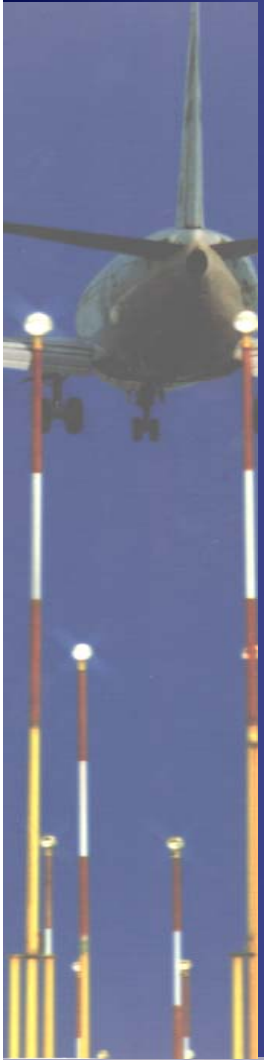


Civil GBU Project Controls Overview



Objectives

- **Understand the roles and responsibilities of Project Controls.**
- **Understand information flow, systems and organisation interfaces.**
- **Understand the project control cycle and the relevant work process.**
- **Recognise deliverables including mandatory minimum's.**

Project Controls Objectives

The objective of Project Controls is to ensure that the best controls tools are in place by way of procedures, systems and competent people, and that will allow the Project Real Time current project status of the plan, schedule and costs to be available to the project team.

Using Real Time current status and its controls tools, Project Controls will lead the Project Team in identifying actions that enhance the probability of the Project being delivered safely and effectively within approved schedules and budgets.

What roles does Project Controls provide?

- **Estimating**
 - **Estimates and reconciliations**
 - **Trending and forecasting**
- **Planning and scheduling**
 - **Summary and detailed schedules**
 - **Progress charts and studies**
- **Cost engineering**
 - **Budget and scope control**
 - **Management reporting**
 - **Project financial reporting**

What does Project Controls do?

PROPOSAL PHASE

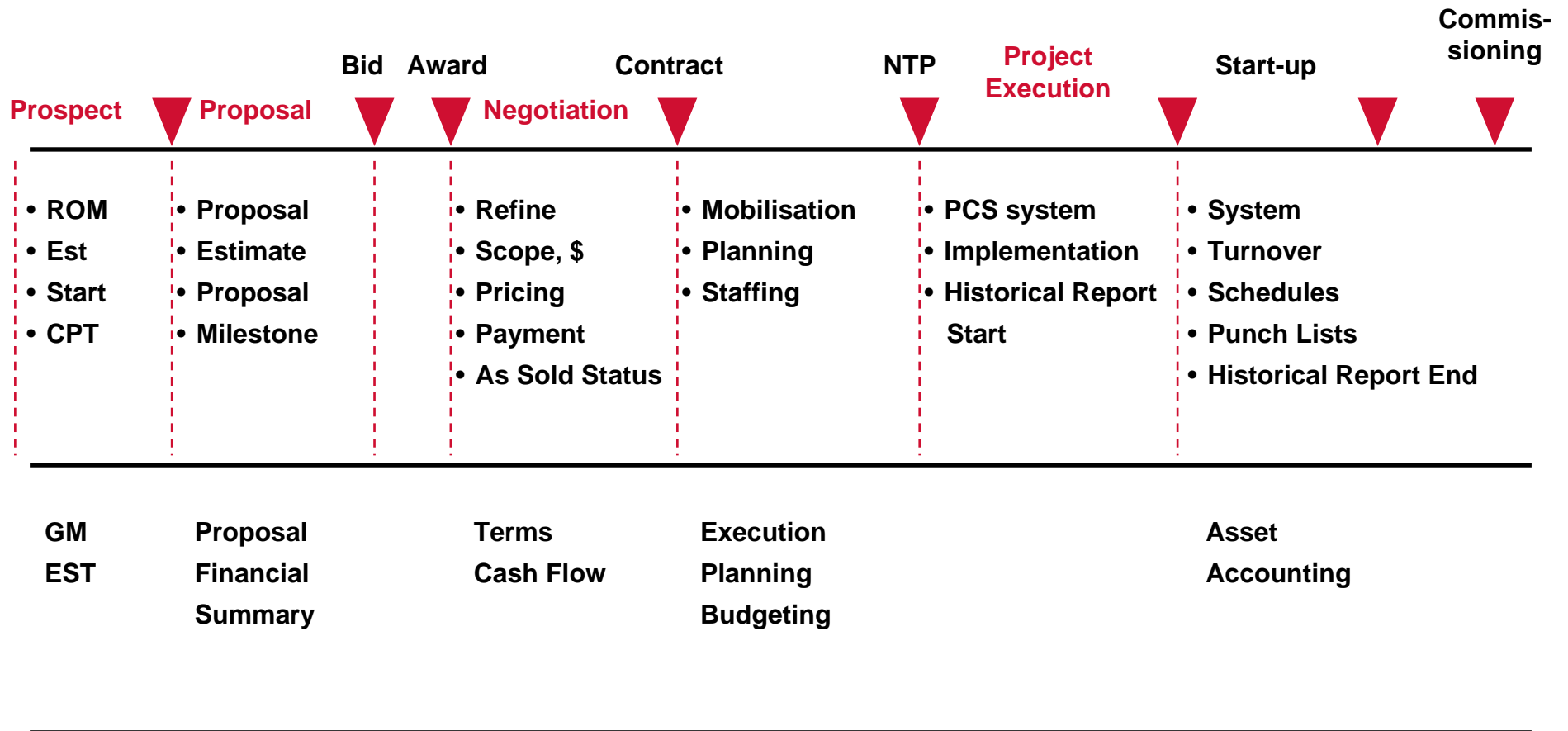
- Input to Bid/No Bid Decision
- Supports Policy Approval Process
- Develops Budget for Proposal Preparation
- Input to Win Plan
- Estimates Proposal Price
- Develops Schedule for Contract
- Input to Contract Terms and Risk Coverage
- Hand Off to Execution Team

What does Project Controls do?

