APPLICATION OF PROJECT MANAGEMENT CONCEPT ON ROAD AND BRIDGE CONSTRUCTION CLAIMS

Tissa Gopallawa

(118958P)

Degree of Master of Science

Department of Civil Engineering

University of Moratuwa

Sri Lanka

July 2013

APPLICATION OF PROJECT MANAGEMENT CONCEPT ON ROAD AND BRIDGE CONSTRUCTION CLAIMS

Tissa Gopallawa

(118958P)

Thesis submitted in partial fulfillment of the requirements for the degree Master of Science

Department of Civil Engineering

University of Moratuwa

Sri Lanka

July 2013

DECLARATION

"I declare that this is my own work and this thesis does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

Also, I hereby grant to University of Moratuwa the non-exclusive right to reproduce and distribute my thesis, in whole or in part in print, electronic or other medium. I retain the right to use this content in whole or part in future works (such as articles or books)."

Signature: Date:

The above candidate has carried out research for the Masters under my supervision.

Signature of the supervisor: Date

ABSTRACT

Road Development Authority of Sri Lanka (RDA) is the client organization for the National Roads administration operating under the supervision of the Ministry of Highways. Since 1986 up to end of 2003 most of the road and bridge construction works were handled by Road Construction and Development Co (pvt) Ltd.which was known as (RC & DC), the main contractor organization and the subsidiary of the Road Development Authority. Independent Consultants and Contractors were handling some of the road and Bridge construction works procured through competitive tenders that was mainly foreign funded projects. After the closure of RC & DC in December 2003, the works which could not be handled by RDA directly were given on contract following the procurement procedures provided in government tender guidelines. Those contracts were categorized as foreign and locally funded projects. In contracts administration claim situations are common due to disputes with parties where independent consultants administrate the works of independent contractors. The appointment of an independent consultant to work as the contract administrator is one of the important arrangements in contract Administration.

It was examined in this research how far the Construction Project Management approach could be used to minimize delays in claim situation in road and bridge construction works**.** The main objective of this research is to study how far the Construction Project Management concepts can be used for road and bridge construction works while evaluating selected case studies to see how this concept could be applied in road and bridge construction claims.

To full fill this purpose a literature survey was carried out**.** It was revealed that there was a necessity to appoint an independent Project Manager for large projects to take impartial decisions in the interest of both the client and the contractor. The findings are based on 7 case studies carried out in depth during the research.

Keywords: Construction Project Management (CPM), Claims & Disputes, Arbitration, Independent Project Manager, Client and contractor.

ACKNOWLEDGEMENT

First and foremost, special mention should be made that I should be very much grateful to the Managing Director of the Jayawansa construction (private) limited, for granting permission for me and releasing funds to follow this(M.Sc degree course) study.

At the same instance, my thanks are also due to Dr.Lesly Ekanayaka, Research Supervisor, for his valuable directions and assistance provided during the research (programme) work and for the preparation of the report.

(Thanks are due for)I also thank Professor G.T.F.de Silva the former Vice Chancellor from 1990 to1996, of the University of Moratuwa and Mr.M.B.S.Fernando, ex-Chairman of the Road Development Authority who recommended my name to follow the Master of Science Degree in Construction Project Management, while directing me towards the successful completion of the (course) study.

(Thanks are also due)A special word of gratitude to Mr. Thusitha Rohana, the Claim Manager, Keagnam who gave me valuable information and data, while (exposing)availing his proposals and views in respect of the case studies.

Thanks are due to Mr.N.K.L.Nettikumara the deputy Director, National Sector, Highway Projects, Road Development Authority and Mr.Y.H.Kang, the Project Manager Keagnam who allowed me permission to enter to their (territory) work sites to investigate and collect required information.

Finally thanks are also extended to the staff of the Construction Project Management including the course coordinator and his subordinates in the Department of Civil Engineering, University of Moratuwa for making available its facilities for me to make this study a reality.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF ABBREVIATIONS

Abbreviation	Description
ADB	Asian Development Bank
BOQ	Bill of Quantities
CPM	Construction Project Management
CSC	Construction Service Consultants
C/SCSC	Cost and Schedule Control System Criteria
DAB	Dispute Adjudication Board
EOT	Extension of Time
FDOT	Florida Department of Transportation
FIDIC	FEDERATION INTERNATIONALE DES INGENIEURS-CONSEILS (International Federation of Consulting Engineers)
FTA	Federal Transit Administration
ICB	International Competitive Bidding
ICE	Institution of Civil Engineers
ICTAD	Institute for Construction Training and Development
JBCC	Joint Bidding Contract Committee
LCB	Local Competitive Biding
NBT	National Building Tax
OECF	Overseas Economic Corporate Fund
PM	Project Manager
RCC	Reinforced Cement Concrete
RC & DC	Road Construction and Development Company (pvt) Ltd
RDA	Road Development Authority
RFI	Request for Information
WB	World Bank
WBS	Work Breakdown Structure

CHAPTER 1: INTRODUCTION

1.1 Background

Road and Bridge construction work in Sri Lanka is being carried out by many organizations. Road Development Authority represents the government for the rehabilitation and construction of National roads and Bridges in Sri Lanka. RDA acts as the client organization. Rural roads are administered by Provincial Road Development Authorities. The rural roads are handled by Provincial Engineering Departments under Local authorities. Normal procedure of road and Bridge construction is to award the contracts to local contractors on tender according to government tender guidelines. Supervision is handled by the Engineer appointed by the client. This is the conventional type of contract administration where the client appoints an Engineer to look after Client's interest whilst administering the contract on behalf of the Client.

In modern contract administration an independent Project Manager is appointed to look after client's interest as well as manage the contract to achieve successful completion of the project.

There are instances of appointing an independent Project Manager as a project director by the RDA to monitor the project successfully on behalf of the client whilst an independent consultant administers the contract.

Project Management concept is defined as overall planning, control and co-ordination of a project from its commencement to the end aimed at meeting a client's requirement and ensuring completion on time, within cost and to a required quality standard. (Tyler 1993).

Majority of the claims in road and bridge construction are time extension claims. The claims are handled by the Contractor/Engineer traditionally. As far as the claim

situations are concerned it is important to find out whether this Project Management concept could be applied successfully in road and bridge construction Contracts, and to see whether the Project Manager's involvement can improve the settlement of claims acceptable equally to, both the client and the contractor.

Dispute prevention is very important to enhance the site progress in order to complete the project within the stipulated construction period which is mentioned in the procurement contract. During the design phase dispute prevention can be fulfilled effectively by appropriate unambiguous drawings and specifications.

1.2 Research Objectives

1) To identify current project management practices to deal with delays of claims in Road and Bridge construction works.
2) To study the applicability of best practices of project management to handle Construction Claim disputes.
3) To recommend a suitable claim resolution procedure to minimize conflicts in the future.

1.3 Research Methodology

(a) Literature review to understand the Project Management concept, and how it is to be used in road and bridge construction contracts.

(b) Seven case studies were undertaken in road and bridge construction work to study how the Project Management applies on claim situation.

Some of them were analyzed to see whether they could be better sort out with the aid of Project Management concept, and thereby the claim situation can be improved. Also to see the way of independent Project Manager has to be fair by both parties, the client and the contractor to sort out whatever the problems and issues raised within the project without leading them towards Arbitrations.

1.4 Main findings

The highlights of the literature review are given below.

(a) Development of Project Management has been considerably increased from its early history up to date.

(b) Claim situation can be improved by the Project Management Concept.

Analysis of case studies has revealed the following conclusions.

(1) There is a gap between the claim situation and the contract law.

(2) It is possible to settle a claim within the powers of Independent Project Manager without leading it towards Arbitration.

(3) Project Management Concept alone is not adequate for the settlement of claims, unless the power of the Independent Project Manager is strengthened by the law.

(4) Contractors do not like to move for arbitration, as it involves wastage of time and money. They do not like to inordinate delays in settling disputes. Therefore the contractors are compelled to settle matters amicably with the client or the employer compromising the margin of his profit.

(5) With reference to the case studies, Claim Manager of the contract organization which handles the contracts does not like to proceed claim matters up to the Arbitration or further, because that effects Client Contractor relations negatively. He also tries to settle claims amicably as far as possible, to avoid any misunderstanding or bad terms with the client. This is true of most contractors.

CHAPTER 2: LITERITURE REVIEW

2.1 General

Projects are not new; they were present in the whole history of mankind. However, project management is a relatively new and dynamic research area (Shenhar et.al, 1995). The literature on this field is growing fast and receiving wider contribution of other research fields, such as psychology, pedagogy, management, engineering, simulation, sociology, politics, and linguistic (Soderlund, 2004). These developments make the field multi-faced and contradictory in many aspects (Soderlund, 2004). Moreover, much of what has been written about project management is not build on or do not carefully consider results of former researches.

It is important to understand the development of the project management research and acknowledge its current state in order to properly address the organization of multi-project companies. Firstly, a historical overview of project management is presented. Secondly, the current research in project management is briefly portrayed.

2.2 What is Project Management?

Project Management is the application of knowledge, skills, tools, and techniques to project activities to meet project objectives. Project management is accomplished through the use of the following five processes:

- Initiation
- Planning
- Execution
- Controlling and
- Closure

The project team manages the various activities of the project, and the activities usually involve:

- Competing demands for: scope, time, cost, risk, and quality

- Managing expectations of stakeholders.
- Identifying requirements.

It is important to note that many of the processes within project management are iterative in nature. The term "project management" is sometimes used to describe an organizational approach to the management of ongoing operations. This approach treats many aspects of ongoing operations as projects to apply project management techniques to them. A detailed discussion of the approach itself is outside the scope of this research. (A Guide to the Project Management Body of Knowledge, 2004)

2.2.1 Project Management Fundamentals

Project Integration Management describes the processes required to ensure that the various elements of the project are properly coordinated. It consists of project plan development, project plan execution, and integrated change control. (Geraldi, 2007).

Project Scope Management describes the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully. It consists of initiation, scope planning, scope definition, scope verification, and scope change control. (Geraldi, 2007).

Project Quality Management describes the processes required to ensure that the project will satisfy the needs for which it was undertaken. It consists of quality planning, quality assurance, and quality control.

2.2.2 Historical Overview of Project Management

Human beings undertook project-like activities for thousands of years. As human society accumulates knowledge, creates instruments and organizes them to execute different tasks, projects perceived as complex turned to trivial activities, and new complex challenges emerged.

The mid 20th century is considered birth of the modern project management. The role of project manager emerged as the person totally responsible for the entire project, and classical schedule techniques were developed. In the beginning of the 60s other practices were introduced, such as life-cycle costing, front-end concept formulation, C/SCSC (Cost and Schedule Control System Criteria), quality assurance, value engineering and WBS (Work Breakdown Structure).

The 60s and 70s also witnessed a growing interest of intellectuals in the project management field and general management theories have being systematically applied to project management, such as the system approach.

In the 70s, project management was utilized by companies as a management tool for solving special tasks. At this period, project management field acknowledged the relevance of soft skills and environment. It was recognized that soft skills were necessary for the development of projects and behavior techniques were applied to project teams. This development followed the trend in the human resource perspective in the general organizational theory. This development followed the development of system and contingency theory. However, the main focus remained on the tools and techniques (Geraldi, 2007).

In the 80s, an organic paradigm for project management emerged. Project management was recognized as a key instrument in turbulent environment, and appropriated to almost all kinds of change processes.

This growing use of projects in organizations led to increase adoption of matrix or project organizations. At this point, project management crosses again the organization theory field, but this time, the project management field is the one to influence the general management science by proposing a new perspective of management. (Geraldi, 2007).

Different disciplines were developed/included in the project management tools/concerns, such as Configuration management, simultaneous engineering, total

quality management, partnership and procurement, financing (such as BOOT), risk management. With the development of IT technology in the 80s and 90s, computer-based tools, mainly for scheduling, were developed and diffused. (Geraldi, 2007).

Up to the end of the 90s, Project Management Body of Knowledge and textbooks were published, attempting to create standards in the project management practices and theory development. Since this period, these standards are being developed and further specialized in different areas and sectors.

2.3 Project Manager's Role

Project's execution is planned and controlled by the project manager. The project manager is assigned by the Agency, i.e., the Agency's executive management. The project manager must have adequate authority to exercise the responsibility of forming and managing a team for support of the project. The project manager must have prior experience managing similar projects in the past.

Important to know

- All projects must have a beginning and an end.
- Project managers with prior relevant experience help to keep projects on track.
- Projects are defined by their scope, budget, and schedule.
- Project life cycle phases for a typical construction project are initiation, planning, design, construction, commissioning, and closeout.
- The level of project management effort depends on project size, type, and phase. (Kerzer, 1995)

The Federal Transit Administration (FTA)

Ten questions for project managers;

1. Why do you want to start a project? What do you want to change? What is the vision of the project outcome?
2. Where is your starting point? Are you going to do a baseline study?

3. How will the project be assessed? Who are your the stakeholders in the project. What assumptions are made at the outset? Are they shared among all stakeholders?
4. What indicators will you use to measure the outcomes?
5. Have you given the project a meaningful, attractive title? How are you going to present it in a convincing way?
6. How is the project team chosen? What steps will be taken to secure motivation, involvement and commitment?
7. Have you worked out a sensible project budget? How are you going to record and check expenditure? Who will authorize spending?
8. Have you done a flowchart to plan the use of time? Are there regular review meetings? Is it clear what must be delivered at each phase?
9. Have you planned a strategy for institutionalizing the project? Does it include the necessary training for those who have to carry it out?
10. Have you made provision for long-term assessment of the outcomes of the project? What is the effect in six months, a year?

(Frank, 2000)

2.4 Application of Project Management to Road and Bridge Construction Contracts

Road and Bridge construction contracts cannot be executed in an isolated environment because they are considered as heavy and major construction around the world. Naturally these projects are influenced by many factors such as climatic conditions and human activities. It may also interfere with the public life and transportation or would be a pollutant.

Road and Bridge construction work involve following Responsible organizations,

- Environmental Authorities
- Electricity Agencies
- Water Services
- Local Authorities

- Agriculture
- Wildlife
- Cultural Authorities and Railway Department

Road and Bridge construction agencies would have to respect the guidelines of these agencies too. The interactions between these organizations and Road and Bridge contractor may have many possibilities to forward claims to the client. Unnecessarily there will be public criticism and more pressure from other organizations and authorities, if these types of constructions are delayed. This shows the complexity of the road and bridge contracts and the need to manage them with better co-ordination and to a practical programme. (Seacat & Northey, 2003).

2.4.1 Project Management Application

When operating under dynamic environment, most of the road and bridge construction contracts have complex tasks. Due to this complexity we could see that some form of control is necessary. Therefore it is clear that Project Management applications could play a vital role in such contracts. In application in Project Management to road and bridge construction contracts many texts and papers give evidence. This chapter aims to present some of the writings related to the issue.

"In USA the work of project conducts under the supervision of a state highway or transportation department is usually under the administration of the Project Engineer. All faces of the work are carried out in accordance with plans and specifications are his duty to see. The Project Engineer is assisted by number of trained personal including a survey crew, inspectors, Office Engineers and others". (Wright & Paquette, 1979).

"As a representative of the Department of Highways on a project, the Project Engineer must keep others properly informed as to the progress of work, such as municipalities and utility companies who must frequently be contracted on most construction projects the highest standard of work are developed and there is

complete co-operation and accord between the contractors employees and those of the state highway agency".

Careful records should be kept by a contractor of all works in question and the information made available to those responsible for the adjustment of claims in case of a claim.

Project Manager should see that the contractor complies with all regulations regarding labor equipment. This shows the Project Management function, such as co-ordination, cost and quality, programme monitoring (and so on) in order to manage the project the Project Manager should be responsible. The management structure could be seen as that given in Figure 2.1. (Wright & Paquette, 1979).

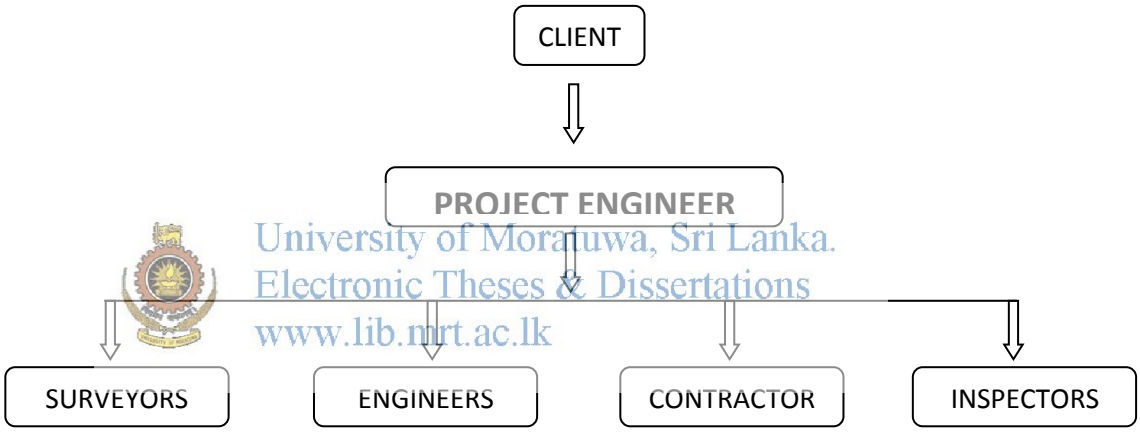


Figure 2.1: Management Structures of Highway Projects in USA
Source: (Wright & Paquette, 1979)

Rutherford (1989) noted that Project Management concept has been used in many highway/express way projects.

