders' agreement with the project and purpose
- All stakeholders participation in initiating the project
- Project sponsor must have clout to influence stakeholders

How to avoid **Financial** risk...

- Allow time for approval process
- Will currency fluctuation impact availability of funds?
- Is ongoing funding dependent on timeliness of client's progress payments?

How to avoid **Contract** risk...

- Are pending regulatory issues likely to impact project specifications?
- Do our suppliers own the patent for the technology we expect to purchase?

How to avoid **Physical** risk...

- Are our workers more likely to get hurt if we increase the number of hours they work?
- Will our existing noise reduction devices protect workers from hearing damage?

How to avoid Environmental risk...

- How will an earthquake would impact our project?
- Will dust from the neighboring factory impact our project?
- Will municipal construction projects impact our productivity?

How to manage project risk....

- Avoid risk
- Accept risk
- Share risk
- Manage risk by contingency planning

Risk Management decision making...

- Project team identify risk sources
- Prioritize each risk
- Reach agreement to
 - Transfer
 - Avoid
 - Mitigate
 - Accept

Project Planning

Activities of Project Planning

- Work Breakdown Structure
- Work Package Sequencing
 - Dependencies
 - Network Logic Diagram

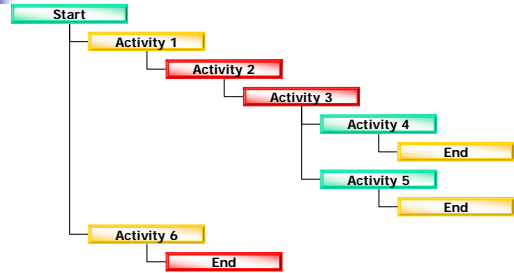
What Work Breakdown Structure does?

- Divides the project in sub-projects
- Develops a packing order of sub-projects regarding which one has to be done after which one
- Divides all activities in "work packages" for making task assignments, developing cost estimates, task scheduling, and project control

Dependencies

- **Finish to Start**
 - The preceding activity must finish before the successor activity can start
- **Finish to Finish**
 - The preceding activity must finish before the successor activity can finish
- **Start to Start**
 - The preceding activity must start before the successor activity can start
- **Start to Finish**
 - The preceding activity must start before the successor activity can finish

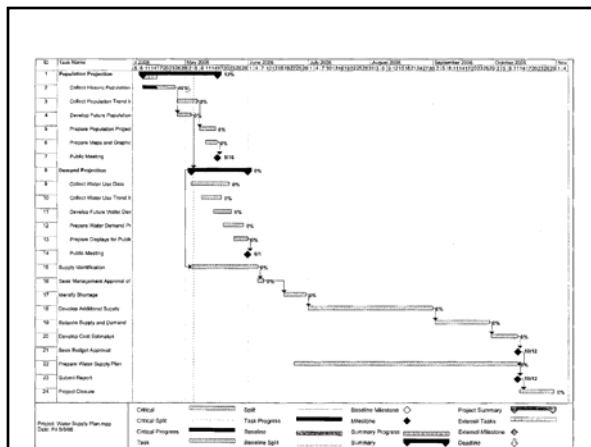
The Network Logic Diagram



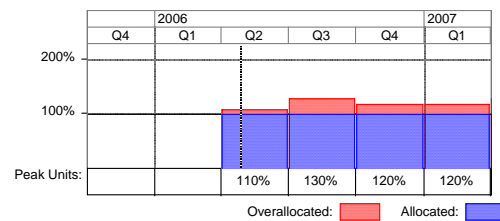
Project Scheduling....

Project Scheduling Steps...

- Estimate duration and effort for each **work package**
- Calculate the **Critical Path** to complete project work on time
- Calculate **float** and reassign resources help Critical Path activities



Resource Reallocation



Why involve the project team in developing schedule?

- Schedule will be more **accurate** when developed by people know most about tasks
- Team members will be more **committed** to the schedule if they develop it

Project Work Package Estimation Table

ID No.	Task	Duration (Days)	Billable Hours	Resources

Team Exercise: Project Scheduling

Work in a team to:

- Develop Work Breakdown structure for the project
 - Identify tasks
 - Sequence tasks
- Develop Project Schedule
 - Estimate duration to complete task
 - Estimate effort to complete tasks

Team Exercise: Project Scheduling

ID No.	Task	Duration (Days)	Billable Hours	Resources

Team Exercise: De-briefing



De-briefing Session

- **Present work breakdown structure and project schedule**
- **Seek feedback**