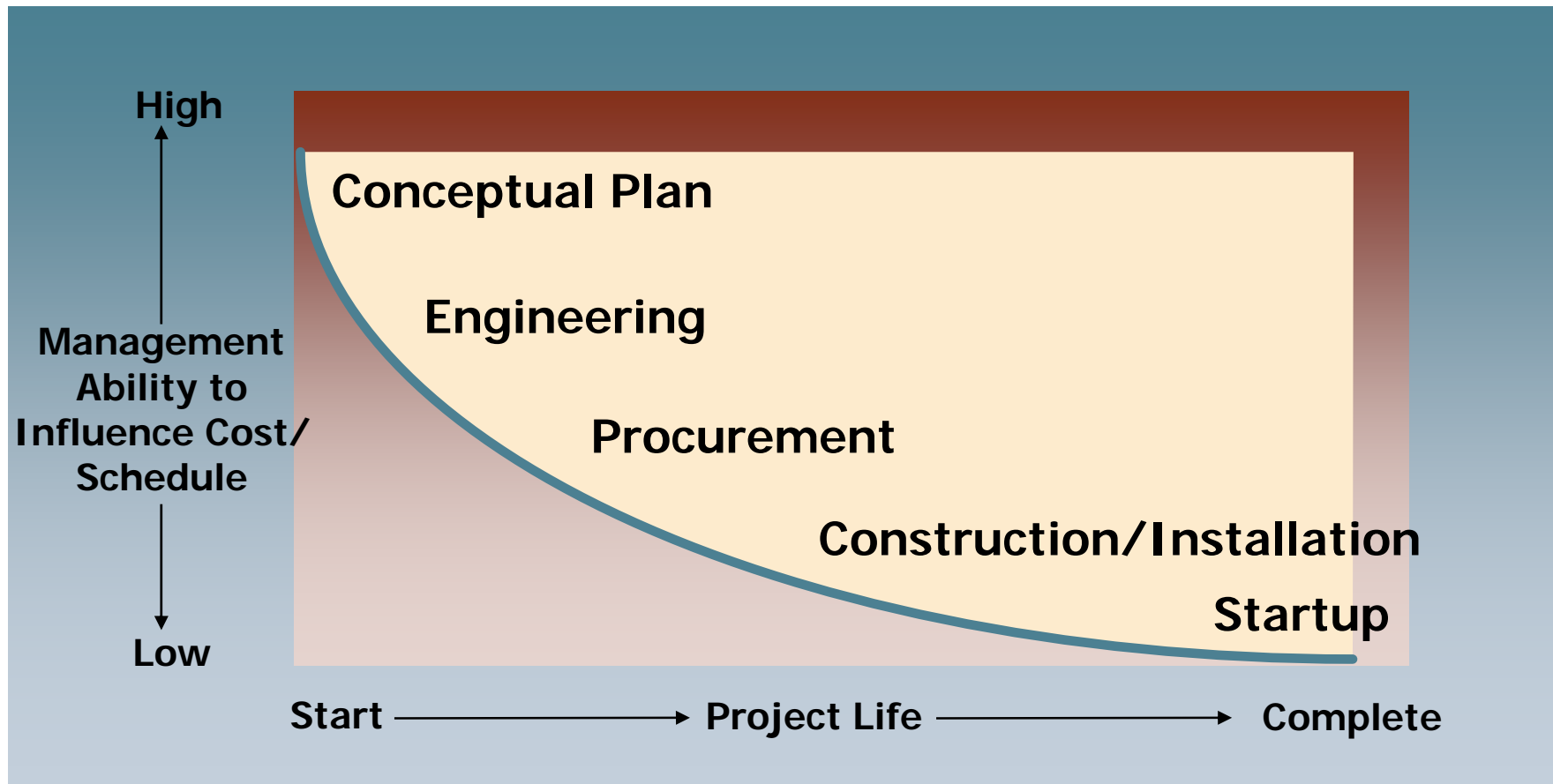
EXECUTION PHASE

- **Detail Schedule Development**
- **Detail Estimate Breakout (Budgeting)**
- **Subcontract Package Pricing**
- **Recording of Actual Costs**
- **Invoicing**
- **Financial Analysis Against Proposal Basis**
- **Schedule Updating, Monitoring and Critical Path Analysis**
- **Trending & Workaround Planning**
- **Scope and Change Control**

