



Project Planning and Scheduling Procedure

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1.0 Purpose

The purpose of this procedure is:

- To identify responsibilities for developing, maintaining and operating the schedule, progress and reporting systems on major projects managed by IPS Consulting Services Pty Ltd (IPS).
- To define a concise, consistent framework for administering projects.
- To establish a consistent procedure throughout the company operations of the various planning tools and reports; identifying minimum standards and requirements that can be expanded upon and/or modified to meet the specific requirements of a project and/or Client.
- Program and Reporting Requirements are intended only as a working tool, to assist the company representative and the contractor to affectively plan and measure the performance of the work. They in no way derogate from the contractor's obligation to complete the work in accordance with that contract.

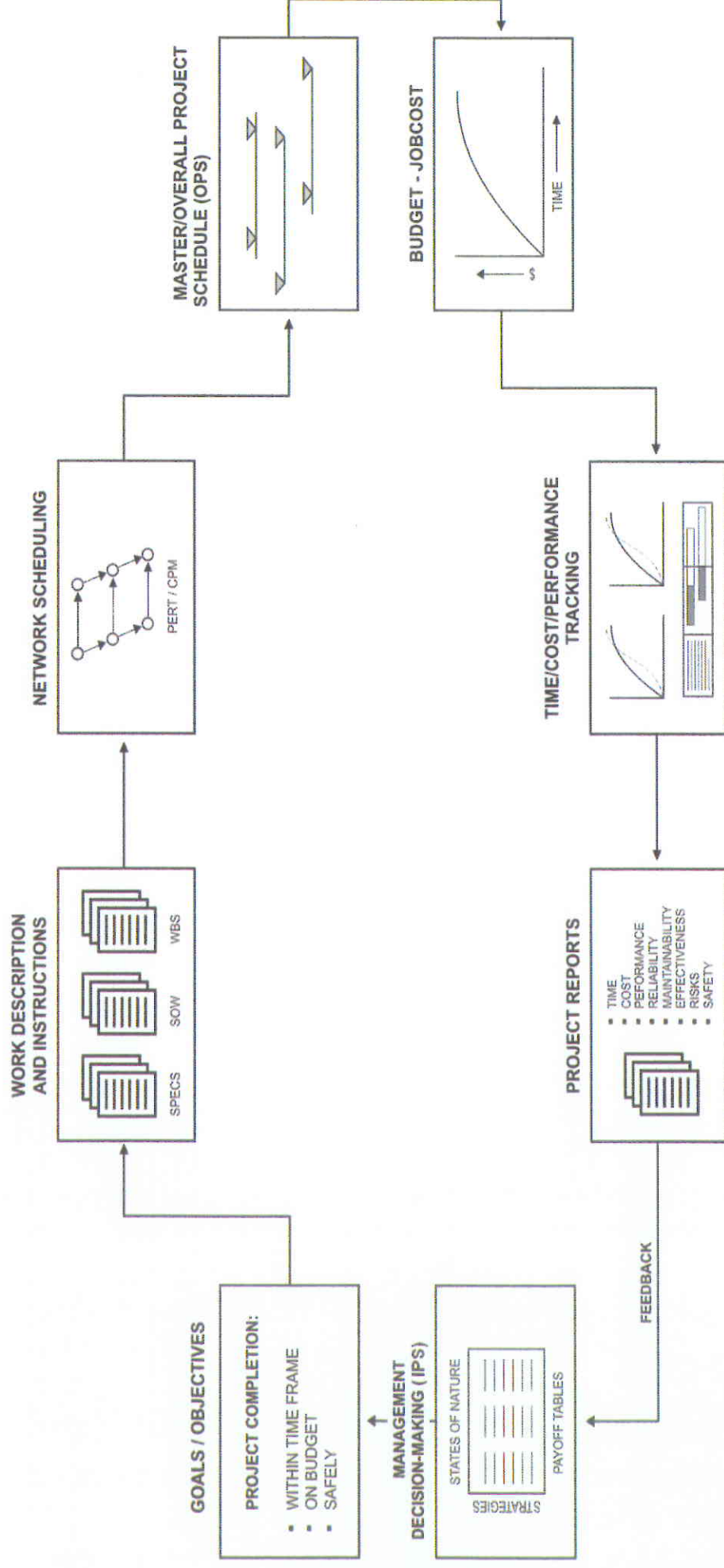
2.0 Scope/Process Map

This document describes the planning, scheduling, reporting systems and activities to be performed in order to effectively support the project execution objectives and achieve the specified milestone dates and project completion within the budgeted cost.

This procedure describes the minimum requirements for the project; Planning, Monitoring, Progress Measurement and Reporting.

2.1 Process Map

Project Planning/Scheduling Control System



3.0 Project Monitoring & Control

Project monitoring and control is the responsibility of all Project/Area Engineers or Area Managers participating in the execution of the work. Project Planning Personnel will be responsible to maintain the status of the project Schedule including the Forecast-to-Complete based upon the existing trends. Major areas of concern affecting project execution shall be highlighted to the Project/Construction/Planning Manager for action.