"With regard to the 1-595 port everglades expressway which was the largest public works programme mid way in the State of Florida". Rutherford (1989) explained that:

"The Florida Department of Transportation (FDOT) and the Federal Highway administration took and innovative Management approach by retaining Kaiser

Engineers Inc. in association with Howard Needless Tammen and Bergendoff as "Construction Service Consultants" (CSC) on this major construction project (Project consists of 93 bridges, ten Multilevel Crossings, Relocation of Rail Road, Air port Expansions etc). The "CSC" provides necessary staff of Project Management, design and Construction Management professionals to act as Staff to FDOT managing the Project".

"The Functional Manager retains technical and administrative responsibility, while the Project Manager the business related and integrative decisions".

According to the text 1-595 had been the largest public works programme in the state of Florida. The client FDOT has relied (in) appointing an independent Project Manager to look after the project. Project Management Structure is given in figure 2.2.

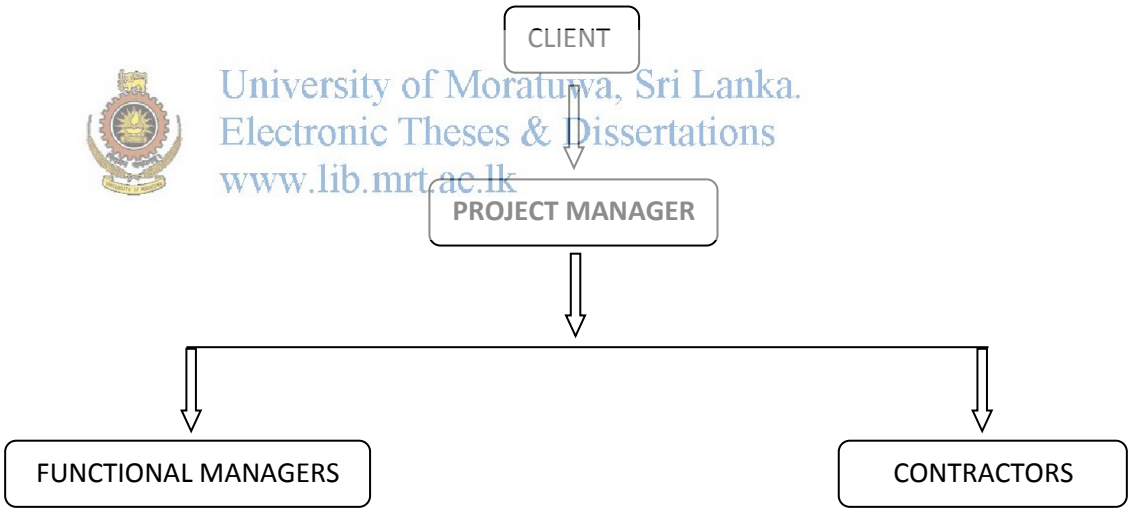


Figure 2.2: Management structure of Port Everglades Expressway Project in Florida
Source: (Rutherford, 1989)

Rutherford concludes, "Excellence in Project Management is achieved when quality standards are accomplished within time, budget and resource and constraints".

With regard to the reconstruction of the Cyprus Freeway Project in Oakland.

"Cyprus Freeway (1-880) is a major thoroughfare between the North and South Bay across of San Francisco which was collapsed when the Loma Prieta earthquake rocked Northern California on October 17, 1989. Engineers began reconstruction efforts immediately".

The text went on to say,

"Despite difficult ground conditions and rigid condition requirements, Engineers completed the Project on time within budget".

Further,

"Assisting them were Brian Duke, Project Manager for De Leuw Lather and Ray Riojan, Project Manager for S.M.W Seiko, Hayward, Calif" De Leuw Lather and S.M.W.Seiko, Hayward Calif are the Companies appointed to obtain Project Management services (Duke, 1998).

Two independent Project Managers had been appointed for the work may be due to its complexity, and time constraints and size of the project. The text illustrates about obtaining the services of Project Managers to the project. In figure 2.3 shows the Project Management structure would be noted that:

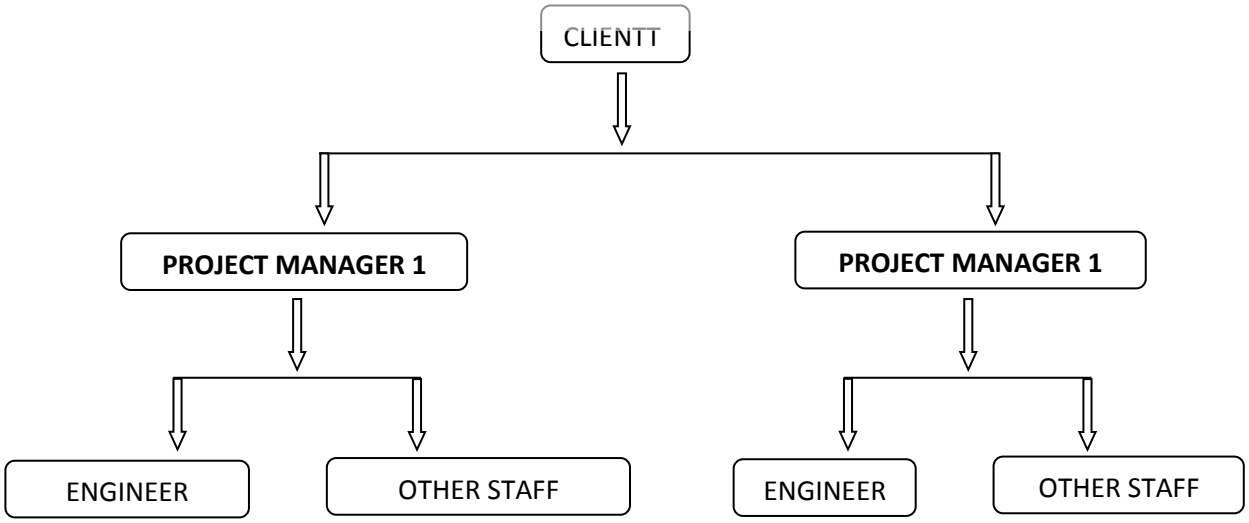


Figure 2.3: Management Structure of the Cyprus Freeway project (1-880)

It was programmed for the Winter, Olympics to be held in Salt Lake City, USA. In the case of 1-15, Reconstruction of Salt Lake City, USA: Warne and Downs (1999) The largest single- contract Highway Construction Project in United State History in Salt Lake City was completed before 2002. The 1-15 reconstruction project in Salt Lake City was removed and all six lane interstate and replaced it with twelve lane urban free way able to handle 330,000 vehicles per day. According to the Utah Department of Transportation, 138 bridges were demolished and 142 were built along 1-15 corridors.

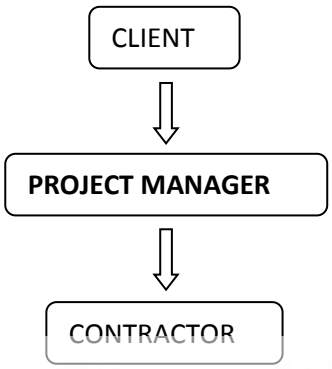


Figure 2.4: Management structures of 1-15 projects in Salt Lake City

1-15 is a large project which had a challenge to complete 27 Kilo Meters within seven years. To achieve these targets and carry out the project to the schedule the functions such as planning scheduling, monitoring and coordinating had to be implemented without any delay.

Project Manager's importance to this project was shown at that instance. These examples show some form of evidence to the current practice of Project Management in the Road and Bridge Construction Industry. It is understood in such examples the Project Management concept has been considered as very important in achieving the objectives.

In local Road and Bridge Construction, it is important to study the current practice and attitude towards the Project Management. In the absence of published material,

to know the current practices and the industry reactions, few case studies of some major Projects have to be carried out.

Advisory Committees on Contract Administration and Law, have introduced a check list on the duties of Engineers designated as"THE ENGINEER" in contracts under the Institutions of Civil Engineers condition of contract (Fifth Edition);

"As a result of criticism that Engineers are not acting independently when considering contract matters which involve the interests of both their Employers and the Contractors, the Committee wishes to emphasize the different roles the Engineer must assume under the ICE Conditions of Contract(5th Edition) , first in pre-contract matters where he is the Employer's agent and professional advisor, and later, once the Contract has come into existence by the acceptance of a tender, his additional and quite separate duty to act impartially in the administration of the Contract and his quasi-judicial role as between the Employer and the Contractor. "

The Committee has prepared this check list with references to remind those named as "the Engineer" in construction contracts carried out under ICE Condition of contract of their duties and obligations.The list should not be taken as a set of rules, but the items listed should be carried out where appropriate.

The Committee strongly recommends that "the Engineer " should always be a specific,named individual.

"Engineer has quasi-judicial powers to make decisions that are final and binding upon Employer and Contractor alike, subject only to reference to arbitration."
(Hawker, Uff, & Timms, 1986)

2.5 Introduction for Claims

Construction projects are becoming more and more complex due to new standards, advanced technologies, and owner-desired additions and changes. While the successful completion of projects has been thought to depend mainly on cooperation between the contractor, consultant, and owner, problems and disputes have always

erupted due to conflicting opinions as to the various aspects of design and construction.

With the introduction and widespread application of contemporaneous period analysis (CPM) scheduling, it became easier to point out where the delays are occurring and how delays in one activity affect others, and possibly the project as a whole, thus allowing objective judgments as to whether contractors should be entitled to time extensions. On the other hand, the increased complexity of construction processes, documents, and conditions of contracts has been contributing to higher possibilities of disputes, conflicting interpretations, and adversarial attitudes. The exhausting and expensive process of litigation has not been making things easier, as unsettled claims that have developed into disputes can take a very long time to be resolved. All the above factors have made ‘‘claims’’ an inevitable burden in implementing today’s construction projects.

2.5.1 Procedure for handling Contract Claims

The success of a construction contractor depends on his “tendermanship” and “claimsmanship”.

Tendermanship is the skill of a contractor to submit a competitive bid with accurate pricing to outbid other competitors and yet make a reasonable profit on the project. Claimsmanship is the skills of a contractor to claim and defend his contract claims for legitimate additional costs and extension of time of contract period successfully. An experienced contractor will submit a competitive bid and win a contract and make his profit on legitimate claims for additional costs. Claims arise when changes to Contract is made and these changes could not have been foreseen by an experienced contractor and hence not provided for in his tender price.

There is no contract where claims for additional costs and extension of time have not been submitted by a contractor to the Employer. Usually, it is the contractors who submit claims although contract conditions provides for the Employer to claim from

the Contractor in certain instances, and the Engineer determines if the claim has to be paid by the Employer according to the contract or not.

In order to successfully defend a claim, the Project Manager must follow the procedure laid down in the Contract Conditions. It is of utmost importance that he keeps all records to enable him to substantiate his claims.

Sub clauses under which a claim can be justified under FIDIC 1999 are listed below. Similar clauses exist under other Conditions of Contract such as ICTAD. Very often legitimate contract claims are rejected by the Engineer or the Employer due to the failure of the contractor to give notice of claim within the specified time and keep contemporary records as required by the Contract Conditions. Project Manager is strongly advised to take photographs of important events that may help as evidence to substantiate claims.

Special provisions in Particular Conditions may amend the General Conditions in contracts restricting the parties (usually the contractor) claiming extra money or time for causes to which the other party is responsible.

Sub Clauses under which the Contractor may make a Claim under FIDIC 1999 for Construction (THE NEW RED BOOK) are as follows:

Sub clause 1.9: Delayed Drawings or Instructions

If there is a delay of issuing a drawing or instruction required by the Contractor to precede with the work the contractor is entitled to claim time and any costs incurred by him.

The PM will have to follow the procedure outlined herein.

- Give notice to the Engineer under sub clause 20.1 stating that if the drawing or instruction is not received within X days, the Works are likely to be delayed. A reasonable period must be given for the Engineer to issue the drawings or instructions. The notice will have to clearly mention details of the required drawings or instruction. The notice shall also indicate the nature of delay and if

additional cost will have to be incurred the details of such costs e.g. idling plant and labour.

- If the Engineer fails to respond within the time specified in the notice by issuing the drawings or instructions and if the contractor suffers delay and/or costs, PM has to give a **further notice** that he will submit a claim for extension of time of period of contract and/or costs and profit.
- PM must maintain records of the actual date the drawings are issued and the number of days of delay suffered and the details of any idling equipment and labour. Site diaries and project photographs are very useful information.
- The notice of claim must be given before the expiry of 28 days from the date the Engineer was informed that there will be a likely delay.
- Amend the activity duration in the program to show the actual start date.
- Submit a tentative claim to the Engineer for EOT and/or additional costs within 42 days.
- Include the cost claim in the monthly interim payment certificate.
- Submit the final claim within 28 days of end of the effect of delay.
- Keep all records in safe custody including computer back up files in CDs properly labeled.

Sub clause 2.1: Right of access to site

- The Contractor is entitled to a claim if the Employer fails to give right of access to site within the time stated in the Contract.
- The contractor is generally required to submit the Performance Security before the Employer hands over the site.
- If no time is stated in the Contract, the Employer is required to hand over the site in order for the contactor to proceed with the Works in accordance with the program submitted by him under Sub Clause 8.3.
- If the Work is likely to be disrupted as a result of the delay in handing over the site, the PM must give notice under sub clause 20.1 to the Engineer stating that the delay in handing over the site will cause disruption to progress and will result in EOT and additional cost.

- Thereafter, PM will cause action to keep record of the period of delay in handing over the site and any costs incurred as a result of the delay e.g. idling machinery and labour.
- Submit the claim to the Engineer with all supporting records within 42 days.
- Amend the activity duration in the program to reflect the delay
- Keep all records in safe custody with backup copies

Sub clause 4.7: Setting out

The Contractor may claim EOT and additional costs if the Work is delayed due to errors in control points based on which the setting out has to be done.

- The Contractor is required to set out the site in accordance with reference points specified in the Contract or notified by the Engineer.
- The Contractor must check the accuracy of these reference points and correct any errors.
- If the Work is likely to get delayed as a result of errors in the reference points, the PM must give notice of a claim under sub clause 20.1 to the Engineer stating that the error of reference points will cause disruption to the progress of Works and will result in additional cost.

- PM will cause records to be kept of the erroneous reference points given by the Engineer and his additional time and expenses involved in correcting the errors.
- Amend the activity duration in the program to reflect the delay.
- Submit the claim to the Engineer with all supporting records within 42 days.
- Keep all records in safe custody with backup copies.

Sub clause 4.12 Unforeseeable physical conditions

If the contractor encounters adverse physical conditions at the site which an experienced contractor could not have foreseen, he is entitled to claim EOT and additional costs to deal with such conditions.

- Examples of adverse physical conditions are parts of damaged old bridges buried where the new Works are to be constructed, an underground abandoned sewer or

a subsurface stream obstructing the Works but not exceptionally adverse climatic conditions

- PM must give notice as soon as practicable to the Engineer describing the physical condition and setting out the reasons that the physical condition was not foreseeable at the time of the tender and as a result of the condition the Work is likely to be delayed and a claim for EOT and additional cost to deal with the physical condition will be submitted.
- PM will continue to deal with the physical condition informing the Engineer the method proposed to be adopted.
- Comply with any instruction of the Engineer.
- Keep records of time and costs incurred in dealing with the physical condition. Site diaries and project photographs will be useful information.
- Amend the activity duration in the program to reflect the delay.
- Submit the claim to the Engineer with all supporting records within 42 days.
- If the dealing with the physical condition has a continuing effect, submit interim claims every month with details of cost incurred.
- Submit the final claim within 28 days of end of the event.

Sub clause 4.24: Fossils

The Contractor is required to protect any fossils, or articles of archaeological or geological value found during execution of the Works.

- PM must give notice to the Engineer upon discovery of such findings.
- Follow Engineer's instructions to dealing with it.
- Give a further notice under sub clause 20.1 if the work is delayed or additional cost incurred stating the nature of the delay and costs incurred in complying with the Engineer's instructions.
- Amend the activity duration in the program to reflect the delay.
- Submit the claim to the Engineer with all supporting records within 42 days.
- Keep all records in safe custody with backup copies.

