

**Micro Planning International Asia Pacific Pty Ltd**

**Project Management Handbook**

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**Change Control**

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**Front matter**

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## 1. Introduction

### 1.1 Purpose of the Handbook

The purpose of this handbook is to assist our Project Managers to control projects. Its target audience are managers who have received some formal training in the Micro Planning International Pty Ltd's Project Management Systems methodology and also have some experience of working in a project environment. It is also intended to be the main reference manual for the Programme Office when managed by Micro Planning International Pty Ltd.

It is not a teaching manual as such, but by laying the material out so far as practicable in the sequence in which it is likely to be first encountered in a project it is hoped that the manual will not only form a useful aide memoir for trained Project Managers but will also be a lifeline for those who from force of circumstances find themselves with project responsibility in advance of being trained for it. The tone of the manual is more personal than is the usual case with similar handbooks.

It therefore falls somewhere between a full Project Management Systems Operating Manual and the checklists contained in the Micro Planning International Pty Ltd's "Project Managers A-Z".

### 1.2 Format of Handbook

This handbook is divided into a number of sections, each section addressing a phase of a project and the phases being in chronological sequence. Within each section, there are a number of chapters each addressing a single subject. The Phases and Chapters are summarised in Appendix A.

### 1.3 Nature of a Project

There is a consensus that there are a number of general principles of management which hold good over a wide range, if not all projects, for example it can be said that project management is the management of anything that has a beginning and an end. Equally the more we narrow the range of projects we are addressing, the more specific we can afford to make our remarks (and the smaller potentially we can expect our handbook to be!). For our purposes we can limit ourselves to projects which contain a significant element of Information Technology and end user oriented systems engineering.

We can therefore set out a number of project characteristics which form the envelope for the internal project control systems to be implemented and the interface to the environment which must be carefully monitored and managed.

These characteristics are:

- A team of people usually assembled only for one project carries out the work.
- The skills profile of the team will change during the lifetime of the project, giving additional problems in management.
- The work always involves dealing with a high incidence of novel expected problems, and also of unexpected problems.
- There is usually a recognised pattern of project stages such as:

- Identification of project
  - Design
  - Production
  - Testing
  - Commissioning
- There is little repetition, and therefore little opportunity to use the feedback loop as part of the control mechanism.

The "pure" project objective of optimising the production of project deliverables in terms of the balance between cost, performance and the time is frequently prejudiced by environmental constraints such as the support of the Development Plan.

#### 1.4 Profile of a Project Manager

One of the most significant factors affecting the success of a project is the matching of the skills, experience and personal characteristics of the Project Manager with the characteristics and dimensions of the project. Similarly the Assessment Centre Method for establishing the behavioural characteristics of potential Project Managers for selection and career development is also well documented elsewhere. For the purpose of this handbook we can consider that we are addressing people who can demonstrate;

- the ability to develop teamwork and maximise resources within a group to give most effective achievement of group objectives,
- the ability to actively influence events rather than passively accepting them, seeing opportunities and acting on them,
- the ability to identify problems and their possible causes,
- the ability to evaluate data and courses of action and reach logical decisions, with an unbiased rational approach, readiness to make decisions, render judgements and take actions,
- the ability to maintain effectiveness with changing environments and to modify approach/style in order to reach goals,
- the ability to maintain a stable performance under pressure.



## 2. The Project Environment

### 2.1 Introduction

The Project Manager's objective is the successful completion of their project. It is to this end that the principles of Project Management have been established.

Little attention has been given to the definition of 'success' or how to create an environment in which 'success' becomes attainable.

One definition frequently given is: Delivery of a quality product, on-time and within budget.

This definition provides a clear framework for the explanation of project management and control methods, and is thus necessary and useful. However as a definition of project success it is clearly inadequate. Within this definition, the customer could (rightly or wrongly) be totally dissatisfied and your company could suffer heavy losses, obviously not a success.

Also ignored in this definition is the need for change arising from modified objectives or because specifications are less than perfect. Despite proper baseline management techniques, give and take on both sides is always desirable, and frequently essential.

A better definition is: "Project completion meeting all the Corporate objectives and with complete customer satisfaction". With this second definition, the need for the Project Manager to ensure that he and his team are operating in the right Company and customer climate becomes apparent. The Project Manager needs to create an environment in which both the Company and the customer perceive and are satisfied that the project is a "success".

In creating an "Environment for Success" the requirements are:

- The right Company environment
- The right Customer environment
- The right Company - Customer Relationship

### 2.2 The Company Environment

The Micro Planning International Group has defined group objectives and strategy, operating throughout the organization both locally in Melbourne, interstate and overseas offices - etc. -, which generally perform as profit centres. Several, and sometimes many of our consultants will be responsible for the total services provided by the company to any customer.

The ability of the Micro Planning International to provide a total service, including responsibility for software development and package modification represents a great strength of the company. This strength can, however, be easily dissipated if there are conflicts of interest between the various staff members.

In achieving customer confidence and project success, it is essential that all company staff and consultants involved agree on the objectives.

The Project Manager should therefore be aware of some of the commercial concerns of the company's marketing objectives and the overall strategy appropriate to the account in which they are working.

### 2.3 Products/Services Offered

Not every company product is applicable to every customer in every sales situation. Before any offer or suggestion is made to a customer, all the company staff should be aware of:

- which products may (and which may not) be offered. This implies knowing the sales ability and plans for any specific vendor hardware and package support before suggestions are made to a customer.
- product release dates. It is unwise, especially within Australia and especially with new packages, to make offerings on the basis of unconfirmed release dates and capabilities from our overseas vendors.
- capacity of the product to meet the customer's needs. This should be an obvious concern, but often (especially with package solutions) careful evaluation is needed. Obviously, the company must first appreciate the customer need.
- who will supply the product, who will support the product. For hardware, the answers will normally be obvious: for packages less so (especially if source modification is envisaged), and for bespoke development great care is needed. Project responsibilities and resources (local, expatriate, third party, etc.) must be agreed by all the company staff involved.

### 2.4 Responsibilities and Authorities

Given that many company and third party staff may be involved in meeting the needs of a customer, it is obviously crucial to ensure that responsibilities and associated authority are carefully allocated and defined. Confusion and distress are inevitable in cases in which two or more bodies each believe themselves responsible for a particular area. Naturally also, all the needs must be covered in allocating responsibilities if all needs are to be met.

Planned, controlled and documented allocation, in advance, is to be preferred over ad-hoc resolution of difficulties as and when they (inevitably) arise.

### 2.5 The Customer Environment

Customers have their own unique objective, methods, style, problems and organization. It is within this overall framework that the Project Manager and their team, and ultimately the delivered product, must succeed. If the Project Manager has little awareness and understanding of these characteristics of the customer, the achievement of customer satisfaction is essentially being left to chance.

This is the prime requirement for a Project Manager - KNOW YOUR CUSTOMER.

It is worth noting that knowing the present state of the customer may not be sufficient. All organizations are, to a greater or lesser extent dynamic not static. The factors most likely to be relatively constant are the long-term customer objectives. The most likely to be variable are the individuals within the customer organization and the influence, objectives and methods of the individuals and the units (sections, divisions, etc) under their control.