Project Life Cycle



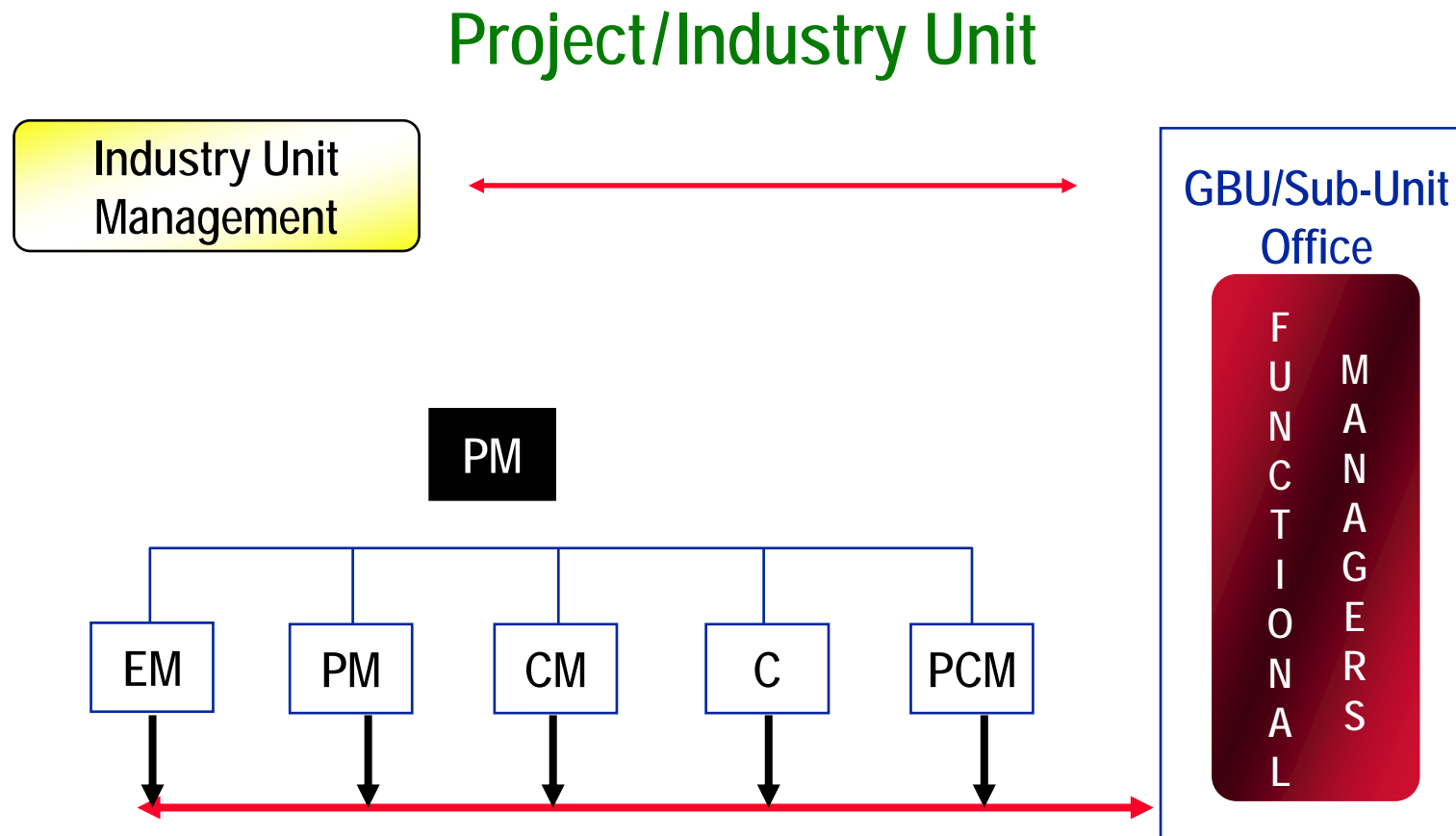
Cost / Schedule Influence Curve



Project Execution Plan

- The process of determining and defining the work processes to be used in executing the project scope of work.
- Led by the Project Manager.
- Full participation by all functional organisations.
- Takes advantage of historical and lessons learned information.
- Incorporates teambuilding as part of the process.
- Ensuring the team understands contract requirements.