Sub clause 7.4: Testing

If the work is delayed due to delaying tests on the instruction of the Engineer, the Contractor is entitled to claim EOT and additional costs

- The contractor is required to provide all that is required to carry out the tests specified in the Contract.
- He will agree with the Engineer the place and time for the specified tests.
- The Engineer will have to give 24 hours' notice to the Contractor if he intends attending the test.
- If testing is delayed due to an instruction of the Engineer and if the Work is disrupted as a result the PM must give notice under sub clause 20.1 that he will claim EOT and additional costs.
- PM will submit to the Engineer duly certified test reports.
- Amend the activity durations in the program to reflect the delay.
- Submit the claim to the Engineer with all supporting records within 42 days.
- Keep all records in safe custody with backup copies.

Sub clause 8.4: Extension of Time for Completion

If the taking over of the Works/sections is delayed due to any of the following reasons, the Contractor is entitled to EOT. (see also sub clause 10.1)

- Variations or substantial change in quantity of an item of work in the Contract or amount and nature of additional work.
- Delay cause giving rise to extension of period of completion under any of the clauses of the Contract Conditions for which the Contractor is entitled to EOT.
- Adverse physical obstructions or conditions.
- Exceptionally adverse climatic conditions.
- Suspension of work.
- Unforeseeable shortage of personnel or goods due to epidemic or Government action.
- Any delay caused or attributable to Employer such as possession and access to site, Employer's personnel or Employer's other contractors such as utility services contractors.

- The PM will have to identify the sub clauses under which the delay is caused and give notice to the Engineer under sub clause 20.1 that he will claim EOT as the delay is beyond the control of the Contractor and was not foreseeable at the time of the tender.
- Adverse climatic conditions will have to be established with records. Therefore, the PM will have to keep daily weather and flood records. If the average rainfall of a week or a month is more than the mean rainfall for that period during previous five years, the weather may be considered as an adverse condition. The word "climate" includes conditions such as floods which may occur without adverse rainfall.
- Obtain previous five year's weather records from the Meteorological department to establish adverse weather conditions and details of flood from the Irrigation Engineer.
- No additional costs can be claimed for delay due to exceptionally adverse climatic conditions and the Employer will not recover liquidated damages.
- If a new item of work or a change in the character of the work or substantial change in the quantities in the bill of quantities result in inadequacy of the resources deployed for the original Contract, the PM needs to establish these facts by referring to the planned resource utilization for the project in the program and how the change affected the critical path to substantiate the EOT.
- Amend the activity durations of the program to reflect the delay.
- Submit the claim to the Engineer with all supporting documents within 42 days.
- The claim must refer to the sub clauses in the Contract under which the claim is made.
- If the delaying event has a continuing effect, the claim will be treated as an interim claim
- Submit details of delay and cost at not more than 28 days interval until the event is over.
- Submit the final claim within 28 days after the end of the event.
- Keep all records in safe custody with backup copies.

Sub clause 8.5: Delays caused by authorities

Delays may be caused to the completion of the project due to actions or inactions of other authorities such as utility agencies, authorities granting statutory permits such as Geological Surveys and Mines Bureau, Department of Wild Life etc.

- The PM has to follow the procedure laid down by the authorities such as applying for the permits on time and annexing all required documents to the application.
- Meet the concerned officers personally and explain the urgency of the required licenses or permits and confirming the meetings in writing.
- Give sufficient time to the authorities for processing the application.
- Maintain cordial relations with the officers of the authorities.
- If the delay was caused due to inaction of the authorities responsible for granting the required permits, the Contractor is entitled to claim EOT. The PM will have to establish that he followed the procedures of the authorities and the delay was not foreseeable at the time of tender.
- If the delay is likely to disrupt the progress of the work, he must give notice to the Engineer under sub clause 20.1 stating the reasons for the delay and that he will claim EOT and costs.
- Amend the activity duration of the program to reflect the delay.
- Submit the claim to the Engineer with all supporting documents within 42 days.
- Keep all records in safe custody with backup records.

Sub clause 8.9: Consequences of Suspension

The Engineer may suspend any part of the work or the whole of the work at any time. In such an event the Contractor must protect the work until the order to resume the work is given. If the suspension is not due to any fault of the Contractor, he is entitled to EOT and costs due to suspension.

- The PM will take necessary action to protect the Works and materials against deterioration and damage or loss.
- Give notice to the Engineer under sub clause 20.1 stating that the suspension was not due to any fault of the Contractor and that it will cause disruption to the progress and that he will claim EOT and costs incurred due to the suspension.

- Keep records of dates and machinery and labour idling as a result of the suspension.
- Keep records of all expenses incurred in protecting the Works and materials at site.
- Keep records of any loss or damage caused and document the reasons for such loss or damage.
- Submit to the Engineer details of costs from time to time until the order to resume work is given.
- Amend the activity durations of the program to reflect the delay up the date of giving the order to resume work.
- Submit the claim to the Engineer with all supporting documents within 42 days
- Keep all records in safe custody with backup copies.

Sub clause 10.2: Taking over of parts of the Works

If the Contractor incurs costs as a result of the Employer taking over or using any part of the Works other than as specified in the Contract he is entitled to such costs and profit.

- The PM must give notice to the Engineer under sub clause 20.1 that the taking over or use of the Works by the Employer will result in additional costs to the Contractor and that he will claim such costs and profit.
- If there is any disruption to progress of Works as a result of the Employer taking over the part of the Works this should be stated in the notice of claim.
- Keep records of the dates and additional cost incurred in allowing the Employer to use the Works.
- Submit details of costs from time to time to the Engineer.
- Amend the activity duration if the time of Completion is delayed.
- Submit the claim with all supporting documents to the Engineer within 42 days.
- Keep all records in safe custody with backup copies.

Sub clause 10.3: Interference with Tests on Completion

If the Contractor is prevented for more than 14 days, from carrying out the tests on completion by a cause for which the Employer is responsible, and if the Contractor suffers delay and/or incurs additional costs he is entitled to EOT and costs and profit.

- The PM must give notice of a claim for EOT and/or costs in terms of clause 20.1 stating that the delay is due to a cause for which he is not responsible and that he will claim EOT and costs.
- He will keep records of the dates and costs incurred and submit details to the Engineer.
- Amend the activity durations if the time for completion is delayed.
- Submit the claim with all supporting documents to the Engineer within 42 days.
- Keep all records in safe custody with backup copies.

Sub clause 11.8: Contractor to Search

If the Engineer orders any work in search of a defect in the Works, the Contractor has to carry out such work. He is entitled to claim cost and profit if the defect is not attributable to him.

- The PM must give notice under sub clause 20.1 to the Engineer that he is carrying out the search as instructed and will claim the costs incurred.
- He will keep records of the costs incurred and submit to the Engineer.
- Submit the Claim with all supporting documents to the Engineer within 42 days.
- Keep all records safely with backup copies.

Sub clause 12.4: Omissions

If any item of work is omitted as a result of a variation the Contractor is entitled to claim additional costs.

- PM will have to establish that some costs of the omitted work forms part of the accepted contract price and by its omission, he will not recover those costs.
- Those costs are not included in any substituted work.
- Give notice under sub clause 20.1 his intension of claiming additional costs.
- Submit the claim to the Engineer with all supporting documents within 42 days.

- Keep records in safe custody with backup copies.

Sub clause 13.2: Value Engineering

If in the opinion of the Contractor, there will be some benefit to the Employer by varying any item of work as a result of his alternative proposal and if the proposal is accepted by the Engineer, the Contractor is entitled to share the saving of the cost with the Employer.

- The proposal including any Design has to be prepared by the PM at no cost to the Employer. He will consult the head office for any assistance required.
- If the value of the varied work is reduced from that of the original.
- If there is a reduction in contract value resulting from the change (excluding adjustment for change in legislation and cost (sub clause 13.7 and 13.8).
- The contractor is entitled to claim 50% of the difference of reduction of the contract value and any reduction of the value of work if any.

Sub clause 13.3: Variation Procedure

The Engineer has a right to vary any item of the work according to sub clause 13.1 prior to issuing the Taking over Certificate. Variations may include instruction to:

- Changes to the quantities of work.
- Changes to quality.
- Changes to levels, positions or dimensions.
- Omissions of any work.
- Any additional work.
- Sequence of timing of the work items.
- If the Engineer requests the Contractor for a proposal, the PM must respond in writing with a description of the proposed varied work and a program for its execution.
- Any modifications necessary for the Contractor's program of Works
- Proposal for evaluation of the variation.
- If the Engineer instructs the variation, acknowledge the instructions and proceed to execute the variation order.

- PM must obtain written instruction from the Engineer before executing a variation unless the variation is simply a decrease or increase of quantities from that stated in the BOQ.
- Give notice to the Engineer of the intension to submit a claim for EOT and additional cost in accordance with sub clause 20.1.
- Keep records of the dates, cost of labour, materials and equipment.
- Amend the program to include the varied work.
- The contractor is entitled to claim prolongation costs.
- Submit the claim within 42 days of the circumstance giving rise to the claim.
- If the variation order has a continuing effect of delaying the time for completion and incurring costs, the claim will be considered as an interim claim.
- Submit monthly interim claims of the delay and costs.
- Include the cost in the contractor's monthly statement.
- Submit the final claim within 28 days of completion of the item of work.

Sub clause 13.7: Adjustments for Changes in Legislations

If the Government laws are amended or changed after the Base Date and if this affect the performance of the Contract, the Contractor is entitled to EOT for any delay and additional costs suffered due to the change. For example, if legislation to ban import of any material specified in the Contract which the Contractor has planned to import, and if the Contractor suffered delay and cost he is entitled to EOT and additional cost incurred.

- PM must give notice to Engineer under sub clause 20.1 of the intension of the claim.
- Keep records of the time of delay.
- Keep record of additional cost incurred.
- Submit the Claim within 42 days of the change in legislation that affected the performance of the Contract.
- If the event has a continuing effect, submit monthly interim claims.
- Submit the final claim within 28 days of completion of the event affecting performance.

- Keep records of the dates, cost of materials, labour and equipment.

Sub clause 14.8: Delayed Payments

The Contractor is entitled to be paid by the Employer

- The first installment of the advance payment within 42 days after issuing the Letter of Acceptance, or within 21 days after the Contractor has furnished the performance security and advance payment guarantee whichever is later.
- The amount certified in the Interim Payment Certificate within 56 days after the Engineer receives the monthly statement and supporting documents.
- The amount certified in the Final Payment Certificate within 56 days after the Employer receives the payment certificate.
- If the Contractor does not receive the payment as stated above the Contractor is entitled to receive financing charges at compound interest calculated at three percent above the discount rate of the Central Bank.
- There is no requirement for the Contractor to give any notice.

Sub clause 16.1: Contractor's entitlement to suspend work

- If the Engineer fails to certify the interim certificate within 28 days of receipt of the monthly statement and supporting documents or
- Employer fails to show evidence of his financial arrangements within 28 days of a request by the Contractor.
- The Contractor has furnished the performance security.
- The Contractor may suspend the work or reduce the rate of progress after giving 21 day's notice to the Employer.
- Until the Contractor receives the Payment Certificate or evidence of financial arrangement to pay or the payment.
- Contractor is entitled to financing charges for the delay.
- Contractor to recommence work as soon as practicable if he receives payment or evidence of payment.
- Give notice of claim for EOT and cost within 28 days.
- Keep records of delay and costs incurred.

- Submit the claim within 42 days of the failure of the Engineer to certify payment or the Employer's failure to show evidence of financial arrangements.
- Submit to the Engineer details of delay and costs at intervals of 28 days if there is a continuing effect.
- If the Contractor does not receive evidence of payment within 42 days after giving notice under this sub clause, or the Engineer fails to certify the payment within 56 days after submitting the statement and supporting documents the Contractor is entitled to terminate the Contract.

Sub clause 16.4: Payment on Termination

If the Contractor has terminated the Contract for failure of the Engineer to certify or the Employer to show evidence of payment,

- PM will call for the Performance Security.
- Submit the claim for loss of profit on the project.
- Claim any other loss or damages.
- PM must keep all records, photographs and details of costs incurred due to abandoning the work.

Sub clause 17.1: Indemnities

The Employer shall indemnify the Contractor and his personnel against all claims in respect of injury, sickness or death which is attributable to the negligence or breach of contract by the Employer's personnel.

- If the contractor suffers delay or cost due to a cause for which the Contractor has been indemnified by the Employer.
- He is entitled to claim EOT and costs.
- PM will give notice of claim for EOT and cost within 28 days.
- Keep records of delay and cost incurred.
- Submit the claim within 42 days after the event.

Sub clause 17.4: Consequences of Employer's Risks

Employer's risks are defined in FIDIC as:

- War, hostilities, invasion, acts of foreign enemies.
- Rebellion, terrorism, revolution, insurrection, military or usurped power, civil war within the country.
- Riot, commotion or disorder within the country except due to Contractor's actions
- Pressure waves caused by aircrafts.
- Use of the Permanent Works by the Employer except as provided for in the Contract.
- Design of any part of the work by Employer.
- Any operation of the forces of nature for which an experienced contractor could not have provided for.
- If any loss or damage to works or goods results from any of the Employer's risks.
- PM must give notice to the Engineer promptly.
- Rectify the loss or damage as instructed by the Engineer.
- Give a further notice of claim for EOT and cost in accordance with sub clause 20.1.
- Keep records of delay and cost incurred.
- Submit the claim within 42 days after the occurrence of the loss or damage.
- If the event has a continuing effect, submit details to Engineer at 28 days intervals.
- Submit the final claim within 28 after the completion of the event.

Sub clause 18.1: General requirements of insurance

The Contractor and the Employer is required to effect and maintain insurance for which each is the insuring party. If the insuring party fails to effect and keep in force any of the insurance it is required to effect and maintain under the Contract, the other party may affect insurance for the relevant coverage and pay the premium due.

- If the Employer fails to effect and maintain the insurance the PM will effect and maintain the insurance.
- Give notice to the Engineer under clause 20.1 that a claim will be submitted.
- Submit a claim for the cost of the premium and any associated costs.

Sub clause 19.4: Consequence of Force Majeure

Force Majeure is defined in FIDIC as an exceptional circumstance:

(a) Which is beyond a Party's control.

(b) Which such party could not reasonably have provided against before entering into the Contract.

(c) Which having arisen, such party could not have reasonably avoided or overcome and

(d) Which is not substantially attributable to the other party.

Force Majeure may include exceptional events such as:

i. War, hostilities, invasion, act of foreign enemies.

ii. Rebellion, terrorism, revolution, insurrection, military or usurped power or civil war.

iii. Riot, commotion, disorder, strike or lockout by persons other than Contractor's or sub contractor's personnel.

iv. Munitions of war, explosive materials, radiation or radio activity.

v. Natural catastrophes such as earthquakes, hurricanes, typhoons or volcanic activity.

If the Contractor is prevented from performing the Contract, PM must give notice within 14 days to the Employer and inform him the particular obligation that will be affected by Force Majeure

- Give notice of a claim to the Engineer under sub clause 20.1.
- Submit details of how the performance is affected to the Engineer.
- The Contractor is excused performance of such obligation during Force Majeure.
- PM shall take all measures to minimize delay in performance.
- PM must give notice to the Employer when the performance ceases to be affected by Force majeure.
- Keep records of delay and cost including photographs.
- Submit the claim within 42 days of the event with supporting documents.
- If the event has a continuing effect, submit details to the Engineer at intervals of 28 days.

- Submit the final claim within 28 days of the end of effect on performance

Sub clause 19.6: Optional termination, payment and release

If the performance of the entire work is prevented by Force Majeure for a period of 84 days continuously, or 140 days of multiple periods

- If the Contractor has given notice of Force Majeure.
- The Contractor may terminate the performance by giving notice of termination to the Employer.
- The termination will be effective 7 days after the notice.
- PM to arrange to remove Contractor's equipment.
- Submit a statement of work carried out priced according to the Contract.
- Statement of cost of plant and materials brought for the Works.
- Hand over the plant and materials to the Employer.
- Statement of any other cost incurred with the expectation of performing the Contract.
- Cost of removing from site any temporary work and equipment.
- The Contractor is entitled to be released from performance of the Contract.

Sub clause 20.1: Contractor's claims

The PM must follow the procedure outlined in the Contract with respect to claims. Any lapse on the part of the PM to follow the procedure may result in rejecting a legitimate claim. A flow chart of activities that should be followed in handling claims is shown in figure 2.5.