Given the relatively longish lifetime of for example, a computer system, and of the project to create the system, success is more attainable if the long-term objectives are addressed rather than the short-term fluctuations (although these fluctuations may not, of course, be ignored). The Project Manager should not only be aware of

the objectives but also the role that the system will play in meeting objectives and the role that the customer believes the system will play.

In addition, the Project Manager needs to be aware of:

- The need to win customer confidence
- The people within the customer environment affected by the project and system, especially those with influence over the project
- The relationships between the individuals and departments within the customer organization
- The degree to which the customer is prepared to become involved in, and committed to, project success

Perhaps the best indicator that the right environment has been created is that the customer is eager to assist the Project Manager in resolving his problems and in coping with difficulties, which arise within his project. The aim should be to achieve the level of involvement and partnership with the customer utilising our issue and change management procedures.

## 2.6 Customer Confidence

Customer confidence is an essential ingredient in project success. The customer must have confidence in:

- The company, as a professional organization
- The company solution as a viable and useful contribution to their organization
- The company's ability to deliver the solution
- The Project Manager and the team

The correct company environment will project a unified, confident image, with no internal disputes apparent to the customer.

The company solution, and the company's ability to deliver, should have been established throughout pre-contract activities.

It remains for the Project Manager to retain and build the trust and confidence which have been established. Primarily, this is achieved by professional behaviour on the part of the Project Manager (and the team) and by ensuring that the customer receives "no surprises".

The Project Manager must highlight potential problems early. Ideally, every problem should be identified and raised (hopefully, with viable solutions) before the customer organization is aware of their existence. In explaining problems, especially delays on promised deliveries; it will often be of help if the Project Manager has determined the basis for a promised date. ("What if" scenarios play an important part in this process)

Some, and perhaps much, customer input to the project will always be needed. The project manager should ensure that customer activities and deliverables are realistically defined and practical given that the customer has competing priorities and demands upon his time and resources. Putting undue pressure upon the customer will inevitably prove counter-productive and damaging to the relationship being developed. Thus the absolute importance we place upon the project charter.

The Project Manager must also ensure that the need for all customer input to the project is identified and quantified well in advance of the need for such input, and notified to the customer in sufficient time for them to discharge their responsibilities.

In achieving "no surprises", the Project Manager is demonstrating continuing concern for the system IN USE, not just technical completion.

## 2.7 Contracts within the Customer Organization

### Decision Makers

It is well known that in order to win business and to succeed with projects, the company should aim to reach the highest possible level within the customer organization. It is often less well appreciated that these contracts must be maintained and developed throughout the company's involvement with a customer and especially throughout the life of a project. This must be a major and continuing concern of any Project Manager.

The Project Manager should ensure that the established reporting relationship creates the desired favourable environment for the project by drawing decision makers into relevant discussion.

### Customer Staff Affected by the System

Whilst liaising with the decision makers the Project Manager must not ignore the staff.

In most systems, it is relatively junior staff who are in the most intimate contact with the system. Good or bad, their view of the system will be reported upwards and sideways, and will carry weight.

It is always worthwhile devoting considerable project time and effort to assisting staff to understand system benefits to the organisation and to themselves. It is mandatory that, as a minimum, their natural fears and resentments are assuaged.

Failure to properly prepare the staff using the system may not lead to disaster, but it will certainly lead to a worsening of the environment which is difficult to correct.

### Information Technology Department

It is obviously desirable to make every effort to create a positive relationship with the user's IT department. There may well be situations where the project faces opposition from an in-house IT department.

If the opposition arises purely from a personality clash involving the Project Manager, they should step down if this will result in a viable project.

If this opposition has its foundation in prejudice/incompetence, it may be possible to negate it by demonstration that this is so. This may at best be a palliative and will always be a dangerous strategy. An external audit may be useful in these circumstances and may even lead to conversation of the opponents.

If the opposition is a genuine reaction to errors made by the Project Manager, by the team or by any other part of the company, honest admission of these errors and reasonable corrective action is both morally correct and frequently forms the right strategy.

## 2.8 Customer Involvement/Commitment

There is little prospect of successful system implementation without customer involvement and commitment from the highest possible level.

Senior management is not likely to devote its time and effort or give its backing, to an enterprise which does not have apparent relevance and value to the organization.

The Project Manager requires committed support for the project. Hence they must be prepared and able to convince management of the projects' value.

## 2.9 The Company-Customer Relationship

To be recognised as successful, the Project Manager is asked to ensure that two parties to a contract, the buyer and the seller, are each satisfied with the outcome.

It has long been recognised that buyer and seller normally have different objectives. Generally the buyer seeks to obtain the maximum supply (products, services, etc) for the minimum price.

The seller generally seeks to obtain the maximum price for the minimum supply.

Contracts should be struck when each party is satisfied that they have arrived as closely as possible to the optimum. Put simply, each regards the contract as reasonable value for money.

Note that "value" is a perception, not necessarily objective or real. Sellers usually have a realistic and reasonable perception of the value of their offering.

Buyers on the other hand tend to value the supply for ability to meet their wants and needs, rather than for intrinsic value. To illustrate the point: to a man dying of hunger a plate of food is worth any price, a computer or software will not be regarded as a necessity.

The most important considerations in creating a customer environment for success stem directly from the above. It is apparent that Project Managers should strive to ensure the customer places a high value on the supply. To do this they must:

- Appreciate the customer's wants and needs.
- Understand how the company supply satisfies these needs
- Ensure that the customer also understands

naturally they should also persuade the customer that the company supply is the best alternative if there is a choice.

## 2.10 The Two Roles of the Contract

The Contract should not be looked upon as a lot of fine print to be locked up in somebody's filing cabinet. An efficient business contract is a clear statement of the intention's rights, obligations and liabilities of the parties. When completed it should serve as a working document and as a guide to help the parties check their progress as the project develops.

A good business contract is primarily a commercial document. **IT** should act as a businessperson's map, which they follow to keep themselves out of trouble. If its map role is adequate, legal issues should not arise. If a legal issue does arise, the contract has failed in its primary purpose, so the Project Manager should aim at producing a document in conjunction with the company's senior management which makes business sense.

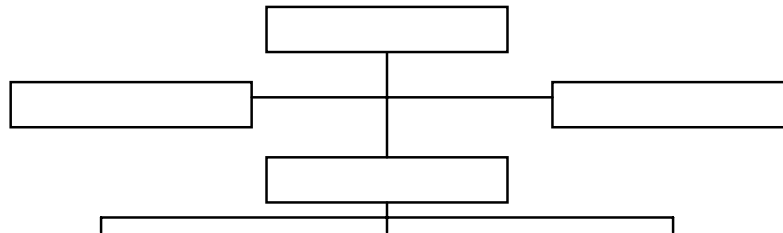
Of course the contract has a secondary role; it acts as a fail safe device: the business person's ambulance when things go wildly wrong. An accident happens; a roof falls in; supplies are late; equipment is defective; customer relations become soured. Reference is made to the specifics of the contract to sort out the mess. This is the legal aspect of the contract.