Functional Organisation



Roles and Responsibilities

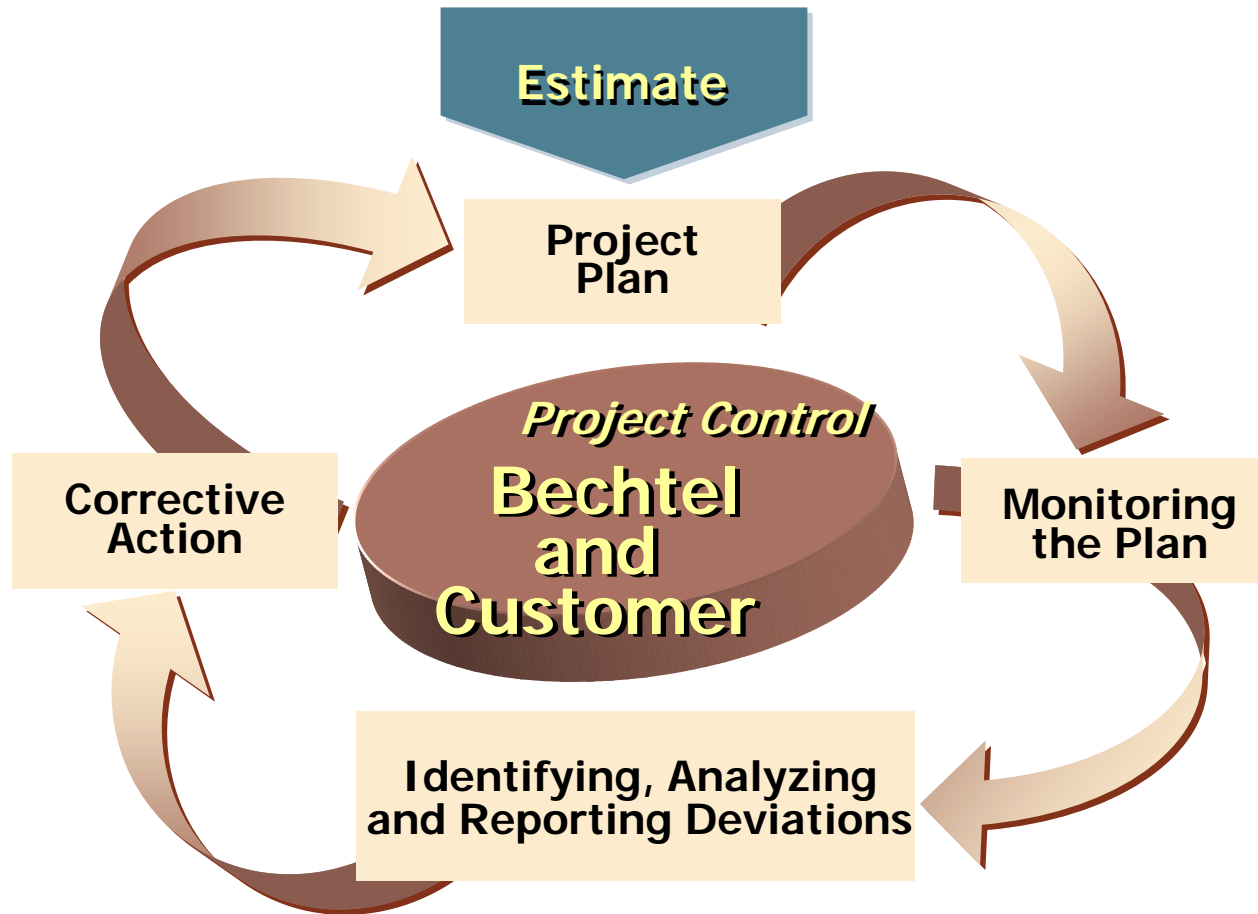
Project Manager

- Ensures that a comprehensive project plan is developed (work process).
- Enforces team commitment (including vendors and customer) to plan.
- Manages team decision making process. Establishes priorities and allocates contingency as required.
- Manages corrective action/ problem resolution and represents financial performance to GBU management.
- Ensures current baseline budget is in accordance with current approved Basis of Design.

Project Controls Manager

- Facilitates the planning process and develops the cost and schedule baselines and PC system.
- Measures performance against plan, identifies deviations, and communicates plan data internally and externally.
- Leads Project Change Management process through Trending against Current Baseline and Forecast.
- Forecasts impact of performance and changes on baselines and financial plan.