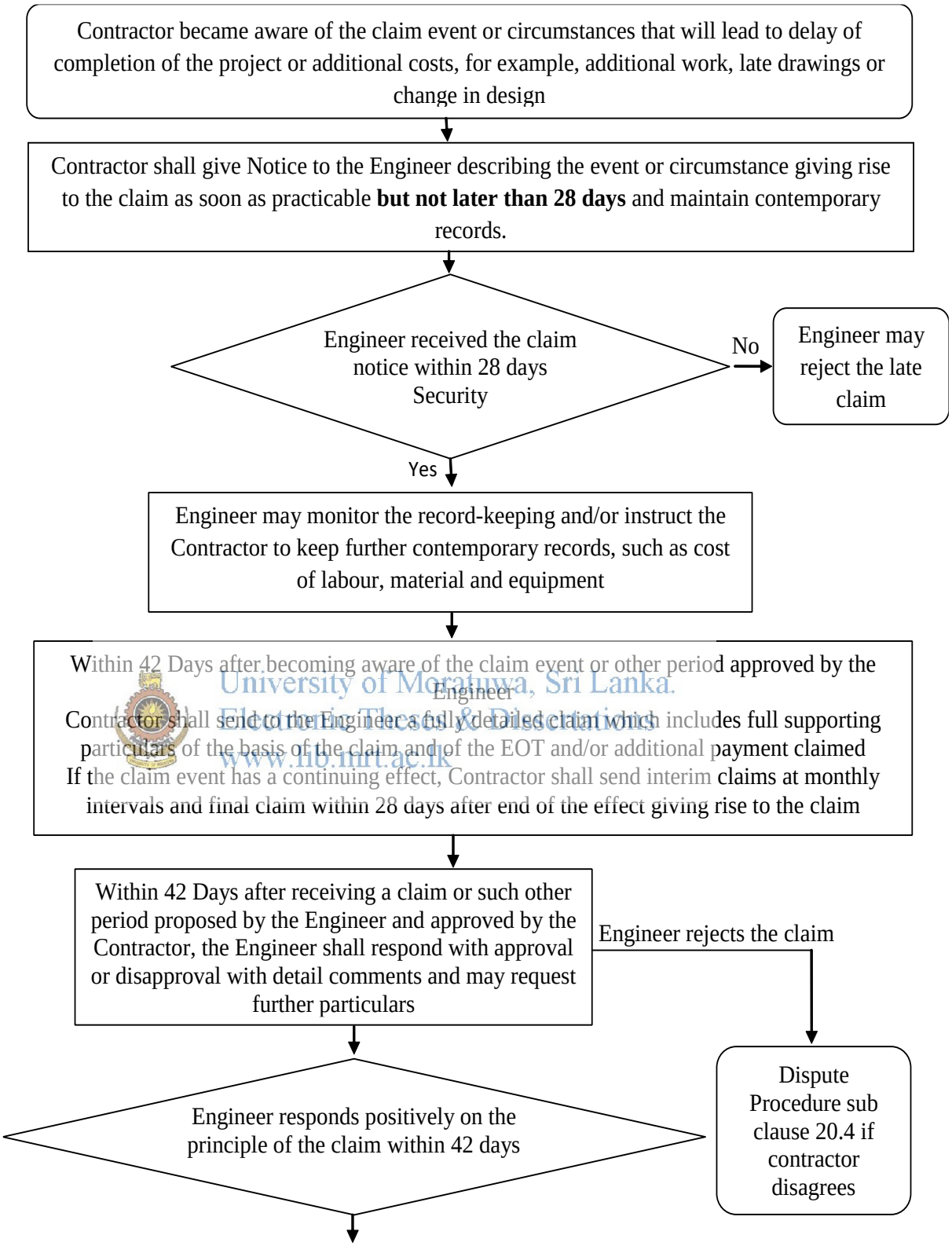
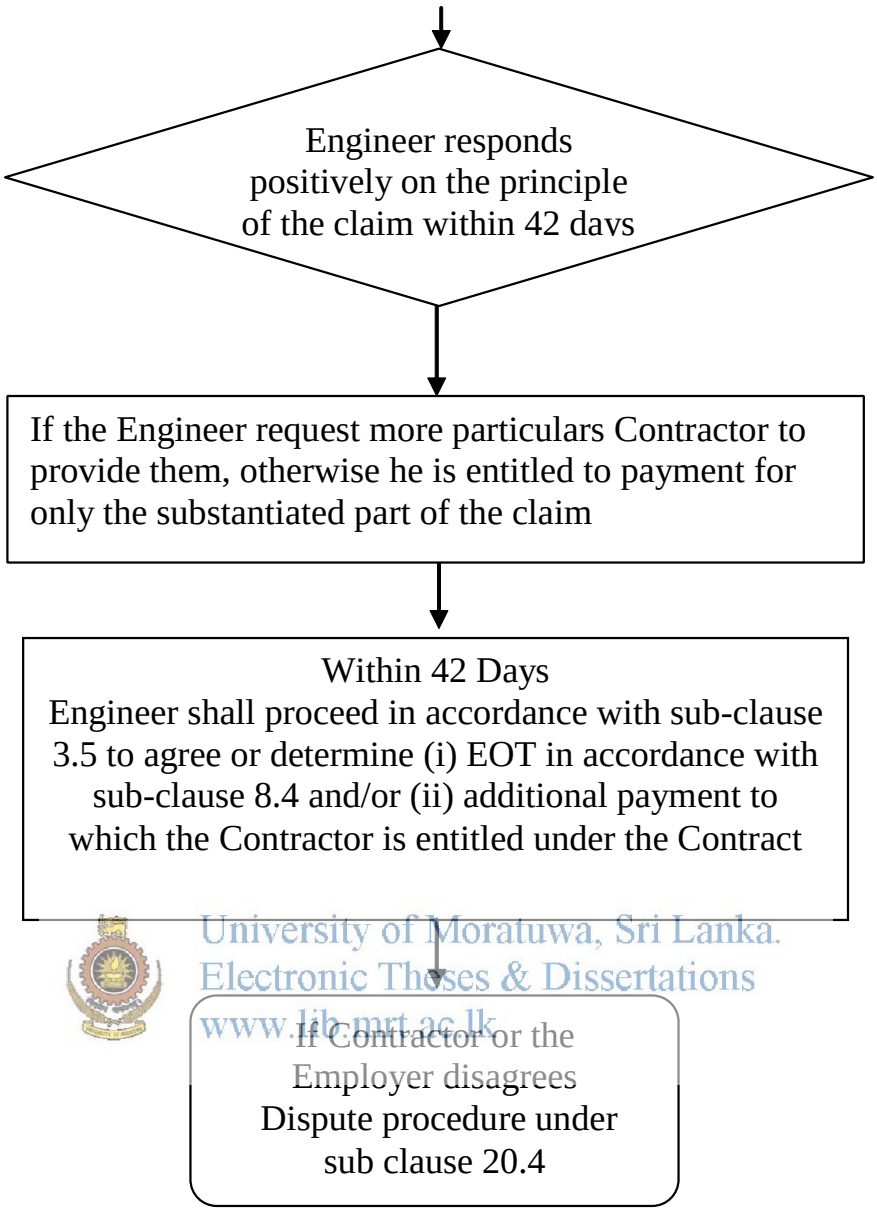


Figure 2.5: Flow Chart for Claims Procedure under Sub Clause 20.1(Continued)



Note: The requirement of sub clause 20.1 is in addition to any other requirements of other sub clauses applicable to claims. For example, under sub clause 4.24 fossils, the Contractor has to give notice "promptly" if he discovers fossils. He must give a further notice under sub clause 20.1 in order to claim EOT or costs.

2.6 Difficulties with Claims

In the construction industry, where contract documents define rights, obligations, and procedures; a claim is a request by the contractor for an extension of time and/or additional cost and can evolve into a disagreement that may not be amicably resolved by the parties' concerned (Clough and Sears 1979; Jervis and Levin 1988; Barrie and Paulson 1992). In any construction project, significant additional costs can be experienced by the contractor, the owner, or both, due to the actions of the other party or parties involved. **Disputes over the right to compensation as well as over the amount of time and/or money to be given often necessitate a resort to litigation, arbitration, or other forms of dispute resolution methods for settlement (Muller 1990; Steen 1994; Keith 1997; Schumacher 1997).** Claims and disputes arise from a number of cases, namely defective specifications (Thomas et al. 1994, 1995), differing site conditions (Thomas et al. 1992), increase in scope of work, restricted access to site, owner-caused disruptions or delays (De La Garza et al. 1991), disagreement as to what constitutes a substantial completion, interpretation of site instructions, and enforcement of liquidated damages, among others.

It is important for the owner, when analyzing a claim presented by the contractor, to ask the following questions (Bubbers and Christian 1992; FIDIC 1992): Were the contract requirements met (Thomas et al. 1990)?

- Did the contractor refer to the proper clauses in the contract?
- Does the owner or consultant bear part of the responsibility?
- Was the situation predictable at the time the contract was signed?
- Were the specifications defective?
- Was the contract misinterpreted? And, if so,
- Which competing interpretation will rule?

2.7 Claims-Tracking Process Model

A need for an overall step-by-step procedure for claims analysis and administration is therefore crucial for achieving proper resolutions and for preventing claims from developing into disputes.

Figure 2.6 shows the sequence of events and procedures that any claim would have to pass through before being resolved. Although the process is general to a certain extent, each particular node can be further developed, depending on the peculiarities of each claim and project. Some of the nodes are sub processes by themselves and will be highlighted in the course of the following discussion.

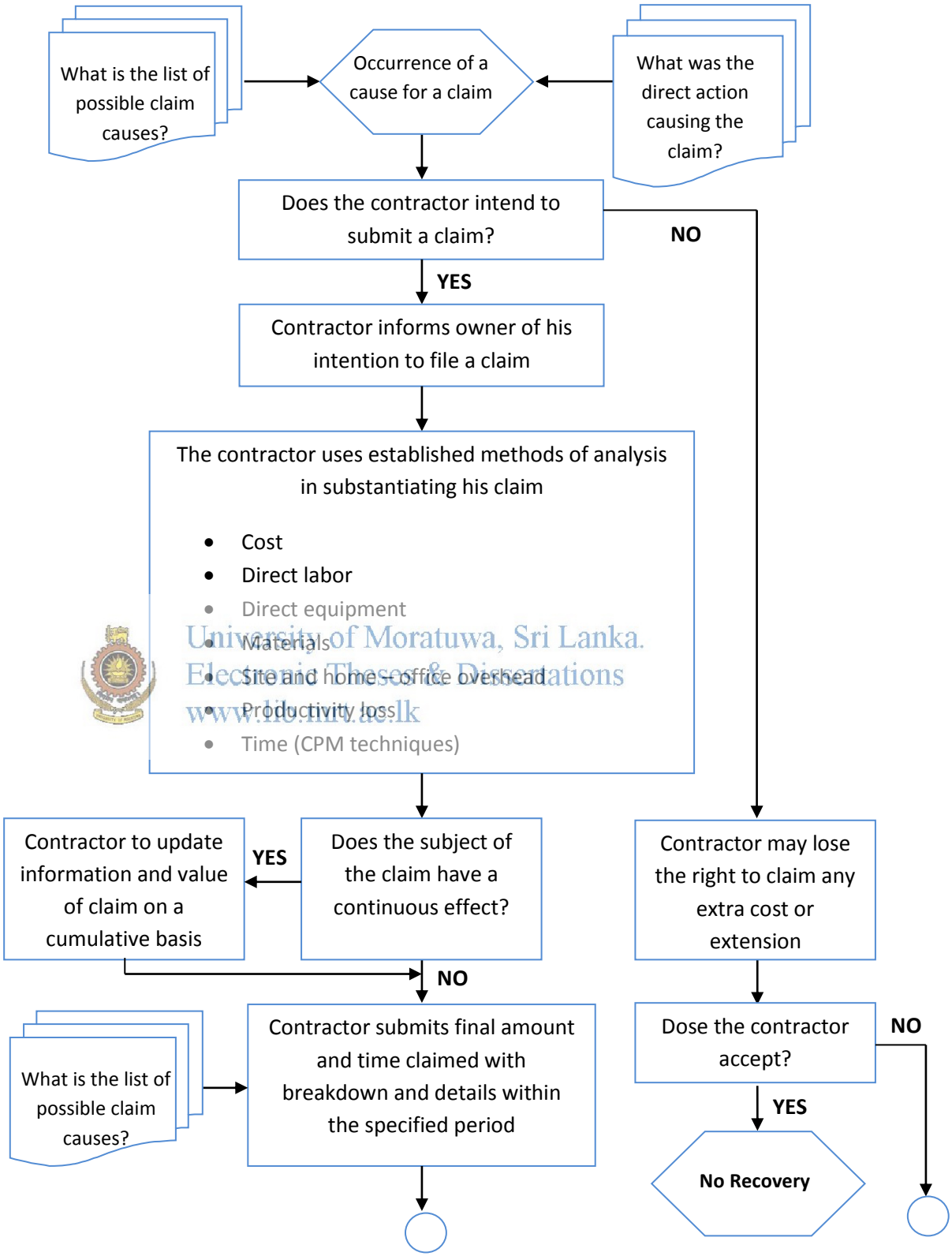
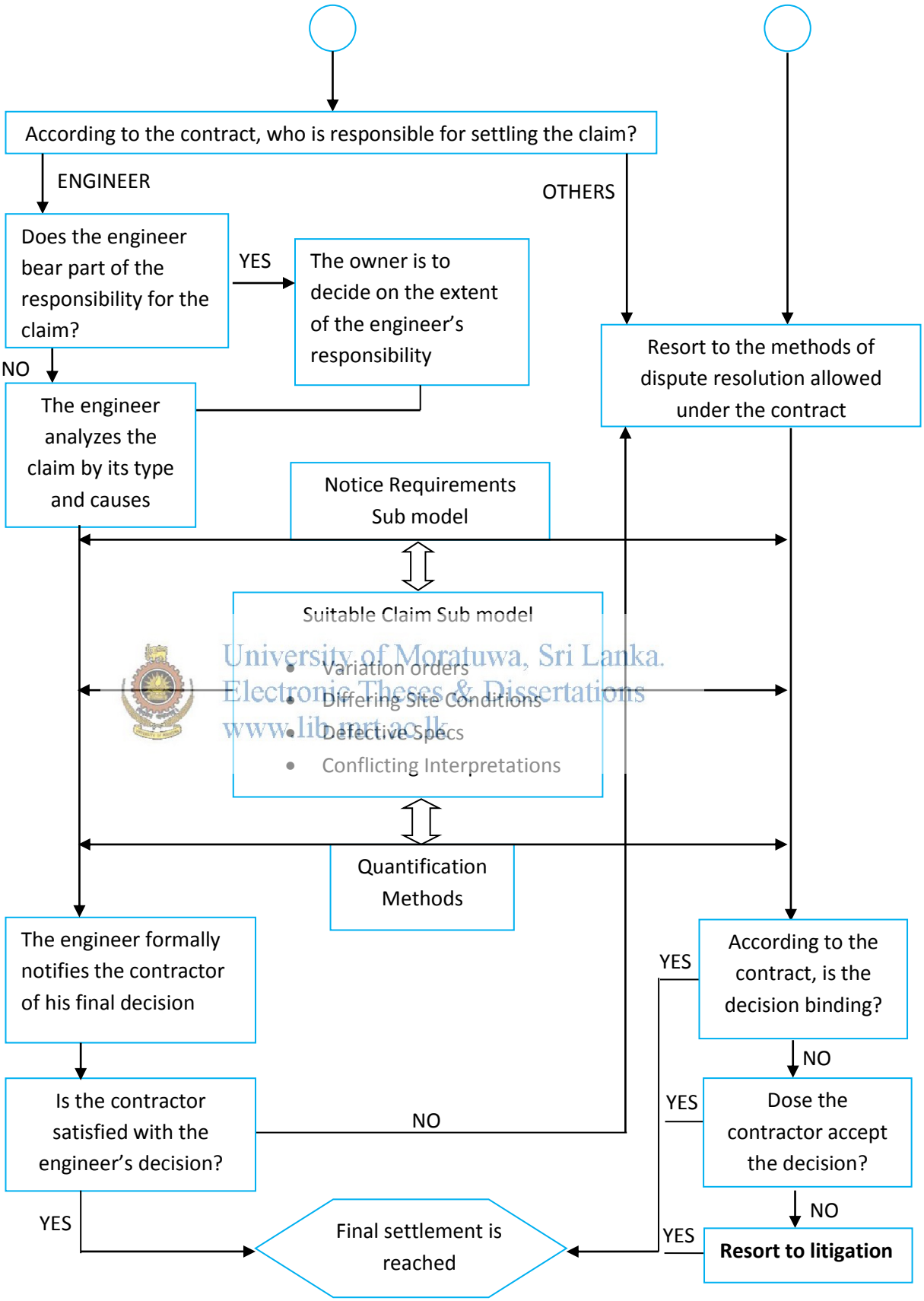


Figure 2.6: Process Model for Administrating Construction Claims (continued)

Source : (Asem:M, Asce, Mustafa, & El-Saadi) CONTINUED TO PAGE 37



2.7.1 Occurrence of Cause for Claim

This event is mainly affected by two things: recognition of the possible categories of claims causes, and direct actions on site that initiate the claim. That is awareness—on the part of the contractor—of work aspects that are susceptible to claims shall first exist, while the claim is only initiated when it is perceived by the contractor that a triggering action on the part of the owner or engineer has taken place.