## 2.11 Organization and Interfaces

### 2.11.1 Structure

Projects must operate with and within the customer environment. the structure adopted must enable the correct flow of information between the project and the customer and facilitates the taxing of relevant decisions at the right level.

To this end a 'standard' structure has proved successful over the years. The outline is:



The role of each committee is described in the following sections.

Note that although there are three essential and distance committees controlling various aspects of the development, individuals can and will serve on more than one of them.

### 2.11.2 Steering Committee

This is the custodian of the corporate investment. It is a policy decision maker. The most senior user management chairs it. It is impossible to over emphasise the necessity for the highest-level representation commensurate with the size and importance of the project - Director level if at all possible. The Project Manager reports to this committee as do the Chairman of the Change Control Board., and the User Acceptance Committee (UAC) when appropriate. Meetings should be every four or five weeks and should not be onerous in terms of time - ninety minutes should be adequate unless decisions are required on policy or strategy issues. The members of the committee do not need detailed knowledge of the system, but do need an appreciation of the product objectives and milestones. They rely on their line management representation on the Change Board and UAC for guidance. Progress reports should be circulated in advance of meetings. The Steering Committee, on the advice of the Change Board signs off the statement of system requirements, which constitutes the project performance baseline.

### 2.11.3 Change Board

The Change Board is the vehicles which controls the integrity of the Performance Baseline which is the signed off agreement between the user and the project teams and is an essential part of the Project Charter.

The main composition of the Change Board will be user representation as felt appropriate by the chairman of the Steering Committee, and should provide an

adequate spectrum of the people will operate and use the delivered system. they will need a detailed understanding of at least those parts of the system which affect their own responsibilities.

The chairman of the Change Control Board may either be the Project Manager (or nominee) or one of the key users. The preference is for the Project Control Officer, which will assist in maintaining standardisation across the project and avoid the necessity of educating user personnel across many sub projects.

When minor transgressions inevitably occur during the project, the problem should initially be raised as an 'issue', which the Project Manager should resolve as quickly as possible in collaboration with the effected parties and a budget adjustment to the performance baseline made. If the issue can not be resolved quickly it must be escalated to a change.

Any change to a signed off project document which has been placed under baseline performance management is the subject of change control. The Change Board will only be called when the agenda is large enough to warrant it or if a requested change has an immediate impact on development. Only those people whose areas are affected need attend.

This committee is set up during the development stages, not at project inception. If the project is large in terms of its implementation impact, it may be advisable to make this committee a full time department with its own budget, etc. Members are likely to come from the Change Board with additional nominees who are at the working level of the delivered system. While the Change Board essentially protects the performance baseline, the UAC has the down-to-earth responsibility of ensuring the transition of the product into the working environment. Re-baselining is only permitted where no alternative course of action is left due to the number and perhaps complexity of the changes render the existing performance baseline invalid.

### 3. Project Start-Up

#### 3.1 Introduction

Project start up can be a daunting process as there are so many unknowns and the normal human reaction is to defer consideration of all matters, which do not have an immediate impact to reduce what is left to bite sized chunks. This apparent imposition of control can give rise to a false sense of security, which would act like a time bomb.

All issues must be faced, all risks must be acceptable - project management is not for the faint hearted and never more so than at project start up.

The purpose of the MPI project Management methodology is to help the Project Manager to identify important issues in advance and to put in place procedures, which will contain risks, and to maximise their chances of running a project, which successfully meets its objectives.

The following check list identifies some relatively straightforward activities, which clear the ground action and establish the starting position.

#### 3.1.1 Project Charter

The project charter contains all the known data about the project and clearly shows the customer's expectations, the description of all the deliverables, the work breakdown structure and project schedule, the performance baseline, milestone dates, any assumptions made about company and customer capabilities to deliver. It will detail the resources, which have been allocated to the project both by the company and the customer. Both the Project Manager and the customer sign it off. It is defined as below:-

##### 3.1.1.1 Verify the contract

At the start of any project there is a formal or implied contract between the Project Manager and the customer. First steps are to establish that the contract is visible and fulfillable and all its terms and conditions are understood by both parties.

##### 3.1.1.2 Identify deliverables

The deliverables are the elements which are required to demonstrate that the contract has been discharged. Are they fully visible in the project charter. They are normally physical for example hardware, manuals, source listings etc. but can also be less tangible, for example a period of fault free running, customer support etc.

##### 3.1.1.3 Ensure that all parties understand their responsibilities

It is most important that responsibilities are established at the earliest possible point of the project, otherwise too much will devolve to the Project Manager by default. Also, if third party responsibilities are not clearly established early, when they do become exposed it may not be possible to fulfil them, to the detriment of the project as a whole. Wherever possible, ensure that the project's commitment to the customer in respect of sub-contracted work is at least matched by the subcontractor's commitment to the project.

##### 3.1.1.4 Establish a Work Breakdown Structure



It is absolutely essential that a work breakdown structure is created as is practically possible at the project start up. It is constructed in accordance with the company procedures. It is generally decomposed into 5 levels clearly showing the breakdown of the project into subprojects, subprojects into deliverables, deliverables into sub-deliverables, sub-deliverables into activities.

#### **3.1.1.5 Establish a Performance Baseline**

The Performance Baseline is a precise definition of the functionality required of the systems and the physical characteristics of the tasks, which go to make up the deliverables, are specified in the contract. The intention is that it should be stable and does not therefore attempt to specify design other than when this is germane to the contract. It frequently includes constraints on timescales, response times, availability, security, resilience and/or serviceability as well as containing the risks.

#### **3.1.1.6 Identify dependencies and gain commitments for them**

Dependencies are those activities not under the direct control of the Project Manager, which are necessary to fulfil the contract. These may lie with the customer, with other departments within the Company or with third parties. Each of these classes of dependency requires a different style of management, but the object is the same ie. to gain commitment.

#### **3.1.1.7 Identify Risk Areas**

In just about all projects no matter how well the customer specifies their requirements there are always areas of uncertainty. Will the software specified work when all the users are on-line is a typical area of uncertainty. There are many such imponderables. The Project Manager will need to identify all such areas that are likely to cause the budget to overrun. Of course trying to identify that we don't know what we don't know leads us into creating contingencies to cater for any such risk which is unknown. It is MPI policy to implement risk management processes as per AS/NZS 4360.

### **3.2 Planning**

The next activities are those concerned with planning and organising.

Although conceptually we can separate these two activities, they form a tight loop from which we only emerge when the project is completed, for planning is the process of determining and scheduling the tasks required to meet the project objectives and organization is the process of establishing the relationships between the resources required to achieve those objectives.

Planning is a many faceted activity. The best plans are those which are thoroughly thought through, demonstrably deal with all known significant variables and are sufficiently flexible to allow modification in the light of changing circumstances. We are very rarely, if ever, concerned with producing the optimum plan for a given set of circumstances.

In particular at project start up stage, not all the factors affecting the project have been or can be established and therefore we can consider the first plan as a framework into which are fitted the detailed component parts as the situation or activity evolves. However provision for known risks must be taken into account.