The Control Cycle

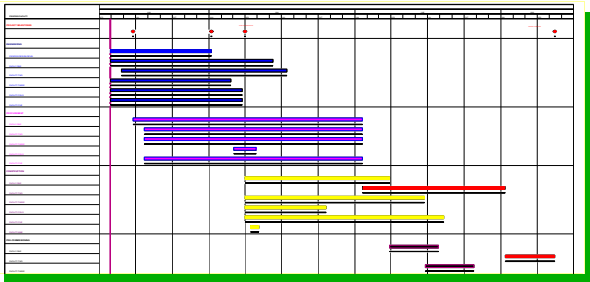


Definition of a Baseline

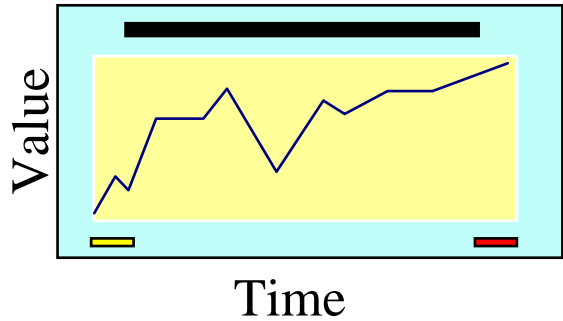
Contract
Cost