2.7.2 Does Contractor Intend to Submit Claim?

Following the occurrence of a claim-triggering event, the contractor makes a careful analysis of the situation and weighs its options. The contractor may decide not to pursue the claim for many reasons: **The grounds for the claim may be shaky, and the contractor may want to preserve good relations with the owner or may feel that the subject of the claim is of little significance and can be handled informally.**

Engineer formally notifies Contractor for final decision

The contractor, however, is not ultimately bound by the engineer's decision. Usually, the contractor can dispute the engineer's decision and has the right to resort to arbitration, litigation, or other dispute resolution methods, as stipulated by the contract.

2.8 Claim Situation

Management of Claims and Disputes

Litigate for a jacket, but keep your trousers ready for the legal costs (own Translation of Langenhoven in Schannell, 1993:49) The goals of claim and dispute resolution are firstly to establish the right of any party to submit a claim, and secondly to enable the other party to consider the claim in terms of its validity, contractual terms and possible outcome.

Lodging or considering a claim does not mean that a dispute exists, but should the rejection of a claim occur, a different interpretation of a claim exist ,a difference of opinion obtain, one has to note that a dispute may then be lodged. Dispute resolution should then assist the parties in resolving such an impasse in a cost effective, satisfactory manner.

The method used to resolve disputes

For the purpose of this paper, the methods to be discussed are conciliation, adjudication, mediation and arbitration.

Conciliation

In (an) efforts to resolve disputes, satisfactory results are never guaranteed, not even in a court of law**. It is therefore perhaps important to use inexpensive ways and methods to try and resolve a dispute.**

Results have shown that conciliation does have a remarkable measure of success in regard to solving differences before they can become disputes.

The parties decide who the conciliator will be. The conciliator should however, be a person with good communication skills and knowledge. The objective is to bring the parties together in a forum to investigate their contentions and assist the parties to formulate their own settlement, by indicating the consequences. Improved communication should be ensured through joint and separate meetings. The conciliator may also be required to formulate his own opinion. In the end, parties are still left with the option to continue with litigation or arbitration.

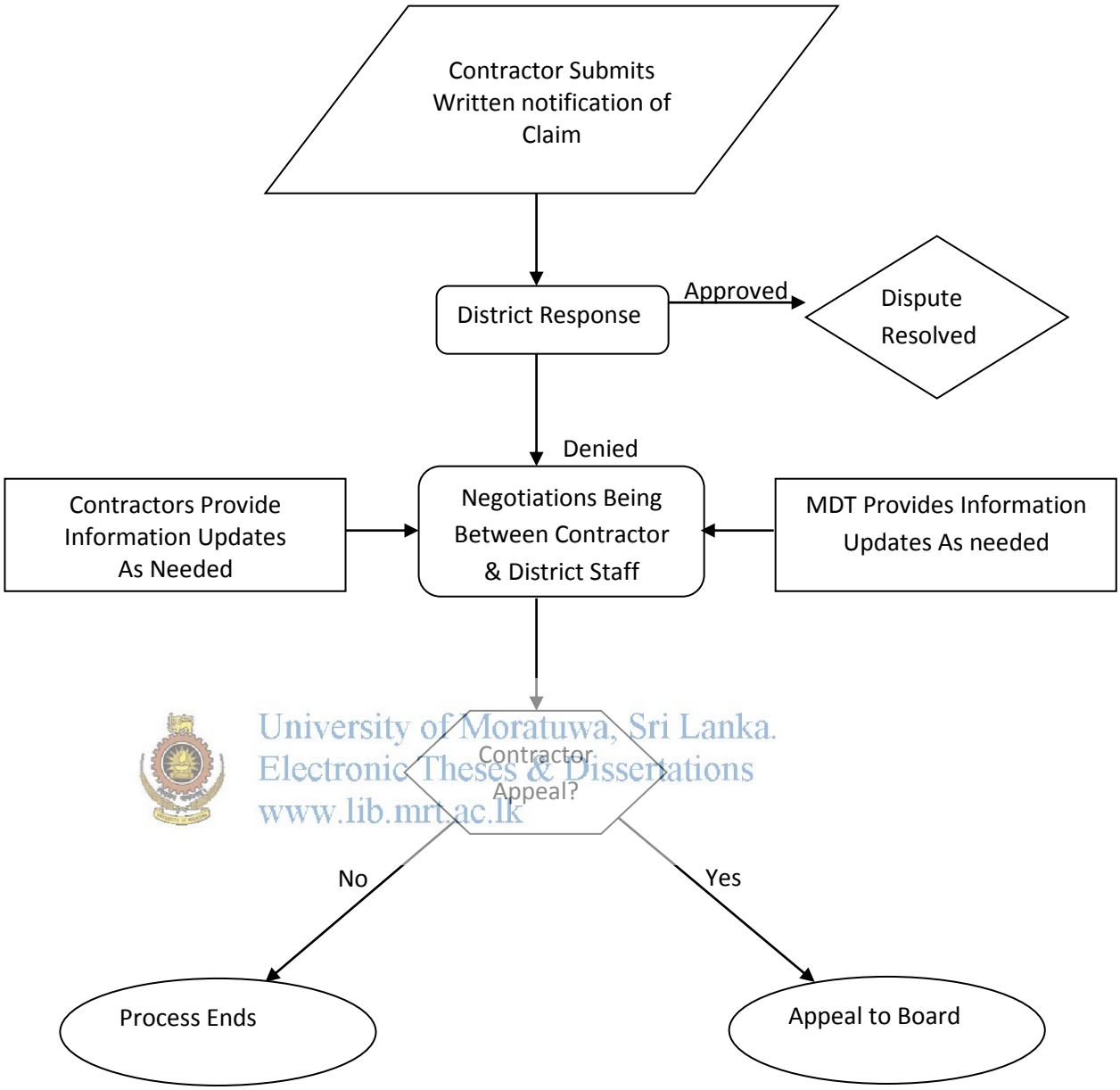


Figure 2.7: Highway and Bridge Construction Contract Claims Process

Source: (Montana Department of Transportation)

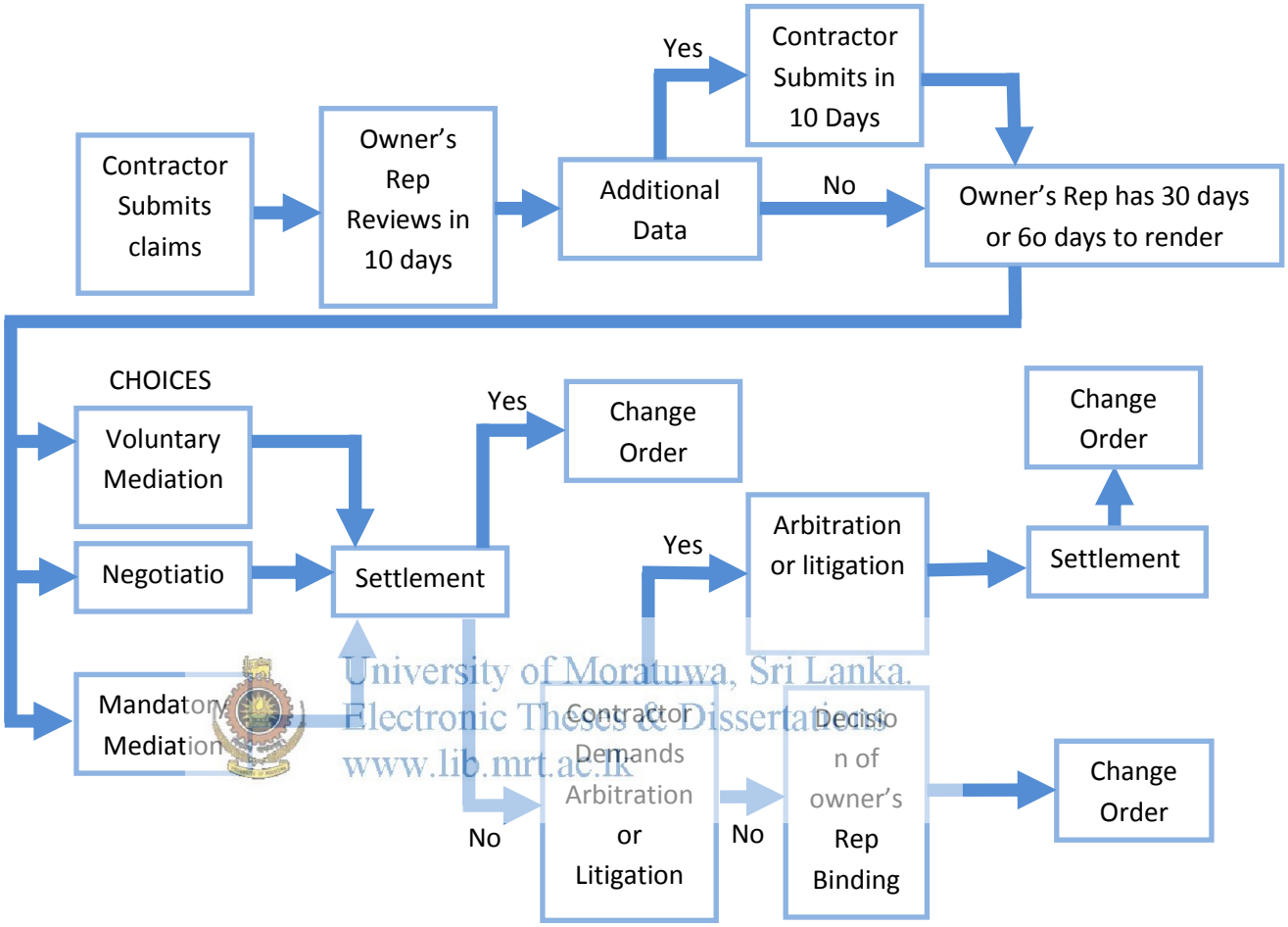


Figure 2.8: Claim Resolution Process

Source: (Richard & Long, 2012)

2.8.1 Claims - Tracking

It has been recognized over the last 30 years that project management is an efficient tool to handle novel or complex activities. Project management can be defined as the process of controlling the achievement of the project objectives. Utilizing the existing organizational structures and resources, it seeks to manage the project by applying a collection of tools and techniques, without adversely disturbing the

routine operation of the company (Munns & Bjeirmi, 1996).Project controls are often dictated by numerous and increasingly stringent legislation, corporate social responsibility policies, and industry-accepted management practices (Pinheiro A. B. 2010)

2.9 First Party Claims

The Consultant is a key component in the Department's defense and avoidance of claims. In filling this role, the Consultant must observe good project management practice which includes fair negotiation and judgment when dealing with disputes. The Consultant's detailed project documentation through project journals, accurate quantity measurements and the accurate recording of quantities and quality are a basic component upon which responses to claims are based. A basic rule to assist in the prevention of claims is that Consultant's key representatives must have a thorough and detailed knowledge of the Contract. It is important that the Consultant does not give any assistance, advice or gratuitous information to the Contractor to help formulate the basis of a claim. The Contractor must not have access to Project Journals or Departmental correspondence. Information relating to Progress Estimates and quality assurance test results may be provided. (Construction Contract Administration, 2002)

Claims- A Historical Perspective

In order to understand the current construction claims climate, a brief historical perspective is needed. In the early 1980's,case law which developed as a result of court decisions in several major construction cases (ie. Chantilly, Blake, and Pittman) effectively established a new avenue for claims by contractors: the impact of changes and delays on unchanged work. This has resulted in the now common practice of contractors reserving their rights rather than agreeing to bilateral settlements on a timely basis. In some parts of the world, especially in Europe and the Middle East delay and/or disruption claims based upon the number of change

orders or scope of changes has become a favored approach for asserting global claims when settlement attempts for change orders fail.

As a result, participants in the construction arena are now faced with two divergent positions. The owner's right to issue unilateral change orders under the terms of the contract. Contractor's right under the impact cost theory to reserve his rights for delay and impact costs.

Incidents of construction claims have increased significantly since mid 70's and have resulted in litigious attitude on the part of all the participants in the construction process. Many, if not most of the major claims today are based on schedule, delay, impact, disruption or acceleration theories. In addition there is an increased reliance on the so-called global claim. As a result, the issue of scheduling, planned versus actual performance, the identification of cause, and assigning a responsibility for deviations will continue to be key issues for successfully resolving claims.

Documentation and Timely Response

The two key words that I often use to these groups are "notification" and "documentation". The purpose of notice of the requirements is as to the character and scope of the Problem.

- Permit the owner to determine the course of action to be taken in copying with the problems encountered.
- Permit the owner to exercise control over cost and effort expended in resolving the problems.
- Ensure that both parties have a record of the dates and facts which initiated the claim situation.
- Permit resolution of the situation while the facts and the circumstances are still fresh.

To a group made up a primarily of owners and their Engineers I would say that one of the two key words remain the same, which is “documentation”. For the other key word, notification, substitute “timely response”.

Let me start with documentation. Whether your goal is to avoid a claim or successfully resolve it in your favour at a later date, there is no substitute for through documentation of project events as they occur. Basic kinds of documentation include:

- Daily logs
- Correspondence
- Photographs
- Cost reports
- Internal correspondence
- Payment records
- Material delivery and Receiving records
- Telephone conversation logs
- Cost flow schedules
- Job cost accounts records
- Change Orders requested, pending and approved
- Time records
- Video tape
- Minutes of meeting
- Shop drawing logs
- Equipment utilization records
- Schedules
- Periodic status and progress reports
- Labor and productivity cost
- Bid work sheets
- Production and job cost summaries
- Requests of information

If properly prepared, the above contemporaneously maintained documents will no doubt tell the real story or at least the story in the eyes of the person maintaining the documents, as events unfold. Of course, the contractor's documentation can differ, because his individual interpretation of project events can often times be different from the engineer, the inspector or the clerk of the works.

But clear, contemporaneous documentation is by far the best defense; the best way to prevent a minor field dispute from escalating into a large dollar claim which may result in litigation, arbitration, or some other unpleasantness.

The other key word or phrase is "timely response". A smart contractor is not only going to document everything it does, but it will also properly notify the owner or its engineer in writing when it believes that it is entitled to additional compensation or additional time to perform the work. An effective tool often employed by contractors for this proposes is an RFI (Request For Information). A typical RFI pose a question or comment, is acted, and contains a response block to be filled out by the recipient and a protracted dispute, but where the contractor produced 500 or more RFI's to convince a Trier of fact that its operations were entered inefficient and unproductive because it constantly had to sop work, ask questions, and seek direction or interpretation of the contract plans and specifications. This is typical of the "reservation of rights" claims based on the alleged impact of multiple changes on unchanged work.

Timely response means a lot of things. If a contractor is faced with a changed condition, promptly evaluate it and respond. If the contractor is entitled to additional time, grant a time extension or acknowledge the fact that you want the contractor to accelerate to make up for the time. If the contractor is entitled to additional compensation for a change or a differing site condition or for extra work added by the owner, promptly acknowledge it, prepare and process the change odor, and promptly pay the contractor. Timely response also means promptly dealing with contractor's requests for payment, either by making the payment, immediately raising questions where necessary or promptly rejecting request for payment or

adjusting them when you believe payment is not due for all or a portion of the work. As simple as these things sound I'm sure you would not be surprised at the number of times and the number of projects where this seemingly common sense approach is not followed.

Timely response also means timely monitoring and responding to the contractor's schedule submittals and the contractor's adherence to the schedule. If your agency requires that a contractor use network scheduling techniques such as CPM or precedence diagramming methods, i.e.: Primavera or open plan, then once the contractor submits its schedule you owe it to him to promptly review and comment on it. To the extent that the contractor does not meet the schedule, periodic reminders should be sent to the contractor. For example, each week the contractor can be sent a letter a pointing out the schedule activities which was suppose to start during the period but which did not, and the contract activities which were supposed to complete during the period but did not. As a project owner you can also insist that the contractor submit a schedule narrative explaining progress against the schedule and any deviations or schedule changes that it intends to make during each reporting period. The schedule narrative has become a convenient place for contractors to point out delays and interferences allegedly beyond their control which affect the contractor's progress. These also should be dealt with promptly. To the extent that they appear to be accurate, demand that the contractor submit its claim and justification in a timely manner in accordance with the contract documents. If the statements are inaccurate, promptly point these out and document them either in a letter or in minutes of a schedule review meeting.

Prevention and Resolution

What else can we do to avoid changes or unresolved matters from escalating into dispute and claims? What else can we do to resolve such matters in the unfortunate event that they become claims and you find yourself before a judge or an arbitration panel? The balance of this paper will focus on pointers or guidelines that you can use

to effectively and aggressively administer your contracts to prevent claims, and to analyze to resolve them satisfactorily if they occur.

Before presenting these guidelines, we should first review the kind of things that commonly lead to claims and dispute. Typical claims for which owners are responsible include the following:

- Late issuance of noticed to proceed.
- Delayed access to site.
- Delayed work of preceding contractor.
- Late approval of shop drawings and samples.
- Failure to timely approve submissions.
- Failure to approve reasonable substitutions.
- Delay in answer to field questions and field variances.
- Owner directs changes.
- Direct changes in the planned method of construction.
- Changed conditions variations in estimated quantities.
- Disruption or interference by other contractors under the direction of the owner.
- Schedule changes directing manning levels.
- Delayed payment to contractor.