It is never too early to plan; it is too easy to be too late and be overtaken by events. With out a plan it is impossible to organise and therefore to exercise control. Planning will almost certainly have been produced as part of the exercise of bidding for the project. Once the contracts have been awarded, the next stage of planning starts, and it is at this stage that elapsed time estimates start to be converted into calendar date commitments.

The overall objectives of the system must now be broken down into events within the plan (milestones) the most significant of which are “Key” milestones. These are supported by the tasks, which must be completed to achieve the milestones, which in turn ensure that the deliverables dates are met. We then estimate the time and resource requirements of these tasks and then schedule them to produce our first plan. Scheduling is most commonly done for all except the simplest projects using PERT (Program Evaluation and Review Technique) and the resultant plan displayed by computer either in tabular, network or Gantt chart format.

The plan is supported by two further documents, the “Commitments Register” and the “Key Milestones Register”. The commitments register records all commitments formally and informally entered into by all parties involved in the project, ie. the company, the customer, sub-contractors and third parties. The key milestone register records all of the planned milestones essential to the success of the project and the dates they are planned to occur. Note that they are not necessarily on the critical path of the plan; the key milestone register is a means of monitoring milestone essential to the meeting of the deliverables dates within the project, not their relative importance or knock on effect. Its prime use is to signal significant deviations from the plan.

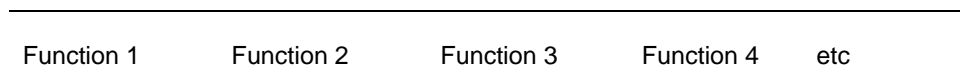
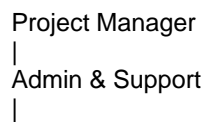
### 3.3 Organization

There are two aspects to organization, design and communications.

For the former, like most creative processes, we can only set out a number of guidelines, for the latter we have a number of techniques which have served us well in the past and which appear to have a lot of life left in them. However we must bear in mid that as organization is a vehicle for achieving the objectives of the plan and the plan itself must be flexible in order to adapt to changing circumstances, so must organization be flexible to adapt to changing plans.

Organization is necessary for all projects where more than one person is involved and as a minimum it must define how all the activities for which the Project Manager is responsible are delegated and distributed together with the relationships between the delegates.

The first step normally is to classify the tasks functionally and at the end of this process we normally have a perception of the specialist skill we require and some of the time relationships between them. It is normal on all except the smallest projects to have identified a number of administrative and support tasks (eg. accounting, secretarial, programme office support) and line tasks (eg. design, production, implementation). In most cases we can safely accept this as our first level breakdown.



Each functional team in turn may split down into sub functions but more usually into groups of similar tasks with team leaders and operatives in each team.

Having done this, the Terms of Reference and Job Descriptions are prepared and checked for completeness and consistency. Organization charts similar to the above together with the Terms of Reference and Job Descriptions are normally a complete and appropriate method of communicating the project organization.

### **3.4 Staffing and Resources**

The plan at this stage is almost certainly expressed impersonally, eg. 2 senior designers for 3 months in other words generic resources. Following the production of the organization and the resultant Terms of Reference for key or senior staff, the Project Manager then has the task of matching the staff requirements with staff availability. In principle a Project Manager should not be asked to compromise their chances of success by being forced to use resources for reasons extrinsic to the project when the capabilities of those resources are either unknown to them or known by them to be inadequate for the task in hand. In practice, the Project Manager very rarely gets a perfect fit to their requirements and has to spend some effort redefining Terms of Reference in order to deal with mismatches and uncertainties. Once the key staff have been selected, they themselves should be involved as far as possible in the selection of any staff who will fall under their control in order to underpin the commitment. As more and more of the staff fall into place so the productivity rates and other elements of the scheduling process are refined.

Staffs are not the only resources, which the Project Manager has to secure to the project. Accommodation, computer resources, application tools, sub-contractors all have to be dealt with and due recognition made of lead times, conflicts of interest and other environmental factors.

On large projects this becomes a major activity in itself and staff specially allocated to identify, secure and eventually to monitor project resources.

### **3.5 Prepare Quality Plan**

It is the company's policy set out in the Company Group Quality Manual, that every project will have a Quality Plan to show how a system will be quality designed and developed, provided to meet its specification and demonstrated that it is fit for customer use.

The Quality Plan must be in place as soon as possible and certainly not later than the start of the design phase. it will include not only the activities of the Company staff but also those of sub-contractors or vendors who are major contributors to the project.

We start the Quality Plan with the following concepts in mind.

Quality assurance is the monitoring and controlling of every activity in a project concerned with the production of the deliverables. It is important to recognise that this definition is not only concerned with the quality of the finished products but also seeks to ensure that quality is maintained in the work performance to create the products; bad work leads to inferior products whilst good work leads to increased credibility in the market place.

Within our Project Management Methodology, QA procedures are designed to comply with or exceed ISO 9000(AS 3900 series). These are covered fully in the Group Quality Manual and AS3653, guide to the Achievement of Quality in Software. PMM procedures are designed to ensure that no project member, procedure or product performs below specification undetected and that detection occurs in sufficient time for the remedy to be achievable within schedule and budget.



A cover letter must be prepared for submitting to the customer with the proposal.

### **Sectionalising**

The technical, management, and cost sections of large proposals (over 10 pages) should be bound separately. If their sizes permit, however, the technical and management sections may be combined within one cover. If necessary, the appendices to a proposal may be prepared as a separate volume.

### **Illustrations**

The use of illustrations is encouraged as they help clarify information that is difficult to describe by text alone.

### **Project Experience**

Where applicable, organization and personal experience may be included for emphasis.

### **Proposed Experience**

Where applicable, organization and personnel experience may be included for emphasis.

### **Proposal Outline**

In some cases the RFT or the customer's Statement of Work will provide specific instructions concerning the proposal content and format to be used. These instructions take priority over our company guidelines and must be followed. If the customer does not furnish specific instructions, or if the proposal is unsolicited, the following outline is recommended:

#### **Front Matter**

- Cover
- Title page
- Table of contents
- List of illustrations

#### **Section 1 - Introduction**

- Basis for proposal submitted
- General information in response to client's request
- Brief summary of the proposed approach, including the purpose and objectives.
  
- A statement and analysis of the problem, with a summary of the recommended solution.
  
- Description of any unique proprietary tools that can be applied to the project.
  
- Description of any special cost saving feature
  
- The Company's related capabilities and experience matrices.

## Section 2 - Technical Approach

- General

Note:- If bound separately, also include table of contents and introductions

- Problem definition (technical description of the requirements)
- Technical approach (technical description of the solution)

So far as possible, the contractual terms will be standard Company terms, and in other cases will be modified by the MPI legal advisors. However the deliverables of each project will need separate definition. This definition should wherever possible should be defined by the proposal or an agreed changed version of it. Thus at the start of a project the concepts of Performance Baseline, Controlled Document and Change Control can be established.

### 3.8 Establishment Project Library

The project library will contain many important corporate standard document and important standard technical literature. The library will also contain documents specific to the project such as reports, minutes of meeting, contractual documents, and formal exchanges with client and project plans. The system will conform to the company Document Control processes.