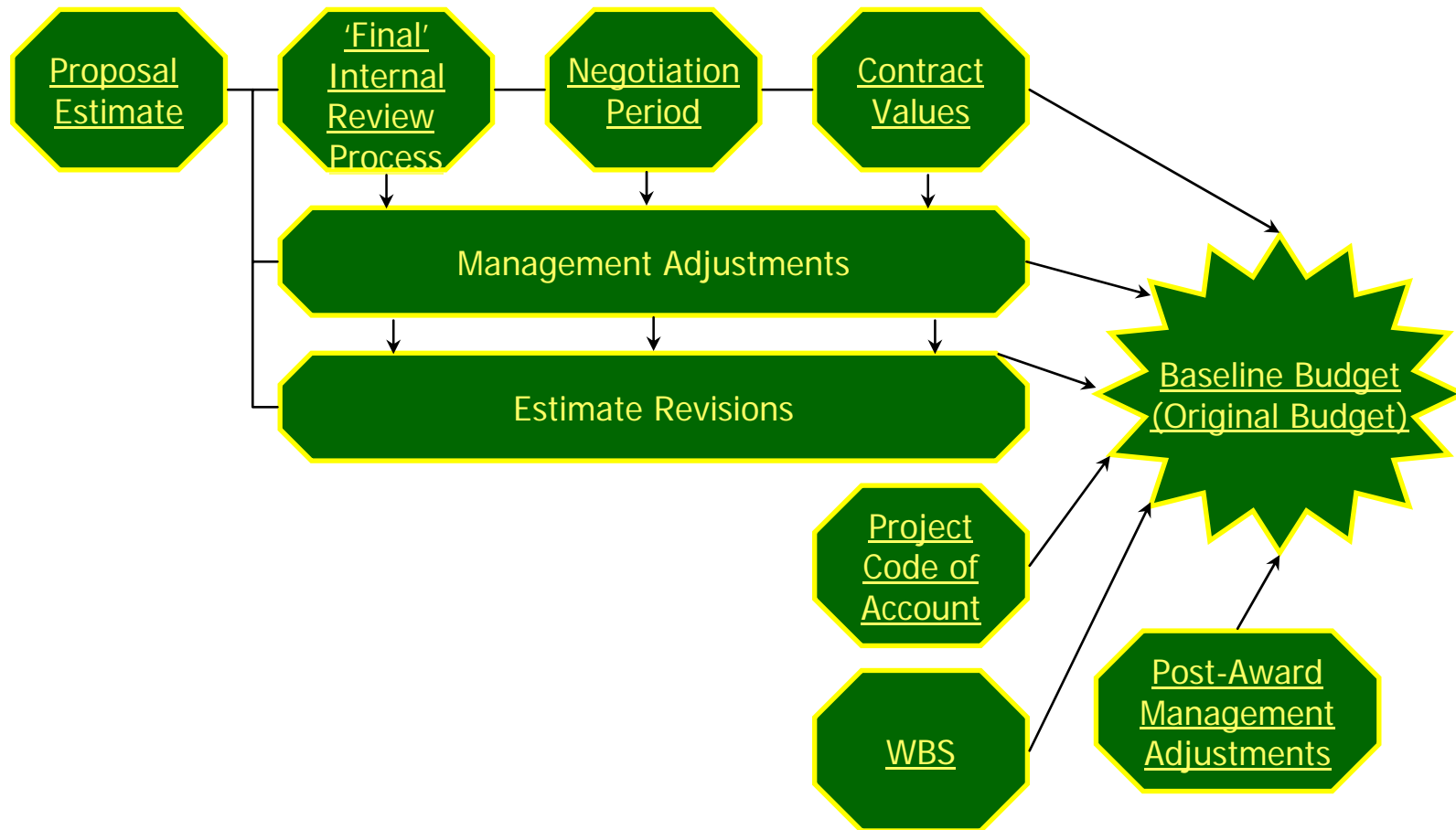
Contract
Schedule



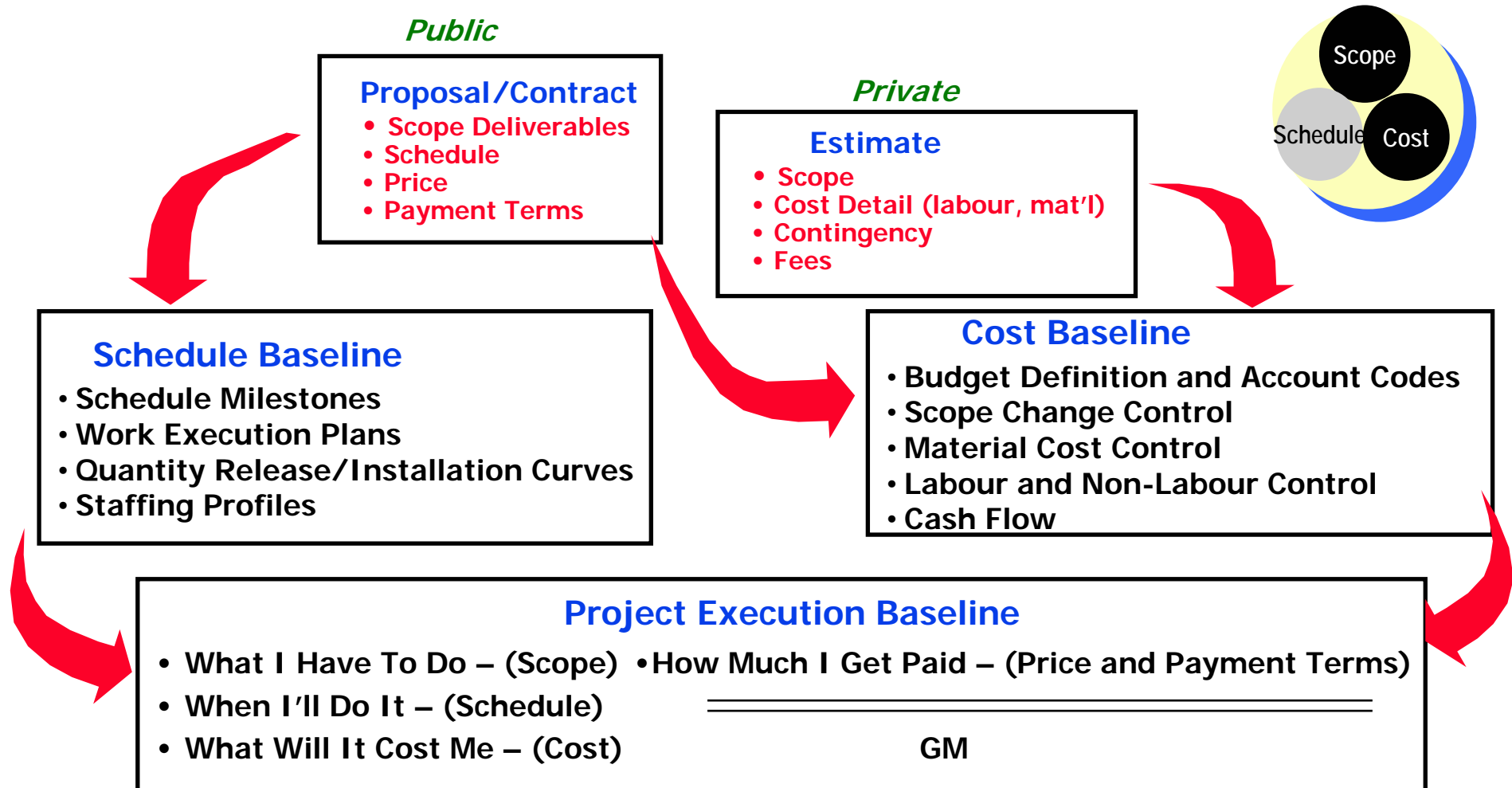
Contractual
Performance Baseline