2.9.1 Delay Claims

Construction delay claims can be caused by many factors, ranging from owner-caused claims to unusually severe weather. This course will examine why construction delay claims are brought, how to effectively analyze them, what some of the important contractual clauses are in the analysis, and how design professionals can defend again Construction delay claims can be caused by many factors, ranging from owner-caused claims to unusually severe weather. This course will examine why construction delay claims are brought, how to effectively analyze them, what some of the important contractual clauses are in the analysis, and how design professionals can defend against them.

Causes of delays

- Owner caused
- Designer caused
- Contractor caused
- Subcontractor caused
- Third party (not in contractual chain) caused
- Unusually server weather
- Strike and labor disputes

The most common claims against owners are claims for increased compensation due to delay. Be on the lookout for the following key words use by the contractor in correspondence, meetings, etc.:

- Late approvals
- Licensing and permit problems
- Disruption, owner inaction
- Bad weather
- Late deliveries, no access
- Interference
- Discrepancies in plans and specs

Know and watch out for the kinds of increased cost impacts that the typically associated with delay claims, such as:

- Extended job supervision and field overhead
- Extended equipment costs
- Extended home office overhead
- Finance costs
- Idle labor and equipment
- Wage and material escalation
- Labor inefficiency

- Reduced job opportunities (Lost profits) Acceleration Claims
- Overtime
- Schedule change
- Speed up
- Early completion
- Excusable delay
- Extra shift
- Slow down
- Longer work day/week
- Denial of Time extension
- Work efficiency

Documentation Needed to Effectively Analyze Delay Claims

- Claim notice
- Time tickets
- Schedules, narratives & updates
- Meeting minutes
- Daily logs and diaries
- Correspondence
- Change order logs
- Inspection & progress reports
- Cost accounting records
- Invoices
- Purchase orders
- Estimates and bids
- Equipment-use logs
- Financial statements
- Reports to sureties

(Sable, 2012)

Claims, Disputes and Arbitration

Contractor's Claims Sub Cl. 20.1 (ICTAD S.Cl.19.1)

- Contractor to give notice within 28 days of his becoming aware of the event leading to a claim (EOT or Cost)
- Give details of the event giving rise to the claim.
- Keep contemporary records.
- Keep any other records instructed by the Engineer.
- Within 42 days submit a detailed claim with supporting documents to substantiate the claim.
- If the event has continuing effect claim is treated as interim.
- Submit monthly interim claims.
- Final claim within 28 days after the end of the effects of the event.
- Engineer to respond within 42 days.
- Engineer to determine according to Sub clause 3.5 and sub cl.8.4.

Appointment of Dispute Adjudication Board (DAB) S.Cl.20.2

- Parties to jointly appoint the DAB by the date stated in the Appendix to the Tender (one or three)
- If the number is not stated or parties disagree there shall be three
- Each party to appoint one member and both agree with the third in consultation the two members. Third shall be the Chairman
- If a list of potential DAB members is given in the Contract documents the members shall be selected from the list
- The agreement of the parties in appointing the DAB shall be incorporated into the DAB agreement
- Remunerations of the DAB shall be agreed by the parties with the DAB and each party to pay half the cost
- Parties to jointly refer disputes to DAB
- DAB members may be replaced with the agreement of the parties
- Termination of DAB members shall be only by mutual agreement of parties
- Failure to Agree Dispute Adjudication Board S.Cl.20.3

- If the parties fail to agree on the DAB, at the request of one or both parties then the entity or person named in the Appendix to tender shall appoint the DAB
- This appointment shall be final and conclusive
- Each party shall be responsible for paying half of the remuneration of the appointing entity
- Obtaining DAB Decisions S.Cl. 20.4
- If a dispute arises between the parties, either party may refer the dispute to the DAB in writing for its decision
- The parties shall make available all details and access to site etc.
- DAB shall give its decision within 84 days or other period agreed
- The decision shall be binding on both parties
- If a party is dissatisfied with the decision within 28 days the party shall give notice of dissatisfaction to the other party
- or if the DAB has failed to give his decision within 84 days, then within 28 days thereafter a party may give notice of dissatisfaction to the other party
- The notice shall give reasons for dissatisfaction and refer to this Clause
- If no notice of dissatisfaction has been given then decision of DAB shall be final and binding on both parties
- Amicable Settlement S.Cl. 20.5 Where notice of dissatisfaction has been given both parties shall attempt to amicably settle the dispute
- Arbitration may commence after 56 days from the date of giving the notice of dissatisfaction

Any dispute, in respect of which a decision of the DAB has not become final and binding shall be Arbitration S.Cl.20.6 (ICTAD S.Cl. 19.5) finally settled by international arbitration under the rules of the International Chamber of Commerce (ICTAD in accordance with the Arbitration Act No. 11 of 1995)

- The number of arbitrators shall be three
- Conducted in the language defined in the Contract (S.Cl 1.4)
- The arbitrators has the power to open up any determination
- Parties may put forward new arguments in support of their case

- Arbitration may commence before or after completion of Works

Failure to comply with DAB decision: S.Cl 20.7

- If neither party has given notice of dissatisfaction
- DAB's decision has become final and binding
- A party fails to comply with the decision
- The party may refer the failure itself to arbitration

Expiry of DAB appointment S.Cl. 20.8

- If there is no DAB in place either party may refer disputes directly to arbitration

Arbitration Act No.11 of 1995

An Act to provide for the conduct of arbitration proceedings, to give effect to the convention on recognition and enforcement of foreign arbitral awards, to repeal the arbitration ordinance chapter 93, and certain provisions of the Civil Procedure Code Chapter 101 and to provide for matters connected therewith and incidental thereto.

- The Act came into operation on the appointed date i.e. when the Minister declare the date by a gazette notification (1st August 1995)
- Applicable to all arbitration proceedings commenced after the appointed date
- Any dispute which the parties agreed to submit to arbitration may be settled by arbitration unless the matter is contrary to public policy or incapable of arbitration
- An arbitration agreement shall be in writing and may be in the form of a clause in a contract or a separate agreement.
- If the parties have an arbitration agreement and if one party apply to Court to settle a dispute, the Court shall have no jurisdiction to hear such dispute if the other party objects to Court
- Parties are free to agree on the number of arbitrators (one or three or more)
- Each party appoint one arbitrator and the two arbitrators appoint the third

- Parties with agreement may remove the arbitrators and appoint substitutes
- A party may challenge an arbitrator on grounds stated in the Act
- An arbitration agreement survives even if the contract is terminated
- Arbitration Tribunal may provide interim relief at the request of a party
- A dispute may be settled with the mediation of the Tribunal
- Parties to agree on the place of arbitration and agree on the rules of procedure
- Arbitration is deemed to have commenced when one party make a request to the other to appoint an arbitrator or refer a dispute to arbitration
- If a party fail to attend the Tribunal the other party may apply to High Court to issue summons
- The award is final and binding
- Tribunal may award interest
- If a party fails to comply with the award, the other party may apply to High Court to enforce the award
- A party may apply to high Court to set aside an award
- High Court on application by a party may enforce foreign arbitral award
- No appeal against an award
- Parties can agree on the exclusion of Supreme Court
- Conditions of Contract for Construction for building and Engineering works designed by the Employer

FIDIC first edition 1999

- Standard Bidding Document procurement of Works
  Major Contracts

ICTAD Publication SBD/02

- Arbitration Act No 11 of 1995

2.9.2 Constructive acceleration claims

A particularly disturbing claim is one for "constructive acceleration". A constructive acceleration claim is one where a contractor contends that it was entitled to a time extension which was not granted, and as a result the contractor was forced to accelerate to working order to meet the owner's completion date. While the owner has not directed the contractor to accelerate, the contractor contends that the owner's action or inactions have the same effect, such as failure to grant and otherwise valid time extension or implying that the work must be completed by a certain date regardless of any delays which may have occurred. The essential elements of a claim for constructive acceleration are the following:

- Valid excusable delay exists.
- A timely request for a time extension has been presented by the Contractor.
- The owner has failed or refuses to grant the request.
- The owner has acted in a manner which reasonably can be construed as requiring the contractor to complete on a schedule which has not been properly extended.
- The contractor actually expends effort to accelerate performance. Additional costs are incurred by the contractor as a result of the acceleration.

Cost impacts typically associated with acceleration claims are:

- Overtime
- Direct premium costs
- Inefficiency
- Inefficiency of overall operations
- Cost of expedited vendor delivery
- Additional supervision and overhead
- Reduction of equipment rental costs, wage escalation

Constructive Changes

A third common claim theory is "constructive changes". Constructive changes are changes that the contractor alleges are the result of some action or inaction on the part of the owner which are not readily acknowledged by the owner to be contract changes. Key words to be on the lookout for are:

- Unwritten request
- Additional work/services
- Overly rigid inspections
- Incorrect interpretation of plans and specifications
- Defective plans and specifications
- Interference
- Change in method or sequence of work

Tips of preventive claims

The following points are presented to aid you in effectively managing your projects and preventing construction claims. You will note that many of these items relate to the project schedule. The reason for this emphasis is because, as stated above, the most common claims against owners are delay claims.

During design and bidding phase:

1. Read and understand the contract documents. Be aware of special contract clause use to limit liability such as no damage for delay, notice of delay, indemnity and hold harmless disclaimers, exculpatory and waiver of all claims. Consult your attorney for advice as may be necessary.
2. Become thoroughly familiar with the project delivery system being used, the roles and responsibilities of all parties involved the proposed schedule requirements, and the scope and timing of the work being contracted.
3. Determine who should have the overall responsibility for schedule and coordination, schedule enforcement, payments, changes, approvals, etc; and make sure that contract accurately reflects your desires.

4. Carefully prepare scheduling specifications that communicate what you want and what you expect of the contractor. If any ambiguities exist, issue a clarification in writing.
5. Require prime contractors to involve their sub contractors in schedule development and implementation.
6. Preserve a set of the original plans as bid. If different, retain a "clean" set of plans and specifications which are made part of the construction contract documents.
7. Train staff to recognize the salient features of constructive changes. Establish procedures for identification, notices, documentation and timely resolution.

During construction phase

1. Establish and require contractors to furnish a reasonable breakdown of their bids to determine what is include and what is excluded. Lay the foundation for establishing a schedule of values, timely payments and the necessary elements for a good budget and cost control system.
2. Timely review and approve contractor prepared schedules. Document in writing, the schedule approval process, and make sure that the approved schedule reflects the understanding of both parties on how the contractor intends to perform the contracted work.
3. If an owner disapproves a contactor's schedule, he should do so without delay and I writing, outlining his objections and the requirements for resubmission by the contractor.
4. Joint schedule updating at least monthly is strongly encouraged. The schedule specification should include clear procedures for periodic updating process. Each update should reflect as-built conditions just as a set of plans and specifications are supposed to be kept up to date to reflect as-built conditions in the field.
5. Periodically evaluate your record keeping system and ensure that all elements of contract administration and actual performance are being preserved. The need for good, accurate records cannot be overemphasized. Such records are the principal source of evidence for verifying that the parties have confirmed with the contract

documents; and for timely negotiations of variation orders, resolution of disputes, and proving or defending against time delays and damage claims.

6. Require your field supervision to maintain a personal diary and to prepare or have prepared daily reports. Report should accurately document actual performance, problems encountered, written and/ or oral directives received, field conditions encountered, visitors, etc. Facts only-avoid editorial comments and self criticism.
7. Require your field staff to record at least one or two weather observations each day covering the amount of rain or snow, temperature extremes, any significant wind conditions, and the effect weather conditions had on job progress and cost.
8. Labour and requirement records should be kept daily showing labour by craft, type and number, the construction equipment being used at the site, hours operated, hours idle, work performed, and any repairs waiting to be made.
9. Keep a transaction register for all shop drawings and material samples showing scheduled dates for submission, actual submission, time allowed for approval, actual duration of approval, and the dates of any resubmissions or rejections involved.
10. Establish procedure for control of information (RFI's)
11. When a specific delay occurs, initiate accounting procedures which require the identification, isolation and recording of delay generated costs involved. Particular attention should be given to documenting standby or idle labor and equipment. In addition, document what instructions were given or actions taken or not taken, to mitigate the situation.
12. Prepare time impact analyses for all changes orders suspected of involving delay and/or impact. Each impact analysis should describe the delay and present the facts relating to it, determine liability, the net time impact and the relationship of the delay to any other deals, particularly those that are concurrent or off setting. Keeps a master ledger of time impacts reflecting the chronological influence of delays encountered to date.
13. Keep a log of all change orders from initiation to final settlement. Require contractors to support and justify time extent ion requests in their change order

cost proposals. Correlate all impacts with the base schedule and adjustments thereof. Make sure that issue of time is addressed I all change orders.

14. Before a directive to accelerate a contractor is issued, steps should be taken to confirm that all requests for time extensions and possible excusable delay have been considered and the contractor is behind a properly adjusted schedule at the time he is directed to accelerate.

Tips for claims analysis

1. Thoroughly review the claim submittal made by the contractor to understand the factual and legal basis for the claim, the extent of the delay, if any, and the nature of the additional compensation sought.
2. Identify the elements of proof required, and compare them with those submitted by the contractor. Know your possible defenses in delay situations, which are presented at the end of this section.
3. Document the specification's notice and claims filing requirements and determine compliance by the contractor.
4. Identify and review available correspondence, reports, memos, and similar documents, to obtain a detailed understanding of the facts. Document facts which can be confirmed, refuted, or are at variance with the contractor's position. Identify factual proofs that are required to support the contractor's claims that are not provided by the contractor.
5. Obtain current schedule information relative to the issue claimed. Compare and analyze planned versus actual performance by the contractor. Identify any variances and probable cause therefore.
6. Conduct interviews with knowledgeable owner and contractor personnel. Obtain and /or prepare written statements where necessary to support factual analyses and conclusions.
7. Construct a chronology of relevant events.
8. Review and analyze performance records such as current schedules, daily reports, photographs, diaries, inspection reports, pay records and comparable documents.

9. Conduct productivity analyses. If the contractor alleges that the work was performed in a manner , or at a time , or under circumstances, or at a rate, at variance the contract, conduct an analysis of the contractor's supporting documentation and verify or refute such claims by collecting and analyzing factual performance records maintained by the owner.
10. Review and assess any performance of the work alleged by the contractor to have exceeded, or alleged to have been more difficult than, what is required by the contract.
11. Review and assess Contractor cost estimates and claimed actual costs, if available. Consider the various types of costs claimed and/or damages sought by the contractor, versus the elements of proof required.
12. Identify question that remain to be answered by the contractor and/or the owner's staff.
13. Identify additional documentation related to the claim issue (i.e, statutes, standards of care) necessary for an assessment and position to be taken on the issue.
14. Summarize strengths and weaknesses of the claim issue(s) from the Owner's View point.
15. Prepare an action plan for follow-up, disposition, and/or resolution of the dispute.

<u>Defenses to Delay Claims</u>

1. Contractor has not proven delay.
    - Delay justification submitted by the contractor is incomplete or incorrect
    - Claim does not factually support responsibility and cause of claim
2. Contractor was delayed, but not damaged
    - Delay is absorbed by available float
    - Concurrent delay
    - Offsetting delay

- Contractor did not incur additional costs

3. Contractor was damaged, but cannot recover any cost
    - Delay was foreseeable
    - "No damage for delay clause"
    - Waiver of right, sign off of changes , failure to give notice
    - Contractor was inefficient
    - Non-compensable delay (weather, accidents, Force Majeure)
    - Contractor failed to mitigate
    - Contractor failed to coordinate
    - Contractor failed to submit claim and /or supporting data
4. Contractor was damaged, but compensated (partially or totally)
    - Overhead absorbed by lump sum work
    - Overhead by T & M work
    - Bid contingencies
5. Contractor was damaged , but there are offsets
    - Back charges
    - Credits
    - Allowances
6. Contractor was damaged but others are responsible
    - Contractor's vendors
    - Contractor's suppliers
    - Contractor's subcontractor's

    (Griffin M. V., 1993)

Construction delay claims can be caused by many factors, ranging from owner-caused claims to unusually severe weather. This course will examine why construction delay claims are brought, how to effectively analyze them, what some of the important contractual clauses are in the analysis, and how design professionals can defend again Construction delay claims can be caused by many factors, ranging from owner-caused claims to unusually severe weather. This course will examine why construction delay claims are brought, how to effectively analyze them, what

some of the important contractual clauses are in the analysis, and how design professionals can defend against them.

Important Clause: Notice of Claim Requirement Alerts owner & A/E of delay or problems Brings parties together to resolve or mitigate Opportunity to refuse undesired extra work Provide legal defense to after-the-fact claims

Delay Claims in Construction Cases: Common Pitfalls

Some of the most common disputes in construction cases relate to delay. However, delay claims tend to be some of the least understood and frequently confusing claims in the construction field. A clear understanding of the basic elements necessary to prove delay claims is invaluable in the processing of complex construction claims.