The various types of documentation within a project are numerous and each needs to be referenced. The number needs to be kept to a manageable level to avoid administration problems and confusion as to where information is lodged.

Typically the library will hold the following

- Administrative Notes - eg. Accommodation lists, car park arrangements, telephone director.
- Change Board Minutes
- Diary Notes
- Change Requests
- Technical Notes
- Design Review Minutes
- Project Progress Reports
- Terms of Reference's and Work Statements
- Contract
- Proposal
- System Requirements Specification
- Project Plans and Budgets



## 4. Project Evolution

### 4.1 Introduction

The preceding activities to a large extent can be considered as discrete and "one off". Once we embark on the running of the project, the activities are continuous and parallel and more nearly related to line management. In this section of the handbook therefore the emphasis is on things particular to project management, but these must be considered also against a background of good management generally.

The Project Management Methodology is firmly based on four cornerstones:

- People Management
- Performance Baseline Management
- Quality Management
- System Evolution

### 4.2 People Management

There are five basic functions that are part of any manager's job, including that of a Project Manager. Performing them well is a key ingredient in effective project management.

They are:

- Planning
- Organising
- Staffing
- Directing
- Controlling

These five basic management functions are all applications of the central management prerogative - decision making. In carrying out these functions, the Project Manager performs three fairly distinct roles. These are best called executive, managerial and leadership. Although each of these roles tend to be associated with specific activities and functions, they also provide three different perspective's from which the whole project management job can be viewed.

Project Managers perform these three roles with different degrees of skill; to be an effective manager all three must be fully developed. It is important therefore that each Project Manager examines his performance and capabilities as objectively as possible in order to address his development needs.

#### The Executive Role

The executive role includes the activities that have a comprehensive, long-range effect on the structure and direction of the project. Although the executive role continues throughout the project, it is most heavily concentrated in the early stages. Some components of the executive role are

- Decision Making
- Setting Objectives
- Problem Identification



- Organising

### **Managerial**

Managerial activities are those, which accomplish the day-to-day business of running the project. Certainly, decision-making is heavily involved, but it tends to be large numbers of small decisions rather than a few crucial ones. If "specifying" is a reasonable one-word characterisation for the executive role, "accomplishing" is the word for the managerial role. Though present from the start, managerial activities pick up speed as the project moves from the drawing board to the workroom.

Typical Managerial activities include:

- Scheduling and budgeting
- Controlling
- Problem Solving
- Reporting

### **Leadership**

Leadership is the manner in which the Project Manager relates to the team members working for them. It starts the day a second team member joins the team and continues for the life of the project. The role of leader is more constant and subtle than that of executive or manager. To a degree a person's leadership ability is a function of their personality, and psychology may be more help than education in maximising it. There is little doubt, however that knowledge, experience and sensitively are key ingredients and are exercised in two primary components:

#### **Communication**

Every Manager should examine the extent to which communication in both directions takes place and whether his skills both as a talker and a listener are up to par.

#### **Motivation**

This is the ability to inspire people to perform well

## **4.3 Guidelines for Better Management**

### **Manage by Objectives**

Only by the purest chances does a traveller arrive at the proper destination without knowing in advance where it is and which turns to take. Setting objectives is the crucial step in planning. Once stated, they should be a road map that guides a manager's decisions during the journey.

### **Establish Criteria**

It is very difficult to know when objectives have been achieved unless criteria for success were set along with the objectives.

### **Manage rather than perform.**

This is a vital lesson for managers of technical projects and they seem to have special difficulty in keeping their fingers out of the technical pie. Time spent in performing is not time spent managing. Whatever the cause, this practice is highly

destructive. It leads to overwork and failure to do the job properly on the manager's part. It results in stunting of professional growth for the project staff and is a breeding ground for resentment and loss of confidence.

### **Communicate**

To communicate in this context means to keep people "in the know". This applies to team members, higher management and interested parties outside the project.

### **Meet Commitments**

Formalising commitments in writing will keep them from being forgotten or apparently broken through misunderstanding. When a commitment must be broken to a client, manager or subordinate, give as much notice as possible and explain the reasons.

### **Accept Responsibility**

A Project Manager cannot delegate responsibility away from them and they must have enough personal security to accept the blame when they are held accountable.

### **Test for Reality**

A good Project Manager should test their decisions and judgements for reality. The easiest way of doing this is to have the checked by a disinterested but trustworthy party.

### **Know Thyself**

Managers differ. There are valid differences in style, technique and personality. By the same token, each manager have their own set of blind spots and weaknesses. Knowledge of ones own strengths and weaknesses, management philosophy, and operating method is the most potent single tool one can have for managing more effectively.

### **Be Flexible**

Flexibility is demonstrated by open mindedness, thoughtful consideration of alternatives, willingness to compromise and perception of environmental change. It is not the same thing as lack of decisiveness or determination to reach a goal.

### **Recognise Grey**

A Project Manager who sees alternatives only in terms of right or wrong, good or bad or other black and white alternatives occupies a never-never land. They set impossible standards of performance and thus cannot succeed.

## **4.4 Performance Baseline Management**

Performance Baseline Management is a term, which embraces a set of techniques, which enable us to set up, monitor and control all the activities, which comprise the project. Its fundamental concept is the establishment of a defined Baseline against which performance and progress can be measured, variations and deviations detected and additional work or rectification undertaken to keep the project on the right track.

The Aims of Performance Baseline Management can be stated as

### **Simple Control**

- to reduce all the necessary control processes into simple structured routines which requires a minimum of effective documentation to make them work;

**Clear Structure**

- to provide everybody on the project with a known framework within which they can carry out their tasks;

**High Standards**

- to create a climate for people to perform to the highest possible professional standards.

in summary, to provide a secure foundation on which we can build for success.

- Performance Baseline Management encompasses
  - Planning, Scheduling and Staffing
  - Reporting
  - Change Control
  - System Problem Reporting
  - Project Accounting

**4.5 Planning, Scheduling and Staffing**

Planning and re-planning are important aspects of all projects. It is the responsibility of the Project Manager to ensure all plans are produced to a high standard. Key planning activities include

- Drafting and maintaining the overall plan to include identification of the Company and client dependencies, elapsed time for each activity and main resource effort required completing each task.
- Presenting the overall project plan to the client and obtaining acceptance and agreement.
- Creation of Key Milestones for all stages of the project.
- Maintaining the planning documentation in an up to date and consistent state.

An important part of the planning function is the definition of specific tasks assigned to individuals in the form of Terms of Reference (ToR) or Work Statements. The purpose of both is to provide an agreed, documented understanding of each individual's work assignments, responsibilities and authority. The essential difference between the two is that ToR's tend to be general in nature and may have a longer duration than a Work Statement, which tends to be oriented towards specific, short-term activity.

Thus a team leader may have Terms of Reference describing their overall responsibility, and may delegate activities to his team members via Work Statements.

**4.6 Reporting**

The purpose of reporting is to assist all parties to the contract to maintain an informed view of their residual commitment to and risks in the project. The PMS methodology

does this by ensuring frequent formal communication of project status within the project, between the Project Manager and their line manager and between the Company and the customer.

