Project Tracking, Monitoring & Controlling

Project Tracking . . . .

```
┌─────────────────┐          ┌─────────────────────
│ PROJECT         │          │ BASELINE
│ TRACKING,       │ ⇦        │ STATUS REPORTING
│ MONITORING,     │          │ PROJECT REVIEWS
│ CONTROLLING     │          │ CONTROL SYSTEMS
└─────────────────┘          └─────────────────────
```
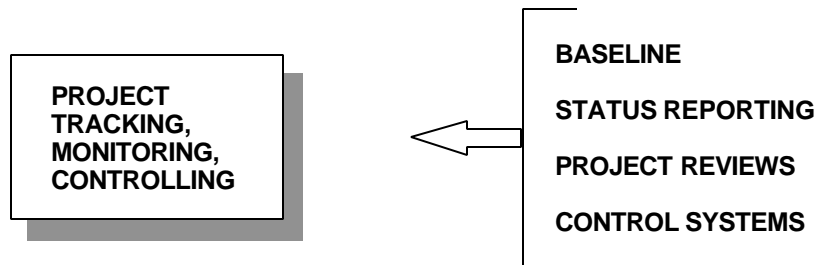
Reason for a Baseline Plan

It is necessary to have a well-defined, clearly understood and readily accessible baseline at all times during project execution. The baseline should include clearly related documentation of:
- A Work Breakdown Structure
- Descriptions of all work authorized
- Schedules for all work
- Budgets broken down by subordinate organizations and associated with specific tasks
- Specifications for the end product of the project

All these elements of the baseline must be in synchronization with each other.
- Budgets should not be issued for work not yet defined
- Schedules should not be prepared for an equipment configuration that has been changed
- Tasks should not be authorized without budgets

The need for such a baseline is obvious: it is necessary to keep the project under control. The problem is to do it.

It is important to recognize that attaching a package of change sheets randomly to the original baseline is not a good way to form a baseline. It does not meet the criteria of being clearly understood and readily accessible.

Periodically, the various elements of the baseline must be updated so that it is as easy to use as the original one.

In the process of updating the original baseline, the reasons for making the changes and departing from the original should be recorded in the project history file.

Traceability back to the original baseline elements must be maintained.

Subsequent discussion of change management expands on the need for this requirement.

Project Status

When a request for project development comes in it is usually assigned a status.

Although we could have many different types of status, there are three that are key.

1. ACTIVE: It is being worked on now.
2. PENDING: It is not being worked on now, but it will be this budgetary period.
3. BACKLOG: Projects in the hold, or later, mode. They may be priorities, but not yet.

Determining Status

Apply "Time to Completion" (weeks to go) to the active tasks
Adjust schedule completion dates to reflect "as of" date and "time to completion"
Re-chart the tasks based upon times to completion and dependencies
Re-compute the critical path
Determine changes to the resource histogram and manpower allocation
Plot the new target and destination on the cumulative cost curve

Project Status Report

File reports on a periodic basis (bi-weekly is the norm)
Identify the project and current phase of work
Report whether or not the project is on schedule
Identify problems encountered, if any, since the last reporting period
List resolutions to above problems
Report problems anticipated in the future - short range and long range
Add additional comments, such as acknowledging team members performance

Progress Reporting

A.   ACCOMPLISHMENTS
1.   Summary of all completed tasks/activities since last report
2.   Progress made on all continuing tasks/activities
3.   New tasks/activities which have begun
4.   Tasks/activities being held in abeyance with explanation (why)
5.   Major meetings held with results achieved

B.   PROBLEMS AND RECOMMENDED ACTION
1.   Developments of problems stated in previous report(s)
2.   New problems, their cause and possible solution
3.   Milestone slippage

C.   USER REQUIREMENTS
1.   Approvals outstanding
2.   User personnel training
3.   Changes requested
4.   Other outstanding requirements
      a.   Testing
      b.   Manpower

D.   PLANNED ACTIVITY FOR NEXT PERIOD
1.   Tasks/activities to begin
2.   Major meetings to be held
3.   Tasks/activities planned to be completed
4.   Milestones anticipated to be completed

E.   MANPOWER/FINANCIAL STATUS
1.   Actual hours vs. budgeted hours
2.   Actual dollars vs. budgeted dollars
3.   Actual personnel count vs. budgeted