Much as it sounds, a delay claim on a construction project relates to a period of time for which the project has been extended or word has not been performed due to circumstances which were not anticipated when the parties entered into the construction contract. The most common causes of delay on a project include: differing site conditions; changes in requirements or design; weather; unavailability of labor, material or equipment; defective plans and specifications; and interference by the owner. Such delays will often force a contractor to extend its schedule to complete the work required under the contract, as well as to incur additional costs in the performance of said work. Generally, these costs may include: the costs of maintaining an idle work force and equipment; unabsorbed office overhead; lost efficiencies; and general conditions. However, in order to receive an extension of time for project completion, or to recover additional costs, the contractor must meet a number of prerequisites.

A delay must be excusable in order to be the basis for an extension of time or additional compensation. Categories of excusable delay are often determined in the contract and typically involve matters beyond the control of the contractor. Examples of excusable delay include design errors and omissions, owner initiated changes, unanticipated weather, and acts of God. A non-excusable delay is a delay for which

the contractor has assumed the risk under the contract. Often, even if a delay appears to be excusable, it will be the responsibility of the contractor if it was foreseeable, but could have been prevented but for the acts of the contractor. The same is true if the delay was caused by the negligence of the contractor.

Delays may be further classified into compensable and non-compensable delays. If a delay is compensable, the contractor is entitled to recover compensation for the costs of the delay in addition to time extensions to complete the project. Most contracts will include classes of delay which are compensable. The general rule however, is that if the delay could have been avoided by due care of one of the parties, the party which did not exercise such care is responsible for the additional costs.

The contractor may also be liable for the negligent acts of its subcontractors. If the negligent subcontractor is in the chain of privity with the contractor, the contractor cannot recover delay damages from the owner as those delays are the responsibility of the contractor. However, if the subcontractor has a direct contractual relationship with the owner of the project, the contractor may be able to recover damages as it was not in a position to prevent the delay. Additionally, in order to recover damages, a contractor must show a link between the delay and the resultant damage. Simply stating that there was a delay is not sufficient without showing a nexus between the delay and the damages.

Even if it is able to meet the foregoing criteria, a contractor will not be entitled to recover if there is a concurrent delay affecting completion of the project. A concurrent delay may be defined as a second, independent delay occurring during the same time period as the delay for which recovery is sought. If the party seeking increased compensation is ultimately responsible for the concurrent delay, he may not be able to recover any compensation for the initial delay.

Some courts, will allow the aggrieved party to attempt to apportion the responsibility for delay, thus allowing compensation to the contractor for the period of delay which was not its responsibility. *See, e.g., Raymond Constructors v. United States,* 411 F.2d 1277 (Ct. Cl. 1969). However, apportionment of delay is often difficult due to

inadequate project documentation of the various delays. The best time in which a contractor can apportion delay is while the project is ongoing. Courts tend to find analyses made concurrent with the delays to be more reliable then after the fact analyses.

A contractor can do a number of things to make it easier for it to recover delay damages incurred on a project. The contractor should make sure the construction contract clearly defines items which the contractor will be able to recover. Additionally, each and every delay should be well documented during the course of the project. Notice that the delay is impacting the contractor should be given to the party with which it is in privity. Finally, if there is any portion of delay for which the contractor is responsible, it should seek to apportion the overall delay between the items it is responsible for and those for which it has no responsibility.

2.10 Construction contracts in sri Lanka

The Road Development Authority handles most of the contracts as the client on behalf of the Government in Road and Bridge Construction Industry in Sri Lanka. Provincial Councils and other Local Agencies handle only Minor works.

In addition to this setup, the Road Development Authority, interact with many Donor and funding Agencies such as Asian Development Bank (ADB), World Bank (WB) and Overseas Economic Corporate Fund (OECF) in order to carry out major Road and Bridge Construction Projects.

The main Organization of the Road and Bridge Construction sector, the Road Development Authority of Sri Lanka practices different methods in awarding contacts to different Organizations. This mainly depends on the way of funds received to the Authority.

Two systems are operative under the funding agencies, International Competitive Bidding (ICB) and Local competitive Bidding (LCB). Tender procedures are adopted by RDA in other contracts where the Donor/Funding agents are involved. In ICB

only the international organizations are allowed to bid for selecting contractors and consultants as well. In LCB the selection is among local organizations.

Most of the foreign funding agencies prefer to go for ICB. In some projects although the contractors are selected from LCB, the consultants are appointed from ICB.

In the same manner under different contractual relationship various organizations are involved with RDA for the execution of road and bridge construction work.

In addition to that the construction Companies consulting Companies and a group of subcontractors also involved in this construction process. These different companies may be practicing different Management techniques in managing their Projects. That may be due to the complexity or size of Projects being handled, or depending on their, know - how about different Managing techniques.

2.10.1 Projects funded by the Government

Those funds were received by the Road Development Authority from the yearly allocation by the Government for rehabilitation and construction of national roads and bridges in Sri Lanka.

Those funds were released considering the requirements of the 09 Provinces operating under the Provincial Directors of the Road Development Authority. At the Provincial setup, the Provincial Directors were used to allocate their funds to respective Chief Engineers of the Districts under them and the Chief Engineers to distribute allocations to the respective Executive Engineers of the Divisions and Project Engineers depending on the requirements of the area

2.10.2 Projects funded by Donors

The Contract Management Division of RDA manages contracts after receiving funds from the following mentioned donor agencies to the Ministry of Highways through the Treasury.

1. Asian Development Bank (ADB)
2. Overseas Economic Corporate Fund (OECF)
3. Japanese Funding Agency (JAICA)
4. Japanese Bank International Corporation (JABIC)
5. KUWAITE Funds (KF)

Consultants, the representative of the Client and the Contractors were selected through competitive tenders. The RC&DC had not a chance to bid for these tenders being a subsidy of the RDA.

The requisites of a valid contract

- Agreement
- Consideration
- Intension
- Form
- Capacity
- Genuineness of Consent
- Legality

Agreement

- At least two parties are required
- One of them is the offerer
- The other is the offeree
- Agreement= offer+ Acceptance
- Contract= Agreement + other requisites offer
- An offer is a proposal made on certain terms by the offeror together with a promise to be bound by the proposal if the offeree accepts the stated terms.

- An offer may be made expressly e.g.: When an employer writes to a prospective employee to offer a job
- Or may be implied, by conduct, e.g.: Bidding at an auction offer may be made to an individual, to a group of persons, or to the world at large.

Condition of Contract

A set of rules agreed to by the parties to the Contract which governs its conduct. They define the apportionment of risk between the parties and the rules under which one party is remunerated for undertaking the work for the other.

- ICTAD Conditions
- FIDIC IV For Works of Civil Engineering Construction (The Red Book)
- FIDIC 1999 For Construction (The New Red Book)
- FIDIC MDB Harmonized Edition 2005/2006(The Pink Book)
- FIDIC Plant and Design-Build (Yellow Book)
- FIDIC Engineering Procurement and Construction –Turnkey (New Silver Book)

FIDIC Conditions of Contract for Construction

- For Building and Engineering Works designed by the Employer
- General Conditions – Part I
- Particular Conditions Part II
- FIDIC: Fe'de´ration Internationale des Inge´nieurs-Conseils

(International Federation of Consulting Engineers)

ICTAD Conditions

- Standard Bidding Document –Procurement of Works ICTAD/SBD/01 (Rs.10-150M)
- Standard Bidding Document Major Contracts ICTAD/SBD/2 (above Rs 150M)

- Standard Bidding Document for Minor Contracts ICTAD/SBD/3 (up to Rs10M)
- Standard Bidding Documents for Design and Build Contracts SBD/04. These Documents supersede SCA/1

Prequalification of Contractors

- Minimum Pass/Fail Criteria
- General and Particular experience
- Financial Position
- Personnel
- Equipment
- Litigation
- Fraud and Corrupt practices
- Conditional prequalification

Law of Contract

Law and Language: Sub Clause 1.4

- The Contract shall be governed by the law of the Country(or other jurisdiction stated in the Contract)
- Law in Sri Lanka Law for ICTAD Conditions
- Language is the ruling language stated in the Contract
- Language is English for ICTAD Conditions

2.11 Adjudication

Adjudication is an accelerated form of dispute resolution in which a neutral, impartial and independent third party deals with the dispute as an expert and not as an arbitrator, and determination is binding unless and until invalidated or overturned by an arbitration award. The adjudicator shall not give advice to the parties or their representatives concerning any aspect of the Agreement in respect of which he has

been appointed other than in accordance with stated Rules (Joint Building Contracts Committee (JBCC) 2005 4.1 Adjudication rules, cl.1.1,3.2)

The procedure may be as follows:

- Either party shall submit full details of a dispute arising in terms of the agreement, together with copies of all relevant documents
- The other party may submit a written response
- The adjudicator shall :
  - act as an expert and not as an arbitrator
  - adopt the most cost –and time – effective procedure
- The adjudicator may also:
  - Convene and conduct a hearing
  - Determine the payments and costs of the dispute on the basis of the submitted documents
  - Only
  - Decide on his own jurisdiction
  - Meet with the parties
  - Make use of specialist knowledge
  - Open up documents related to the dispute
  - Refuse admission to any persons other than the parties

The adjudicator‘s written determination of the dispute shall:

- Be delivered to the parties, and
- Outline reasons for his decisions (JBCC,4.1,2005,Adjudication Rules,cl. 6.0-7.0)

It is important to note that an adjudication award is not binding on the parties, but is most definitely a process that will limit the costly processes of arbitration and litigation. Quantity surveyors and cost engineers are ideally positioned to play a very active role in adjudication.

2.12 Mediation

Mediation means different things to different people, but in the construction industry, it usually denoted a procedure in which a neutral third party seeks to resolve a dispute between contracting parties, by conducting an enquiry, similar to arbitration, but less formal and by giving a non-binding opinion. The parties represent themselves without calling in legal professionals. The mediator should know the details of the dispute and should give each party the opportunity to state their case. The mediator should decide which procedure is the best, based on circumstances (McKenzie, H.S and McKenzie, S.D, 1994:174).

2.13 Arbitration

In some countries arbitration is a process provided for by an act of law, adopted by parties through mutual agreement stipulating that they will submit any dispute that may arise between them to the **impartial judgment** of some third party of their choice and that the award by this impartial person will be final and binding. Arbitration is not a new process; in fact, it was known to the Romans, used by the Dutch and English in the days of colonial expansion and is currently widely used in the construction industry and further afield (Finsen,1999:203-204).

Arbitration is a more formal process than the dispute –resolution processes mentioned earlier, but arbitration has many advantages. Some of these are:

- Expert knowledge of a selected arbitrator
- Possible savings in legal representation costs
- Flexibility of the process
- The decision is final and binding
- Time and money are saved
- Arbitration is a private matter (Finsen,1999: 203;McKenzie,H.S and McKenzie,S.D,1994:161)

Quantity Surveyors perform or can perform an important role in arbitration, as cost advisor, expert representative, witness or even arbitrator.

A knowledgeable professional, utilizing the claim –and dispute –resolution methods available to best effect, may assist the parties by means of these methods, to save money time and effort.

Quantity surveyors may be in a good position to assist the parties and professionals in this manner, because of their knowledge and skills in relation to determining costs, tariffs, rates, prices, certification, contract terms and contract related communication.

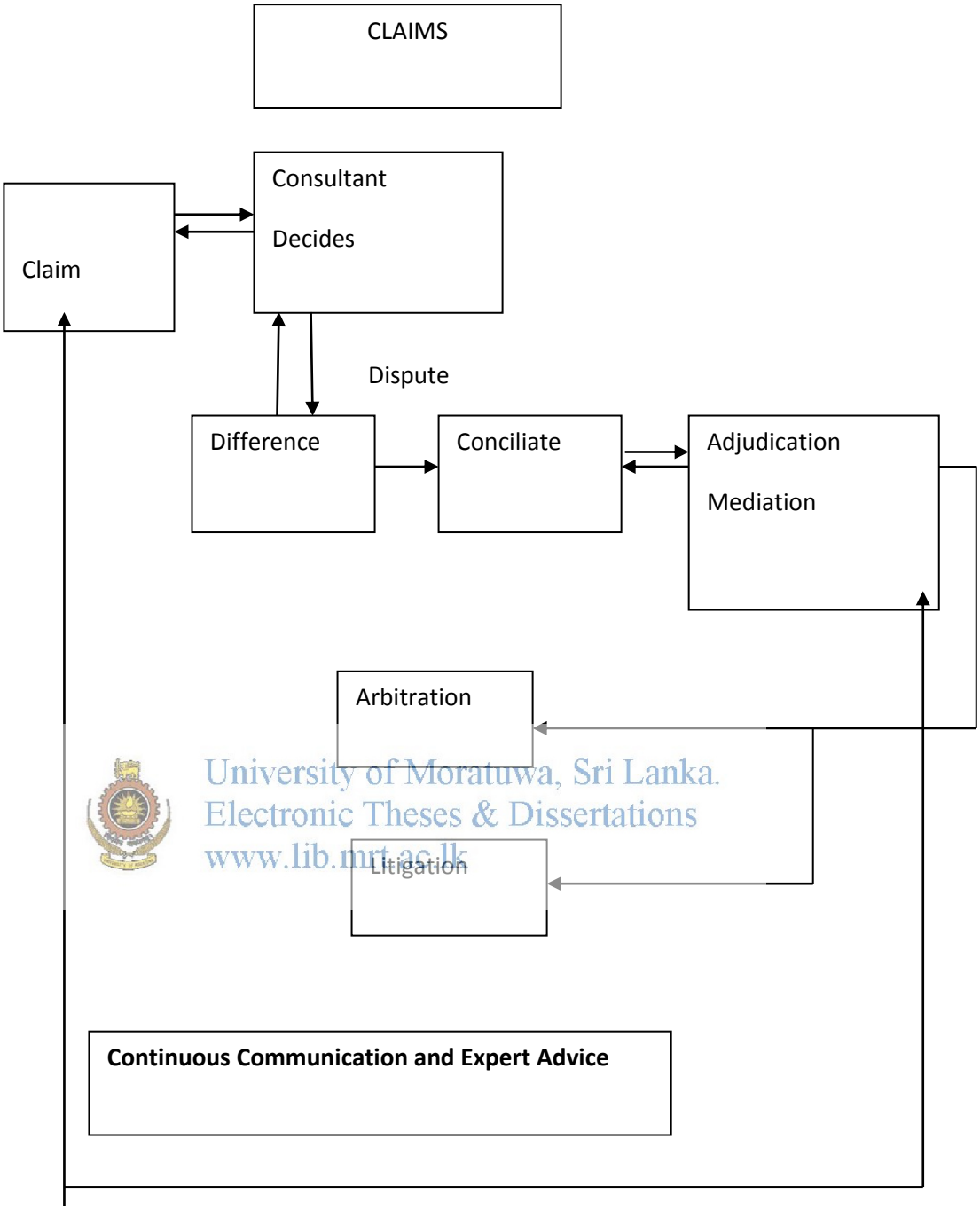


Figure 2.9: Claim Process

Source: (Verster J. , 2005)

CHAPTER 3: DATA COLLECTION AND ANALYSIS

3.1 General

In some previous researches "Claims" is considered as an emotive word. Because, in a claim situation two parties take sides and make effort to defend their opinion and seek solutions. Therefore in most cases the contractor's view is the claim as a game of chance while the Engineer tries, as much as possible to defend the situation.

The nature of a claim is a fully detailed written request, supported by documents and particulars forwarded by a party for cost and /or time extensions believing he is entitled to, by virtue of a term or terms in a valid contract, but for which agreement has yet to be reached.

Finalizing the claims will be as

(a) Settling the request on the basis of available records and particulars.

(b) Settling the request with the understanding of the parties subjected to some deductions.

(c) Settling the claim by the Engineer's own wishes whether the contractor is agreed or not.

(d) Rejecting the claim.

Contractor's reaction on the above last two will be

(a) Ignore the matter and be subsided, expecting for future benefits from the client or the Engineer.

(b) Resubmit with the consent of the Engineer.

(c) Seek decision of Dispute Adjudication Board.

(d) Go for Arbitration.

3.2 Case Study 1

Construction of a Bridge on Colombo- Galle –Hambanthota Wellawaya Road (A2)

General Details of the Claim

Claim : No 2

Back ground : Direct cost incurred in delay of approval for casting RCC piles

Contractor : A Foreign Company

Engineer : A Local Consultant.

Client : Road Development Authority.

Date of Claim : 23rd June 1986

Claimed Amount : SLR 697,661.00

Date forwarded this matter

To the secretary of highways: 23.10.1987

Background of the claim

Claim caused, due to delay in granting approval for casting of piles in Gampola and its related cost.