Reporting addresses two major issues

- Recording and verifying achievement
- Recording and verifying expenditure
- 

Achievement is recorded weekly on standard reports and until any discrepancy is revealed by quality assurance, the achievement is regarded as good and summarised by team leaders for submission to the Project Manager. The report to the Project Manager will be in memo form and will cover as minimum.

- Progress against commitments
- Milestones and completion dates met
- Milestones and completion dates not met
- Slippages and schedule implications
- Existing and foreseeable problems
- Resource allocation and requirements
- Required or recommended actions.

#### 4.7 Quality Management

Quality control to a limited degree exists in projects where there are easily discernible and discrete stages and where the output of one stage forms input to the next. This "proof of the pudding": type of check suffers from a number of disadvantages, amongst which are included:

- Only interface attributes are checked, so that conformance to standards, completeness, and maintainability go by default
- Shortfalls are discovered late in the process so that remedial action is unnecessarily time consuming, expensive and detrimental to morale.

To head off these problems, quality must be built into the production process by activities we call first and second level checking and reviews.

##### First level checking

A co-worker normally conducts this level. The Quality Plan must specify at which stage these checks are performed eg. on completion of the draft design. This kind of check must be performed against a published standard, preferably by ticking items checked against a published checklist (like a car service). The result of the check must be a sign off kept as a record together with actions taken to correct any deficiencies.

##### Reviews

These are normally group activities, which take place when work is handed over to another unit within the project team. Reviews must be planning with an agenda and certificates of acceptance or rejection signed.

A particularly significant review takes place at the end of the design phase, as not only is the success of the project is particularly sensitive to the quality of the design, but also it is the design which determines the cost of the balance of the project.

### **Second level checking**

An independent body appointed or approved by the Quality Department conducts these, and it is its role to ensure that quality controls are being properly enforced.

### **Audits**

These are conducted at the initiative of the PMS project management at approximately six monthly intervals. Their objective is to assess the residual risk in the project and take the form of a snapshot of the project at a moment in time. They touch on QA in so far as it is being applied at the time or has been applied to any work done.

The constitution of the audit team, normally two senior Project Managers and the ToR's are determined by the manager of PMM, although they will normally take into account any particular aspect of the project on which the Project Manager would like an independent view. With this kind of audit the process is of greater importance than the deliverables reports, for before it is published and archived, the material findings will have been discussed with the Project Manager who is expected to implement the recommendations or give good reason why they should do otherwise.

This kind of audit is a most powerful risk management tools and depends entirely on the Project Manager and their management alike adopting a highly professional approach to the question of individual fallibility and group wisdom.

## **4.8 System Evolution**

In most projects there are easily recognised phases, the end of each being marked by a significant change in profile of the activities being undertaken. This is nowhere more true than in Application Software development projects, from experience in which most of this methodology has been derived. The following notes describe the evolutionary stages for an Application Software development project.

### **Functional Requirements Specification**

This is a formal document resulting from the first thorough investigation by PMM into the user's area. As such, it represents a final product, addressed to senior management, as well as the communication vehicle for subsequent development phases. Its major objective is to address systematically the problems, solutions, and recommendations and, where appropriate, cost justifications.

### **System Requirements Specification**

This constitutes the "baseline" upon which design may proceed. All user's inputs, outputs, processing requirements, turnaround timings and volume of through put are detailed. This document logically follows the Functional Requirements Specification and its major objective is to formulate what the system must accomplish. This is not a design document.

### **System Design Specification**

This document outlines the actual design of the system intended to accommodate the System Requirements Specification. Information flow and detailed inputs and outputs are specified, whilst programs are identified. The data base is laid down and future requirements are considered. Computer usage estimates are quoted. The System

Design Specification is the baseline utilised by the information processing development personnel and can simply be defined as the technical interpretation of the requirements.

### **Program Specification**

This is a design document describing how a program will meet an external functional requirement or an internal system facility, as defined in the objectives of the System Design Specification. It is at a greater level of detail than that contained in the System Design Specification. The program Specification explains how the program design meets the system requirements as interpreted by the System Design Specification and provides a firm basis from which code can be written and maintained.

### **Module Specification**

This is the lowest, most detailed level of documentation in the system documentation structure and consists of basic detailed working papers requirement for the programming effort. Module Specifications are not intended for external reference.

### **Development**

This step constitutes the actual coding and testing of the system in accordance with the approved project implementation plan. Phased or staged development may be applicable and necessary controls will have to be introduced over the versions of modules, programs and suites. Initially, development is the process of accurately converting a program/module design into a suitable, predetermined computer language. On completion of coding, testing of the product will be undertaken to ensure that all detectable errors or bugs have been removed prior to integration. Errors and discrepancies emerging in subsequent "evolution" processes will be corrected and regressed by the development team(s).

### **Integration and System Test**

Integration consists of linking and testing the numerous modules/programs/suites comprising the system and verifying that all interface requirements are satisfied. This process ensures that the system functions as they are being built up in stages to sub-systems have reached a satisfactory "level of confidence" prior to submission to system test.

System test constitutes a comprehensive test of all functions, suites or sub-systems to ensure that, in isolation, they meet their requirements, followed by exhaustive testing of the total application system against the approved System Requirements Specification.

### **Acceptance Testing**

Acceptance testing is performed by the user organization and constitutes testing of delivered systems to provide inter-related working of the system, using tests developed, obtained or adapted by the user, to ensure that the system meets its expected requirements totally.

### **Implementation**

The purpose of this function is to ensure that all critical events in the areas of conversion, database initialisation and capture, pilot and/or parallel runs, training and



operations (testing and production) are catered for in an adequate and timely manner, thus ensuring a successful total system implementation.

## 5. Commissioning and Handover

### 5.1 Introduction

The successful implementation of a new information technology system depends upon two major factors:

The comprehensive planning of a number of activities, which together comprise the Implementation cycle

#### **The successful completion of these activities**

Implementation however, is merely another milestone in the life of a system. The value of a system to the user starts after implementation. Of paramount importance therefore is the capability of the organization to provide a production service to the user. The final part of this volume is therefore dedicated to the establishment of an effective production unit.

As will be seen, the implementation exercise covers a wide spectrum of activities. It is also very time consuming and critical to the success of a project. Implementation effectively starts at day one of a project, and, since it is carried out alongside other project activities such as design, development, testing ,etc, it must be formally planned, controlled and then effectively carried out. Clearly, no matter how brilliant the system may be, without effective implementation, failure will be inevitable.

### 5.2 Implementation Committee

An Implementation Committee should be formed to draw up and subsequently monitor the progress of the implementation plan. It will receive its strategic direction from the Steering Committee and it should include one, and preferably more senior user manager together with the IT Manager.

### 5.3 Implementation Manager

For all but small projects, an Implementation Manager should be appointed whose role is to carry out the decisions of the Implementation Committee. This is the "on the ground" matrix role that is so often vital to ensure all implementation activities are co-ordinated. The Implementation Manager cares particularly about inter-departmental or external dependencies.

Normally the Implementation Manager should be someone from the user environment, who understands the user's business and methods of working and also understands the new computer system.