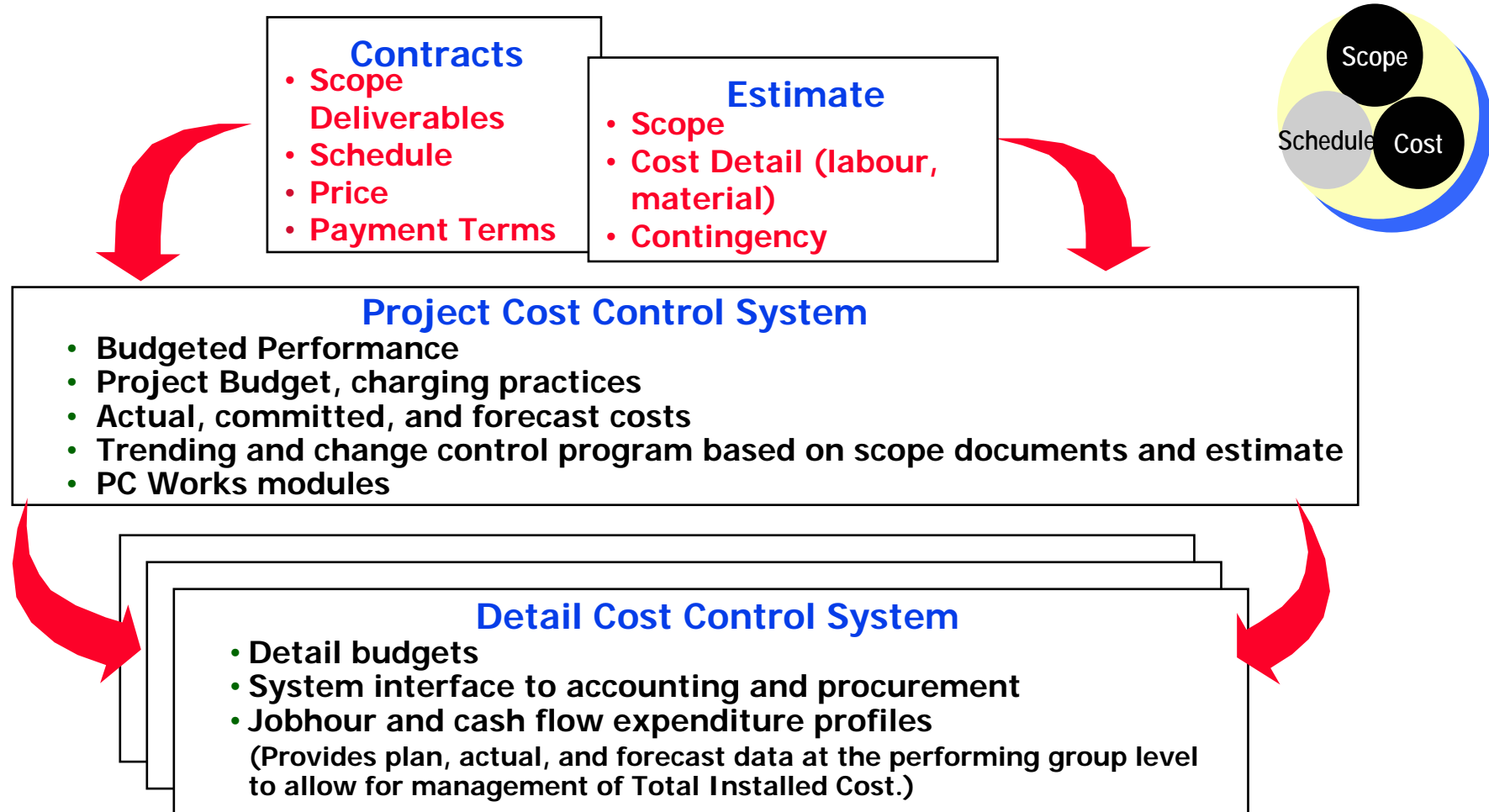
Baseline Process



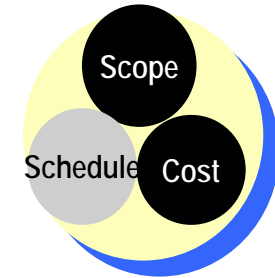
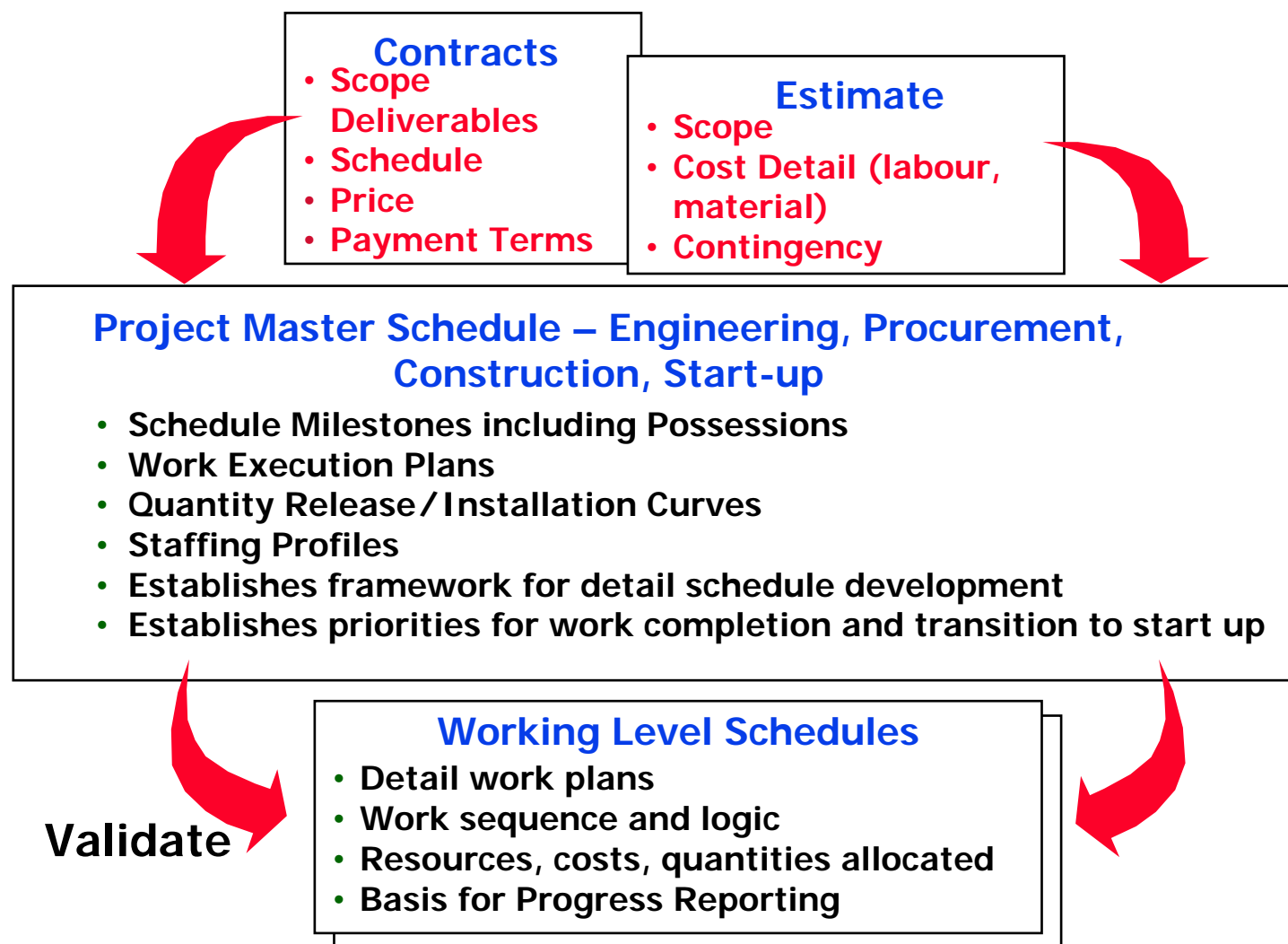
Baseline Evolution