3.1 Objectives

The main objectives of Project Monitoring and Control are to:

- Ensure timely completion of activities to accomplish contractual key dates.
- Ensure efficient utilisation of resources
- Control flow of work in terms of man-hours, progress and schedule
- Measure the physical work in terms of man-hours and physical progress
- Highlight delays in activities in order to take corrective action
- Ensure that the work progress is in accordance with the planned progress agreed by all parties and the Client.
- Identify opportunities to improve the overall project schedule position and generate project float as a contingency against possible future slippages.
- Establish a critical path.

3.2 Project Execution

The project execution will be monitored and controlled by:

- Regular evaluation of the project schedule progress comparing Planned vs. Actual.
- Evaluation of the manpower and other resources comparing Planned vs. Actual vs. Earned.
- Evaluation of the schedule comparing Planned vs. Actual, including Total Float.
- Evaluation of project efficiencies (e.g. direct labour productivity factor – pf) ($\text{actual} / \text{earned} = \text{PF}$).
- Highlighting activities behind schedule and areas of concern, along with corrective actions.
- Attending meetings to discuss the above and provide proper corrective action as deemed necessary.

3.3 Actions

The following actions are necessary for effective project monitoring and control:

- Accurate feedback of progress at the correct time
- Diligent estimating of the Forecast-to-Complete for the balance work
- Continuously monitor the earned value performance to determine if cost & schedule departs from the baseline plan: both schedule variances (earned value less planned value) and cost variances (earned value less actual cost).
- Using earned value data, you must forecast the final required costs based on the actual performance and keep the company representative apprised so corrective actions can be taken if necessary.



4.0 Definitions

Overall Project Schedule (OPS) - The overall project schedule, also called the **Master Schedule**, covers the entire project scope of work.

Approved Project Schedule (APS) - The Client approved version of the OPS, base lined for ongoing management control

Base Line Schedule (BLS) - The original project plan to track progress during a project. Resetting the baseline is done when the scope of the project has been changed significantly, for example after a negotiated change. At that point, the original or current baseline becomes invalid and should not be compared with the current schedule

Critical Path – The critical Path is a series of activities that determines a projects completion time. The duration of the activities on the critical path controls the duration of the entire project; a delay to any of these activities will delay the finish date of the entire project. Critical activities are defined by the total float of the longest path in the project network.

Float – The amount of time the selected activity can be delayed without delaying the activities that immediately follow (successor activities).

Total Float – The amount of an activity can be delayed without delaying the project's finish date.

Earned Hours - the time in standard hours credited as a result of the completion of a given task or a group of tasks.

Earned Value – Is a technique for measuring project performance according to both project cost and schedule. This technique compares the budgeted cost of that work to the actual cost.

End Date – Contractual completion of the project (overall or contract component).

Forecast to Complete – a measure of the work remaining (calculated in man-hours, resource hours and equivalent dollar value) to complete a scheduled project activity.

Handover Date – Completion of the total project, usually to Client Operations management.

Look Ahead Schedule (LAS) - Look ahead schedules indicate the plan for the next day, next week, next month or next three months or more, depending on requirement. These take into account the actual work done to date and reflect the work planned ahead.

Project Schedules - Timelines for the project in one or more of the following forms: milestone, deliverables activity and Gantt.

In the context of the program and reporting requirements detailed herein, the word 'Contractor' shall be taken to embrace 'Contractor', 'Sub-contractor', 'Supplier', 'Vendor', 'Sub-suppliers' or 'Consultants' supplying goods and or services under the terms of the Contract. The requirements shall apply with equal force and affect to each of the aforesaid parties.

Resources - Resources are responsible for actually completing the tasks in the project.

Scheduled or Data Date – Is the last date recorded progress in the form of the actual dates, percent of work completed, revised remaining duration, or actual quantities of cost.

Work Breakdown Structure - Graphically portrayed as a tree, a WBS is created by establishing a hierarchy of work to be accomplished, beginning with the end product at the top and subdividing it in successive levels down to individual activity tasks at the bottom. WBS is the splitting up of a Project into controllable elements, which can be assigned time, cost, resource and responsibility. Generally the WBS should be the same as the approved bench mark cost estimate against which all labour and costs are monitored.

5.0 Responsibilities

The Project Manager shall provide the Planning Manager with:

- The strategy for performing the respective components of the work / approved SOW.
- The duration of the activities developed.

The Project Manager/Planning Manager have the primary responsibility for defining the schedule major activities and their interrelationship, including; critical dates, durations, manpower requirements, equipment requirements, etc.

The Procurement Manager shall confirm the procurement lead times for equipment and materials. They shall maintain a procurement database recording the current status of all purchased equipment and materials.

Planning Personnel shall develop from the Project schedule;

- The level 1 overall master schedule, indicating the primary activities / group of activities, key dates and milestones of the project.
- The level 2 & 3 critical path network, forming the basis for detailed schedule control.
- Manpower histograms.
- Progress 'S' curves.

Planning Personnel shall update and issue the schedule and progress 'S' curves based upon the physical progress of the works provided by the Project/Area Engineer, Site Supervisor or Construction Manager. The responsible engineers work directly with the Planning Personnel to constantly review the actual work progress against the plan, and to develop corrective actions where necessary.

Planning Personnel shall prepare and provide the necessary information for the weekly and monthly progress reports, as required, indicating the current status of the project and highlighting any areas of internal or external delays.

The Project Manager, Construction Manager and /the Planning Manager, will review the overall plan and schedule on an ongoing basis, as required. Any revision to project key target dates shall require the approval of the Project Manager/ Planning Manager.