### 5.4 The Implementation Plan

When the Implementation Committee has been formed, the next step is to draw up a formal Implementation Plan. The plan should be detailed and cover all aspects of the implementation with all milestones clearly identified, all dependencies identified and all timescales estimated as exactly as possible.

It is this plan which will most determine what effect the new system will have on the business. Sign off of the plan from all concerned must not just be a paper exercise - it must be seen as a user's commitment to the Implementation Program.

### 5.5 Training



If there is to be a successful handover of the system to the user it is essential that their staff have been properly trained to run and use the system. User training begins with the appointment of training officers and the production of user manuals and guides. Where the system involves a users IT department the earlier in system life cycle their involvement begins, the better.

## 5.6 User Manuals

These should be produced at tow levels:

- Management Overview
- Detailed End User Guide

The detailed end user guide may well be divided into specific user areas depending on the application(s) involved. A typical contents list for a User Guide is:

- Introduction to the System
- Types of Transaction and Operating Instructions
- The Menu System
- The HELP System
- Fault Conditions
- Recovery Instructions
- Contacts (names, positions, locations, etc)
- Contingency Arrangements

It is often useful to produce very simple summaries to assist users over the initial learning curve.

## 5.7 Acceptance

Before a system can go live, it will, under normal circumstances by formally accepted by the customer. This formal acceptance will be based on satisfactory completion of acceptance tests, which should be set up and monitored under a rigidly controlled plan. Acceptance tests are necessary because even with the best system definition, the user departments needs may well have been misunderstood and there is likely to be some confusion about who is responsible for what.

There are certain activities, which are always relevant in acceptance testing. These are:

Agreeing the acceptance criteria

Acceptance criteria must be clear and unambiguous and wherever possible should exercise the total system, including

- Hardware
- System software
- Application software
- Clerical and IT procedures,

and where this is not possible a representative portion should be tested. They should give an indication of the performance of the system and as such should be realistic, measurable, relevant and be related to the project objectives. They must be written into an agreed and signed document, which, most importantly must be maintained under change control during the life of the project.

## 5.8 Acceptance Plan

Once the criteria have been agreed, they should be incorporated into a series of tests designed to provide evidence that each criterion has been met. These tests are described in an Acceptance Plan, which should contain at least the following:

- Scope of the Acceptance Tests
- Acceptance criteria
- Detailed description of the Acceptance Tests
- Expected results of tests
- Formal sign off procedures

### 5.9 Acceptance Test Data Preparation

Test data should be prepared by the user, and must consist of input, procedures and predicted results in the same format as those the system is required to produce. This activity is tedious and time consuming and the effort required by the user should not be underestimated or underplayed.

### 5.10 Acceptance Protocol

The customer is required to sign a formal acceptance document when the acceptance tests have been successfully completed.

This acceptance statement requires signatures from both the Project Manager and the customer and it is important that the customer's representative has sufficient authority.

### 5.11 Project Closure and Handover

The codes of practice to cover the handover procedures and subsequent project closure are designed to ensure that the Project Manager's perception and the customer's perception of "project completion" and "contract completion" are in accord.

On PMM projects it is mandatory that the handover procedures are planned and implemented regardless of the level of definition in the original contract.

The handover procedure contains various formal stages carried out jointly and severally by the parties to the contract. These stages include:

- Prepare the handover plan
- Agree and sign off acceptance of the plan
- Resource the plan
- Activate the plan
- Monitor progress and revise the plan
- Agree handover concluded and sign off Project Closure
- Agree a procedure for processing any matters outstanding e.g.
  - Timetable for outstanding bugs
  - Processing Change Requests
  - Ongoing support

### 5.12 Handover Plan

The Project Handover Plan should be prepared as far in advance as practicable and its objective is to define the route to satisfactory handover. The following checklist covers the main areas, which the plan must cover.

- Criteria
- Deliverables
  - Restate and agree the list of deliverables detailed content of each deliverable standards to which each is to be produced
  - Form of handover
  - Dates of handover
- The carry over/outstanding work-define acceptable levels of SPR have and change requests to allow handover to start and complete
- Knowledge transfer - establish the criteria by which this will be measured and organise the conduct of handover accordingly.
- Formal Sign-Off - establish who will perform the sign-off, on whose advice and identify any subjective issues, which may be raised to justify a no-sign.

### **Content**

Handover is an important project activity with a key milestone to achieve. It should not be confused with an event driven activity such as "Warranty Period 60 days".

The Company resourcing should include the carry-over/outstanding work, support arrangements during handover and staff withdrawal plan.

The customer resourcing should detail the training activities to be undertaken in order to affect the knowledge transfer part of the handover.

### **Conduct**

The plan should detail the partnership agreement over the handover period to support the interfaces to all the affected customer departments e.g. Computer Operations, User Departments.

### **On-going Activities**

The final areas the plan must address are the on-going arrangements, which will need to be set up at time of hand-over such as on/off site support, outstanding Change requests.

### **Conclusion**

The primary objective of the hand-over procedure is to satisfactory close off the project and discharges the obligations of the contract.

Nevertheless, no matter how successfully a handover is achieved the customer will still suffer "withdrawal symptoms".

A secondary objective therefore is to minimise these and to achieve this the handover must be

- Agreed

- Highly visible
- Monitored and modified as required to meet the criteria for sign-off.

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## Appendix A

### Project Start Up

#### Verify the contract

At the start of any project there is a formal or implied contract between the Project Manager and his customer. First steps are to establish that the contract is visible and fulfil able and both parties understand all its terms and conditions.

#### Establish a Performance Baseline

The Performance Baseline is a precise definition of the functionality required of the systems and the physical characteristics of the deliverables specified in the contract. The intention is that it should be stable and does not therefore attempt to specify design other than when this is germane to the contract. It frequently includes constraints on timescales, response items, availability, security, resilience and/or serviceability.

#### Identify deliverables

The deliverables are the elements, which are required to demonstrate that the contract has been discharged. They are normally physical for example hardware, manuals, source listings etc, but can also be less tangible, for example a period of fault free running, customer support etc.

#### Ensure that all parties understand their responsibilities.

It is most important that responsibilities are established at the earliest possible point of the project, otherwise too much will devolve to the Project Manager by default. Also, if third party responsibilities are not clearly established early, when they do become exposed it may not be possible to fulfil them, the detriment of the project as a whole. Wherever possible, ensure that the project's commitment to the customer in respect of sub-contracted work is at least matched by the sub-contractor's commitment to the project.

#### Prepare estimates for each task

The necessity for estimates should be self-evident. However it must be borne in mind that there are normally a lot of assumptions made at the start of a project. These assumptions must be recorded with the estimates so that estimates can be refined as the project progresses, the assumptions verified and consequently the risks better controlled.

#### Draw up a Project Plan

The cornerstone of good project management is planning. For short term projects simple clerical methods will suffice for the production of networks, Gantt charts, spreadsheets, etc. The plan should detail all the activities, which must be undertaken to ensure successful completion of the project regardless of who is responsible for carrying out the activities. The plan must also include the allocation of tasks to resources, scheduling and where appropriate, costings.