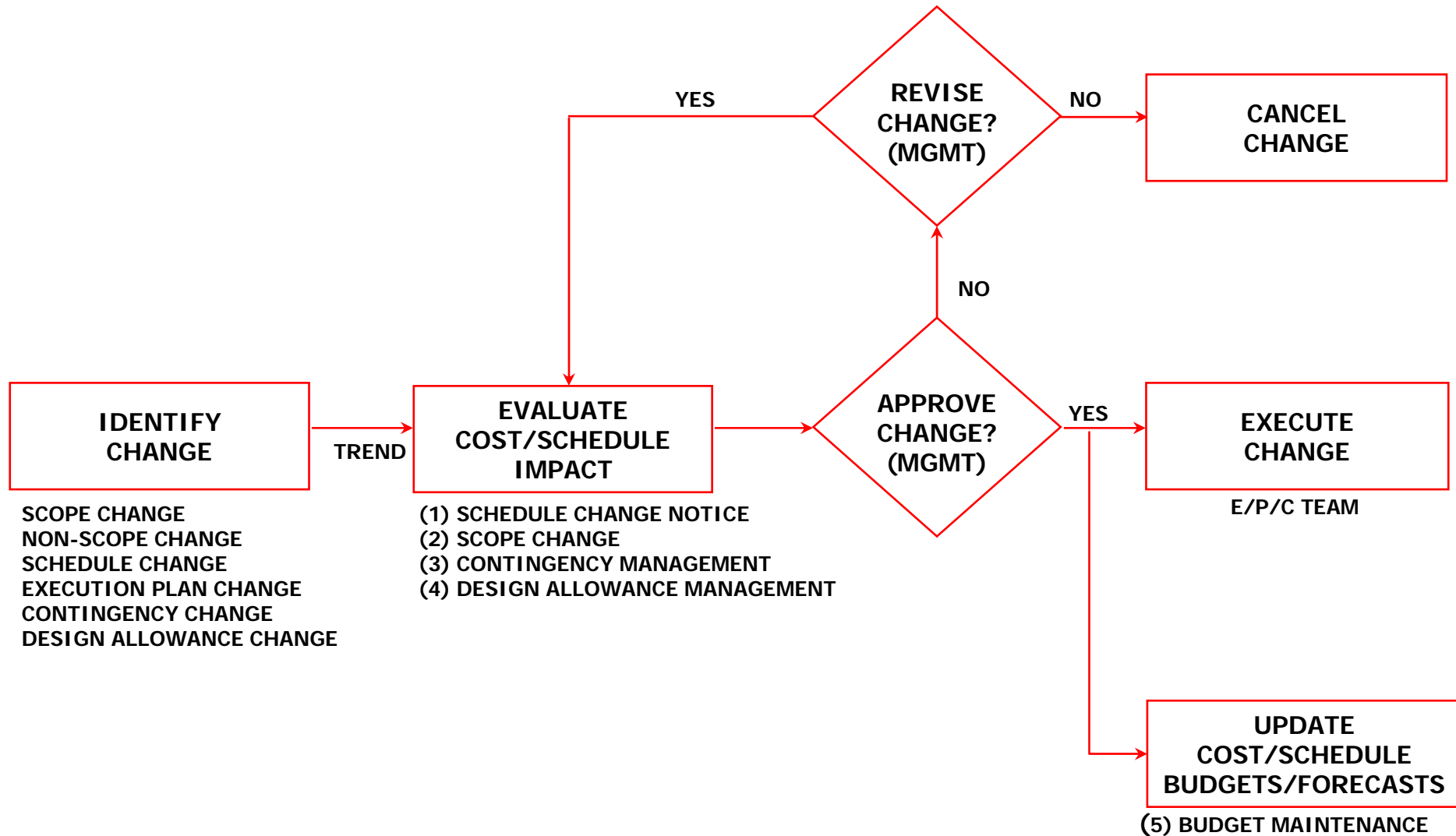
Cost Baseline



Schedule Baseline



Change Management



Contractual Scope of Work definition is important because it ...

- It is what we get paid for
- A Focus for the program objectives
- A Common understanding of specific expectations and requirements
- Accounting for all the contractual work
- A Framework for managing changes
- A Basis for schedule and cost development

Scope is defined as including all parameters of work to be performed including:

- Physical work (quantification)
- Products and services
- Technical requirements
- Quality standards
- Geographical location
- Safety requirements
- Time frame

Budgeted Scope and Forecast Scope

- Budgeted Scope of Work includes all parameters of work to be performed to meet the Contract Scope of Work based upon quantified detail and assumed performance at the time developed.
- Forecast Scope of Work includes all parameters of work to be performed to meet the Contract of Work based upon the following:
 - Physical work completed, plus quantified physical work to go
 - Performance experienced to date, plus assumed performance on work to go

Exercising Control

- Change Control System** Identifies, tracks, and assesses the impact of potential changes to allow for informed decisions by management and to eliminate surprises.
Monitors the following baseline elements:
Contract Scope (deliverables)
- Technical Basis (design criteria)
 - Schedule
 - Cost
 - Method of Execution (direct hire, subcontract, etc.)
 - Quality
- Performance Analysis** Monitors progress against plan, identifies deviations and recommends corrective action plans.
- Forecasting** Projecting the end results of current performance.
- Critical Items Reporting** Identifies items/issues critical to project performance, assigns responsibility for resolution, tracks to completion.

Key Elements of a Project Controls - Defined Baseline System

- Schedule
- Project budget
- Organisation chart
- Staffing plan
- Execution/Possession Strategy
- Progress Reports
- Cost Reports
- Change Control
- Trend Programme
- Project reviews
- Project forecasts
- PFSR - Project Financial Status Report

Planning & Scheduling Overview

A *Plan* is a logical sequence of events to accomplish a goal. i.e., what and how

A *Schedule* incorporates durations and dates into the sequence of events necessary to accomplish the Plan. i.e., who and when

Cost Engineering Overview

- **Budgeting**
- **Scope change control**
- **Trending**
- **Forecasting / EAC**
- **Management reporting**

Management Reporting

- Use same data for client and Bechtel reporting.
- Client reports:
 - Monthly progress and performance reports
 - Schedules
 - Driven by contract requirements
- Bechtel reports:
 - Project Financial Status Report (PFSR)
 - Cash flow and working capital
 - Earned revenue and gross margin determination

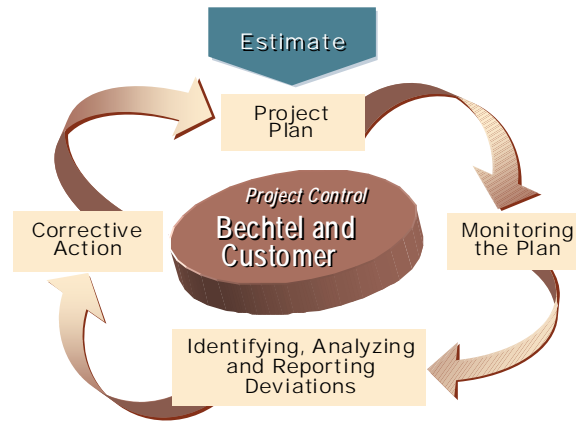
Project Control Tools



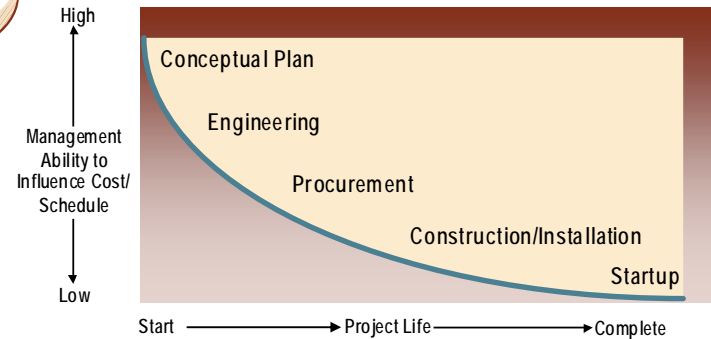
Summary



The Project Controls Team



The Project Controls Cycle



Project Influence Curve