

(R)

ACD - 8553
MSA - 19/2/98

**STUDY & REVIEW OF PROJECT
PLANNING AND CONTROL IN
PROJECT DIVISION**

By
AHMAD ZAMRI HAMDAN
Bachelor of Engineering (Electrical)
University Of Newcastle
Australia
1988

Submitted to the Faculty of
Economic & Administration
University of Malaya
in partial fulfilment of
the requirement for
the Degree of
MASTER OF BUSINESS ADMINISTRATION
March, 1997

Perpustakaan Universiti Malaya



A507345582

OK

ACKNOWLEDGEMENTS

I wish to express my sincere appreciation to my supervisor, Dr. Tan Lee Peng for her valuable time, guidance and helpful advise that enable me to successfully complete this paper.

I am grateful to Tenaga Nasional Berhad for providing me the opportunity and study leave to undertake this Executive MBA program.

My special thanks to the many friends who in one way or another contributed to the successful completion of this paper.

My deepest appreciation and love to my wife, Aiesah, who provided moral support during the whole three years of this MBA program.

And finally, I wish to express my love to my daughters, Aizam Nur, Azmin Nur and Azwin Nur, for being patient with me.

TABLE OF CONTENTS

Item		Page
1	ABSTRACT	1
2	CHAPTER 1 : RESEARCH PROPOSAL	4
	2.1 Introduction.....	4
	2.2 Objectives of the study	4
	2.3 Scope of study.....	5
	2.4 Methodology of study.....	5
3	CHAPTER 2 : PROJECT MANAGEMENT	6
	3.1 What are Projects	6
	3.2 What is Project Management.....	7
	3.3 Engineering Construction Projects	9
	3.4 Basic Management Activities	16
	3.5 Organisational Concepts	18
	3.6 Contractual Relationships	21
	3.7 Planning and Control of Operations and Resources	23
	3.8 Conclusion	25
4	CHAPTER 3 : A CASE STUDY IN PROJECT MANAGEMENT	27
	4.1 Introduction.....	27
	4.2 Transmission & Distribution Project Division	28
	4.3 Organisation Structure	29
	4.4 Contractual Approach.....	30
	4.5 Planning and Control of Projects Operations and Resources	31
	4.6 Summary	33
5	CHAPTER 4 : CONCLUSION AND RECOMMENDATION ...	34
	5.1 Conclusion	34
	5.2 Recommendation	34
6	BIBLIOGRAPHY	

7 **APPENDICES.....**

- 7.1 Appendix A : Tenaga Nasional Berhad Organisation Structure
- 7.2 Appendix B : Transmission & Distribution Project Division Organisation Structure
- 7.3 Appendix C : Changes in Organisation of Transmission Project Department
- 7.4 Appendix D : List of Transmission & Distribution Projects
- 7.5 Appendix E : Sample Project Schedule using CPM Method
(Source : Progress Report for Contract TNB 1138/96 - May 1996)
- 7.6 Appendix F : Activities Flow-Chart
- 7.7 Appendix G : Process Flow-Chart in Project Management

ABSTRACT

Many projects are completed without any formal project management practices. These projects are often plagued with delays and cost overruns. The main point is not just completing a project, but completing it correctly. If projects end with massive cost overruns or constant delays, return on investment from all the time and effort put into the project will probably not be maximised. To be successful in managing projects, a sound knowledge of the various techniques for planning, organising and controlling projects is needed.

1 **Planning Projects**

- 1.1 Effective communications network is essential. This means establishing a systematic way to convey important information and to receive feedback. Without that, communications will break down and problems, especially delays will occur.
- 1.2 These problems can be avoided by setting up detailed procedures for the creation, distribution and maintenance of project documentation. The possible procedures available are the project history files, the documentation distribution matrix and the project manuals.
- 1.3 Meetings are another good communications tools. Meetings if conducted correctly, can provide a powerful tool to resolve problems, define responsibilities and plan project activities.
- 1.4 When managing a project, activities and phases that will occur must be exactly known in advance and to do that, the project has to be broken down into major definable components and logically sequenced. Once this is done, these

components can be displayed graphically via a GANTT chart or a network diagram (PERT or CPM).

- 1.5 GANTT charts are bar charts which depict the major phases or partitions in a project, the associated milestones, the chronology of the phases, the elapse time for each phase, the total elapsed time for the project and the project completion date.
- 1.6 PERT charts are flow diagrams which depict the major phases or partitions in the project, and the phase start and end points. PERT charts are useful to identify the project dependencies, concurrent phases or tasks, the critical path and the phases or tasks in the project which are crucial to meeting the completion date.
- 1.7 Constructing a GANTT chart or a network diagram requires team effort, by which every major participant supports the project by giving a more accurate and detailed information.

2 **Organising Projects**

- 2.1 Manpower, equipment and materials are always necessary to complete any project. With an accurate network diagram or a GANTT chart, the level of required resources for each activity and for the entire project can be estimated, i.e. to predict the type and amount of resources needed at any given point in time. It will not only provide the right amount of resources, but also a mean to control or monitor the project.

3 Controlling Projects

- 3.1 The purpose of monitoring is to ensure a project progresses as planned, and to do that some way of detecting deviations or variances is needed.
- 3.2 Monitoring works on the principle of comparing estimates with actual data gathered from documentation and other sources. Information from the GANTT charts or network diagram can be used to determine the deviations that occurs in scheduling. This information can be compared with the data gathered from the documentation collected throughout a project.
- 3.3 Collecting information on resource utilisation will also help in monitoring a project. This information can be collected from two sources ; meetings and forms. Meetings allow for quick acquisition of information without having to compile a lot of data. Forms can be used to compile information and create reports on manpower, equipment and material utilisation. Forms such as work orders, purchase orders, daily status reports, daily material reports, daily manpower reports and daily equipment reports facilitates preparation of managerial reports and determine the progress of a project.
- 3.4 Another standard and effective way to determine status of a project is to measure a project according to cost. This is by developing a clear and concise chart, to include information like the original cost estimates, actual cost estimates, differences between the two and revised activity and project completion estimates. Any variances is to be made aware followed by determining the reasons and impact of these variances to the project.