### **Draw up a Quality Plan**

The purpose and scope of Quality Plans are set out in detail in the Group Quality Manual. For the purpose of this methodology, the Quality Plan should address two main objectives. The first is to highlight the additional activities, which the Project Manager must undertake outside the general guidelines in order that this particular project will be delivered to the appropriate quality. The second is to assist the central project management controller to monitor project progress.

### **Identify dependencies and gain commitments for them**

Dependencies are those activities not under the direct control of the Project Manager, which are necessary to fulfil the contract. These may lie with the customer, with other departments within the Company or with third parties. Each of these classes of dependency requires a different style of management, but the object is the same i.e. to gain commitment.

### **Establish the Change Control procedure**

During the lifetime of most projects, even short ones, there is a requirement to manage change. It is important to recognise that any change to a project's deliverables may have an impact on timescales, cost, useability, etc. Therefore, before any change is undertaken, the impact of the proposed change must be agreed with the customer and failing agreement, the change rejected. Agreed changes are applied to the Performance Baseline, which therefore becomes the up to date authoritative document. Proposed changes should be submitted to a Change Control Board, which has the authority to decide whether to approve them or not. Once approved, changes are formally incorporated into the Performance Baseline, which therefore becomes the up to date authoritative document. Proposed changes should be submitted to a Change Control Board, which has the authority to decide whether to approve them or not. Once approved, changes are formally incorporated into the Performance Baseline, i.e. the Performance Baseline becomes a "controlled document".

### **Establish acceptance procedures**

It is of paramount importance that a Project Manager has a defined way of demonstrating to the customer that they have fulfilled their obligations, usually by the demonstration of a working system. The acceptance procedures must be formally set out in a Protocol of Acceptance, which is not already incorporated in the contract when the Project Manager takes over, they must ensure that it is incorporated immediately. The customer must be prepared well in advance so that they know what to expect and what their own obligations are. It is important to distinguish between the demonstration of a working system for acceptance purposes and contractual arrangements for payment or warranty.

### **Establish project administration and control procedures**

Under this heading are included lines of communication, protocols of administration, accounting and reporting procedures and documentation.

### **Establish limits of discretion**

It is impossible for the Project Manager to function effectively without authority. So far as possible they should have control over their project resources and authority for expenditure, which does not materially affect the project timescales or budget. It is also desirable to delegate to them some discretionary budget to be used when waiting for a decision from higher authority would be more prejudicial to the success of the project than the risk inherent in a low decision.

**Identify and quantify risks**

Where there is a possibility of an external event affecting a project, the Project Manager should take a view on the probability of it occurring and the impact on the project should it occur. A contingency budget should be set aside to apply to these events, and the residual risk on a project continually monitored to give the Project Manager and higher management a view on financial exposure.

**Establish Commitments Register**

It is normal for commitments on a project to exist outside the contract and Performance Baseline, and these are recorded in a Commitments Register. Such commitments include small additional undertakings, delivery of supplies and performance undertakings. Where a commitment is to the project, the Project Manager must ensure that the person making the commitment has the authority to do so.

**Understand the Account Development Plan**

Whereas a Project Manager will normally be motivated to optimise the success of the project, it may well be that this is not compatible with the overall account development strategy. It is important that the Project Manager understands the account development plan, and how the project fits into that plan. It is equally important that compromise on the project to the benefit of the account as a whole is declared and agreed to at the start of the project. Deference to strategic sales objectives is frequently justified, deference to whimsy or sales crises hardly ever. It must be clearly understood that when a Project Manager is required to alter their plans in deference to a sales requirement, the cost of the change must be provided to the Project Manager

**Place purchase orders**

Remember that external supplies and services have to be ordered and there is frequently a lead-time.

**Terms of Reference**

A Project Manager should always work to terms of Reference and staff under their control should similarly be given Terms of Reference or Work Statements for the tasks assigned to them. These Terms of Reference should include, inter alia, the normal and exceptional lines of communication to the Company, third parties and the customer.

**Running the Project****Verification of achievement**

A Project Manager stakes their own and our company's reputation on their progress reporting. Accuracy in reporting and good judgement in making predictions are far more likely to secure additional business than, for example, being the cheapest. A prudent Project Manager therefore verifies as much as possible before underwriting any reported achievement as good.

**Progress reporting**

The Project Manager should report formally at regular intervals to their manager on all activities, which should have progressed during the reporting period. The report should cover all activities completed and started, should note any slippages or previously unforeseen problems and the containment actions to be taken.

### **Re-forecasting**

As a project progresses the Project Manager is able to review their original plans and estimates in the light of progress to date. The Project Manager should regularly update the project plans and forecast the likely timescales, resources and budgets of the project and report accordingly.

### **Change Control**

Changes to the Performance Baseline of the project may be generated externally by the customer changing their requirements, internally because of queries, errors or improvements that are identified as the project progresses, or by external events. All changes must be evaluated for their impact, both in time and money, on the project. Only approved changes must be incorporated into the project plans, activities and Performance Baseline.

### **Dependency Management**

The Project Manager must monitor the progress of those activities not under direct control, to ensure that such activities do not hamper the progress of the project and cause unnecessary delays. This is achieved by regular communication with the people responsible for the dependencies.

### **Validate deliveries from third parties**

The Project Manager should never assume that an item delivered by a third party works in the way it should, if at all! The plans should therefore include sufficient time and resources to validate all deliverables from third parties to ensure compliance with specifications and standards before incorporation with the system for delivery to the customer. It must be emphasised that in this respect supplies from within the Company must be treated in the same way as external supplies.

## **Project Handover**

### **Prepare test plan**

Just as the Project Manager should not assume that all deliveries from third parties are satisfactory and work to specification, so the customer must formally test everything delivered to them by the project. These tests must be carefully planned and prepared to ensure correct functionality of the system and satisfactory performance to the specified baseline.

### **Dry run Acceptance trials**

The Project Manager and the team should carry out a dry run of the customer's acceptance tests to ensure that, when handed over to the customer for trials, the outcome of those tests is already, as far as possible, known. This procedure reduces the risk of offering a system to the customer, which they will not find satisfactory, and hence it will increase the customer's confidence in the team's professionalism and integrity.

### **Establish SPR procedures**



Any errors or problems found in the system, whether in items delivered by third parties or in work done by the project team should be formally recorded on a System Problem Report (SPR). This report must be sent to the appropriate party for analysis, correction if necessary and re-delivery. This appropriate retesting should be carried out by the project team before resubmission to the customer for acceptance trials.

#### **Prepare customer for Acceptance Trials**

The Project Manager must make the customer aware of their obligations with respect to Acceptance Trials and should encourage them to prepare for them in good time. The customer will ensure that internal training has been done, documentation is in place, test data and results have been prepared and proper resources made available to monitor the trials and check the output.

#### **Cutover to live operation**

Following satisfactory completion of the Acceptance Trials the transfer to live operation must be effected. This will have been planned and prepared by the customer during the project to ensure that the appropriate data input or conversion tasks are known, the operational procedures are defined and in place and the cutover to live operational procedures is done in such a way as to minimise disruption to the customer's business.