F.   MANPOWER/FINANCIAL FORECAST
1.   Actual hours vs. budgeted hours
2.   Actual dollars vs. budgeted dollars
3.   Actual personnel count vs. budgeted

G.   PERSONNEL STATUS
1.   Individual achievements
2.   Personnel problems

Briefing Format

I.   PROJECT STATISTICS AND MISCELLANEOUS DATA
- Contract Number
- Contract Value
- Summary of Work Statement
- Schedule Objectives
- Cost Objective
- Organization
- Other

II.   OVERVIEW
- Current Objectives
- Phase of Project Now in Progress

III.   PROBLEMS
- Current
- Potential

The Review Process

Without the review process, you have no control over a project.

Formal Reviews

Each of the major critical events in the life cycle of a project calls for a formal review.
For example:
- A project request is submitted (concept phase)
- Preliminary study phase is completed
- In-depth study plan is completed
- In-depth study is completed
- Project development and implementation plan is completed
- Project development and implementation phase is completed

What is a Review?

A review is an examination in the sense of an inspection.
It is the examination of the status of a project or a task.

Questions to Ask

The following line of questioning is helpful in the
determination of the status of a project or task:
- What products (or services) have been completed, delivered or approved?
- What products (or services) have been completed, delivered and NOT approved?
- What products (or services) have NOT been completed? When will they be completed?
- What products (or services) have NOT been delivered? When will they be delivered and by whom?
- How much time and money have been expended? Are these amounts what they should be? How much time and money are needed for completion?
- What problems have been encountered so far? What problems are anticipated in the future?
- Do you have any suggestions?

Project Control System

The nucleus of a project management system is a Control System. Such a system is designed so as to prevent:

- Budget overruns
- Missed schedules
- Inadequately designed systems
- Poor documentation
- Improper allocation of personnel
- Faulty communications
- Use of out-of-date technology

Characteristics of a Control System

The term control system means a system that measures actual achievement as compared to a plan, and which, by means of feedback to the project team, corrects negative deviation.
In other words, plans establish the overall criteria against which performance or achievement is measured.
If achievement falls short of expectations, a control system makes sure that corrections are made.

The Control System

A good control system is simple in concept so that it is easy to implement.
Its most prominent characteristic is that it aids in the identification of problems. In order for a system to aid in the identification of problems, it has to be set up in such a way that it can differentiate between what IS a problem and what IS NOT a problem.

- Example: a 5% deviation from a supply budget may not be a problem. On the other hand, a 5% deviation from a labor budget may be a BIG problem.

The best control system identifies a problem before it occurs.
The next best control system identifies a problem right away.
The third best control system identifies a problem after it happens.
There is no such animal as a control system that cannot detect problems.

Other Important Characteristics

IT IS ECONOMICAL
Control must be worth its cost
A small project cannot afford the extensive control system of a large, more complex project
IT IS APPROPRIATE
Must be appropriate for the project it controls
A system that is adequate for a small business will probably not be suited for a large business
Controls of a sales department will differ from that of a finance department
IT IS FLEXIBLE
Controls must remain effective in the face of changed plans, unforeseen circumstances or program failures

Project Reviews

Reviews are a Project Manager's most important control tool.
They:

- ensure the team meets to discuss status and progress
- help uncover deviations and correct them
- should be required in the agreement with the user/client
- provide team members with feedback on efforts and any required adjustments
- provide for communication and motivation of project personnel

Project reviews should be planned
- A specific schedule should be made and followed
- Specific assignments should be made, including time constraints and level of detail required

Management Questions

Reviewers should be prepared to cover the specific management questions:
- What are the problems and specific corrective action taken?
- What are the anticipated problems?
- Any new resources required beyond the plan?
- Any scheduling problems planned or expected?
- Can it be completed sooner?
- What are the cost and budget expectations?
- Any possibility of cost under-runs?
- Are there any new opportunities or issues uncovered as a result of this project?

Expect bad news . . . but don't place blame!
Keep the group's focus on the PROJECT!!

Project Evaluation

Comparing Project Results to Objectives
- Requirements met?
- Schedule and budget met?
- Tools used appropriately?
  - work breakdown structures
  - PERT/CPM/scheduling tools
- Methods used appropriately?
  - team operations
  - walkthroughs
  - project reporting and control
  - project evaluation
  - project documentation and history files