At the inception they had decided to cast RCC piles at site. While the preparation of the casting bed in progress they had decided to cast the required piles at Gampola where the casting bed was already prepared with all other facilities.

Engineer was requested by the contractor seeking permission to cast and transport piles from Gampola, committing that the transport cost will be borne by them. Initially the Engineer shows disagreement, but subsequently agreed subject to some conditions viz;

The cost incurred for supervision has to be borne by the contractor as an extra cost. Contractor did not agree for that condition and pointed out that they can cast piles at their interest if the transport cost is to be borne by the contractor. Also pointed out

that they have imported Marine piles direct from their country for which the Engineer had granted permission being satisfied with the test reports received along with piles though the supervision was not provided by the Engineer during its casting period. Engineer did not listen to that point and emphasized the contractor, that the supervision of casting was compulsory. They submitted a massive claim to the contractor accounting for their transport cost, accommodation and other recreations. Contractor analyzed the claim and agreed to provide reasonable accommodation, transport and other facilities. Finally the Engineer accepted the contractor's request. Contractor acted accordingly and finally, submitted a claim for Rs. 697,661.00 for delaying approval for casting piles at Gampola and for other direct and indirect costs incurred.

Result

Engineer has denied the payment and later the claim was forwarded to the ministerial secretary, who approved a sum of Rs 261,913.00.

At the first instance the contractor showed his dissatisfaction and sought Arbitration, but subsequently withdrew the matter and accepted that approved amount by the secretary.

Analysis

FIDIC document was the one which had been used in this contract. For the first request of the contractor to cast piles at Gampola had been rejected by the Engineer and later decided to allow permission subject to some conditions. Under the circumstance a delay had been occurred for the due permission to cast piles at Gampola.

When the Engineer forwarded a massive claim as supervision charges, the contractor had given an analysis and alternative to reduce the amount which was accepted by the engineer delaying a considerable time.

Clause 8.2 of condition of contracts in FIDIC 1987 states, “the contractor shall take full responsibility for the adequacy, stability and safety, of all site operations and methods of construction”. This was the justification of the contractor’s request.

Clause 1.5 of FIDIC 1987 says “where ever in the contract provision is made for the giving or issue of any notice, consent, approval, certificate or determination by any person, unless otherwise specified such notice, consent, approval, certificate or determination shall be in writing and the words “Notify”,” Certify”, or” Determine” shall be construed accordingly. Any such consent, approval, certificate or determination shall not unreasonably be withheld or delayed”.

Clause 6.4 of FIDIC 1987 states;“If, by reason of any failure or inability of the Engineer to issue, within a reasonable time in all the circumstances, any drawing or instruction for which notice has been given by the contractor. In accordance with sub clause 6.3, the contractor suffers delay and/or incurs costs then the Engineer shall, after due consultation with the employer and the contractor, determine;

(a) Any extension of time to which the contractor is entitled under clause 44, and
(b) The amounts of such costs, which shall be added to the contract price.

and shall notify the contractor accordingly, with a copy to the employer”

Sub clause 6.3 of FIDIC 1987 states “the contractor shall give notice to the Engineer, with a copy to the employer, whenever planning or execution of the work is likely to be delayed or disputed unless any further drawing or any further instruction is issued by the Engineer within a reasonable time. The notice shall include detail of the drawings or instruction required and of why and by when it is required and if any delay or disruption likely to be suffered if it is late”. Under the circumstance considered the contractor is liable for time extension on the ground of “Delay in giving consent to methods of constructions”. Extension of time could be claimed under the clause 44.1 (b), supported by the particulars on cause of delay compared to the original works programme given under clause 14.2.

Clause 44.1 (b) of FIDIC 1987 states, “In the event of any cause of delay referred to in these conditions being such as fairly to entitled the contractor to an extension of time for completion of the works or any section or part thereof, the Engineer shall, after due consultation with the employer and the contractor, determine the amount of such extensions and shall notify the contractor accordingly with a copy to the Employer”.

Contractor shall produce a revised programme due to the delays occurred.

Due to the delays described, there could be an additional monitory claim which might be caused by idling of machinery, labour, stock holding costs etc.

This is to be claimed on day work basis and could be explained under the clause 52.4 of FIDIC 1987.

Clause 52.4 states, The Engineer may, if in his opinion it is necessary or desirable, issue and instructions that any varied work shall be executed on a day work basis. The contractor shall then be paid for such varied work under the terms set out in the day work schedule included in the contract and at the rates and prices affixed there to by him in the tender”.

When considered the above facts, it is revealed that all those happened due to belated approval given by the Engineer. Before granting approval, Engineer should have considered the clause 37.1 of FIDIC pertaining to “inspection of operations”.

Clause 37.1 of FIDIC 1987 states “the Engineer, and any person authorized by him, shall at all reasonable times have access to the site and to all workshops and cases where materials or plant are being manufactured, fabricated or, prepared for the works and the contractor shall afford every facility for and every assistance in obtaining the right to such access.”

Avoidance of claim situation

Considering the delay in not giving consent for casting piles in Kotmale, the Engineer could have had a discussion with the contractor and also consulted the employer to come up with the best solution.

Another delay occurred in forcing the contractor claiming for unreasonable and unjustifiable expenses which had to be reverted accepting the contractor's alternative.

If the following steps had taken by the Engineer, the claim situation would have been avoided.

(a) Before submitting the claim for accommodation, transport and recreation, the Engineer could have consulted the contractor for an alternative if he had.

(b) Also, before go for a claim by the Engineer, he could have had a chance to consult the expertise supporting staff in the organization and available good Hotels in the vicinity where such facilities to be provided.

Management to minimize the Claim situation

The Engineer's decision was not steady, and twice he had changed his decisions unnecessarily consuming time and money.

That shows, the Engineer had not made effort to minimize further delay by seeking expertise skills.

At the second instance again a delay occurred due to inability to support the justifiable reasons for the claim, though he had a chance to negotiate it with the contractor even after the submission of the claim.

Application of project management

Delay in taking decisions and wrong approach to the analysis of claim situation was caused due to the above unnecessary delay.

Managerial support as well as the technical support needed to the project through the Engineer who is appointed by the client for a project.

Summary

Considering this case study and the analysis mentioned above, we can find out according to the project management concept, the contractor had covered enough FIDIC clauses to confirm his rights to win the claim, but he was compelled to accept the payment which was approved by the secretary. The contractor wanted to avoid Arbitration, merely to save time and money.

The above total process could have been avoided, if there was an independent and impartial person who was empowered legally, because he was the one who knows the project since the inception up to the end.

Otherwise the next solution will be to refer it to Arbitration.

3.3 Case Study 2

Rehabilitation and upgrading of an A Class Road from Kandy

<u>General details of the claim</u>

Claim No : 30

Subject: Interest on delayed payment –VAT component

Contractor : A foreign Company

Engineer : A Local Consultant

Client : Road Development Authority of Sri Lanka

Date of Notice : 28th March 2011

Date of Claim : 20th of April 2011

Claimed amount: SLR 8,320,837.87

Sub clauses : 14.8, 20.1 of FIDIC 2006 (General Condition of Contract)

Back ground of the Claim

As per the Sub clause 21.2 of particular condition of contract Part B- Special Provisions mentioned;

"The Value Added Tax should be paid by the employer, which shall not be included in the contract Price."

Contractor received the advance payment in two installments. They paid the VAT component at the first installment and second payment was settled without VAT and also deducted the VAT paid with the first installment. Therefore, pursuant to the sub clause 14.8 GCC, Contractor has forwarded their detailed claim to recover the financial charges (loss in interest) due to duly payment of the VAT component.

Note: Contractor has submitted the Advance Payment Guarantee only to cover the Principle amount, but not including VAT component.

Therefore, Engineer has requested to provide guarantee to cover the VAT component also.

Engineer's Decision

Claim was rejected by the Engineer due to following reasons,

Sub Clause 14.8 could be applied only if the contractor does not receive the payment in accordance with Sub Clause 14.7.

Only sub paragraph (a) of sub clause 14.7 refers to the advance payment. That too refers only to the first installment of advance payment.

Sub-Clause 14.7 does not specify a time period within which the second installment of the advance payment has to be paid. Therefore Sub Clause 14.8 does not apply to a delay in the payment of it.

Special Comment

Matter was referred to DAB (Dispute Adjudication Board) when the decision was given as, Contractor should be received financial losses from the date when he has

given proves, that the VAT amount has been remitted to the IRD and to the date the employer has paid the balance amount.

Current status

The employer has been issued notice of dissatisfaction with the decision and still it is open for amicable settlement.

The contractor has then paid the VAT in full for mobilization advance to the department of Inland Revenue as laid down in VAT regulation. Then the contractor had produced the payment remittance details as proves. Later the employer has been paid the balance.

Summary

Here the engineer has challenged the claim and tried to avoid settling the payment without listening to the DAB's decision. The two parties exchanged their views, but there was not an impartial, independent and responsible person to call parties and finalize the matter to prevent delays.

3.4 Case Study 3

Rehabilitation and upgrading of an "A" Class Road through the Hill Country

General details of the claim

Claim No 03 : Additional Costs due to Nation Building Tax (NBT)

Contractor : A Foreign Company

Engineer : A Local Consultant

Client : Road development Authority of Sri Lanka

Date of Notice : 06th May 2009

Date of Claim : 20th April 2011

Cumulative Substantiation amount : SLR 15,137,100.39

Cumulative approved amount : SLR 246,378.85

Sub clauses : 13.7, Adjustment for change of legislation and 20.1 Contractor's Claim

Back ground of the Claim

A tax has been enforced by the Nation Building Tax act No.09 of 2009 and amended on 30th of March 2009 to enforce from 1st May 2009.

As per the provisions of the Act all importers manufacturers and service providers are liable to pay Nation Building Tax at 1% with effect from 1st February 2009 and at 3% with effect from 1st May 2009.

This new law was passed after the base date of the contract (28 Days prior to the last date of bid opening) and a result of this change of law, the contactor has to incur additional cost which was not included in the contract sum for the execution of the project.

However the Contractor has claimed, all amount pertaining to the NBT including all purchases of materials, services and etc.

The engineer has paid only the amount of NBT which is not covered under Sub Clause 13.8 viz, price escalation adjustments for changes in cost stating that the rest of the amount to be covered under price escalation.

Current status

Not yet finalized the payment. As the contractor's opinion is that, these changes has not reflected in indices published in ICTAD form.

Summary

Here the contractor resorts to have opinion from a procurement expert. It would be easily verified within the project, if an expert was available in the project.

3.5 Case Study 4

Rehabilitation and upgrading of an A Class Road, through the Hill Country

General details of the claim

Claim No 10 : Additional Costs due to port and Airport Development Levy (PAL)

Contractor : A foreign Contractor

Engineer : A Local Consultant

Client : Road development Authority of Sri lanka

Date Noticed : -

Date of Claim : -

Cumulative Substantiation amount: SLR 2,364,664.60

Cumulative approved amount : SLR 1,054,755.89

Clauses : 13.7, Adjustments for change of legislation 20.1 Contractor's Claim

Back ground of the Claim

The Port and Airport Development Levy (PAL) prevailed at 3% until 31st December 2008 and which has been increased up to 5% by the amendment made to finance Act No.11 of 2006 by the finance Act No.13 of 2009 and which was enforced since 1st of January 2009.

This amendment of law was passed after the base date of the contract (28 Days prior to the last date of the bid opening) and as a result of this change of law, the contactor has to incur the additional cost which has not been included in the contract sum for the execution of the project.

Current status

Engineer has recommended the payment and contractor is receiving the payment.

Summary

This was to follow the dates in the procurement with the Finance Act No.11 of 2006 and its date of amendment. Engineer was really understood the claim situation according to available documents and has recommended the payment.

3.6 Case Study 5

Rehabilitation and upgrading of an "A" class Road from Kandy

General details of the claim

Claim No 05 : Suspension of work due to delay of Legal Clearance from Department of Wild Life Conservation

Contractor : A foreign Company

Engineer : A local Consultant

Client : Road Development Authority

Road section : 40+100 – 51+800

Relevant sections : 45+250 – 45+650
46+270 – 46+600
47+700 – 51+800

Date Noticed : 02nd June 2009

Date of Claim : 05th Aug 2009

Cumulative Substantiation amount: SLR 688,455,682.10

Cumulative approved amount : SLR 1,054,755.89

Legal clearance obtained : 16th June 2009

The date the List of Trees to cut was declared: 01st of August 2009

Clause : 2.1, Right of access to the site.

Extension of Time requested : 6.5 Months

Engineer made objections:

(a) No proper notice within 28 Days of the incident occurred.

(b) This claim should be considered under the Clause 8.5.

(c) No proper substantiation of actual site records.

Back ground of the Claim

Claim prepared for idling cost of machinery

Unrecovered Overheads

Loss of productivity

Loss of interest due to delay of expected work output

Additional maintenance cost

Demobilization and remobilization cost

Cost of working under increased rate of progress

Contractor's action

The contractor referred this claim to Dispute Adjudication Board (DAB). DAB had reviewed the matter and decided

(a) The Date of Notice (02/06/2009) could be accepted

(b) The period of EOT could be counted since 28 Days prior to the Date of notice (02/06/2009) up to the date of clearance received by the contractor

c) Denial of access to the site that is relevant to the Clause 2.1 could be accepted

employer had sent a letter that the notice given by the contractor was dissatisfactory.

Current position

Both parties were not willing to go for arbitration other than coming to an amicable settlement.

Summary

Client and the contractor both does not like to go against each other to avoid any misunderstanding between parties, because contractor may have expected to work with the client in the future. The people who do not like to violate their culture are also reluctant to move for Arbitration. Also the litigation may cause them unnecessary wasting of time and money through Arbitration.

3.7 Case Study 6

Rehabilitation and upgrading of an "A" class Road from Kandy

General details of the claim

Claim No : 13

Contractor : A Foreign Company

Engineer : A Local Consultant

Client : Road development Authority of Srilanka

Road section : 31+200 – 34+250

Back ground of the Claim

The delay in handing over the site to the contractor.

This section was due to be handed over to the contractor on 01st November 2009

Date of Noticed : 14th February 2010

Date of Claim : 24th December 2010

Cumulative Substantiation amount : SLR 72,302,385.00 for loss of unrecovered Overheads

Clause : Notice sent under the Clause 2.1, 8.4b and 20.1

Cumulative approved amount: SLR 54,251,038.72

Engineer's Approval : Engineer approved EOT for 1.61 Months delay with cost. Contractor agreed with the decision.

Summary

The received amount was Rs.18, 051,346.28 less than the claimed amount. The amount lost by the contractor was considerably big amount, but that was ignored by him and decided to receive the approved amount to get rid of Arbitration.

3.8 Case Study 7

Rehabilitation and upgrading of an" A" Class Road from Kandy

General details of the claim

Claim No : 09

Contractor : Foreign Company

Engineer : Local Consultant

Client : Road development Authority of Srilanka

Back ground of the Claim

This was due to exceptionally adverse climatic conditions.

Date of Noticed : 14th September 2010

Date of Claim : 15th Nov 2010

Cumulative Substantiation amount : No cost claimed

Contractor requested 110 Days EOT.

Claimed: For 86 Days.

Claimed EOT from November 2009 up to December 2010 as follows,

November 2009	– 7 Days
December 2009	– 11 Days
January 2010	– 6 Days
February 2010	– 5 Days
March 2010	– 5 Days
April 2010	– 5 Days
May 2010	– 4 Days
June 2010	– 6 Days
July 2010	– 5 Days
August 2010	– 3 Days
September 2010	– 6 Days
October 2010	– 4 Days
November 2010	– 13 Days
December 2010	– 4 Days
	86 Day

January 2011	- 12 Days
February 2011	- 12 Days
Total	= 110 Days

Noticed under the Clause No. 20.1

Engineer's Decision: Approved only for 34 Days

Contractor is waiting to request the client to reconsider the matter and amicably Increase the period of approved EOT.

Summary

Instead of getting approved 110 days of EOT, it was approved only 34 days. Though the claimant has the dissatisfaction on the decision, he was seeking to increase the EOT period amicably with the Engineer.

Why did he not move for the next step, if he had enough material to challenge the decision? He wanted to avoid Arbitration and increase the EOT period as much as possible, amicably.

CHAPTER 4: DISCUSSION AND ANALYSIS

4.1 General

When analyzing the above-mentioned case studies, it was revealed that the contractor had often followed the project management system and forwarded sufficient supporting documents along with claims. Also the client was notified on time, by the contractor prior to submitting claims, quoting the relevant clauses of the contract document. In some occasions the contractor had sought opinion from the Dispute Adjudication Board (DAB) and obtained their views and opinions, but the client had ignored the DAB decisions because he had no clear idea about the procedure and also he may (have) had doubt on the DAB's decision. Client or the Engineer is free to think against the DAB's decision because there may be possibilities of the DAB been influenced by the contractor or politicians or both.

Main intention of a client is to get done a quality and quick job within the budget, through a contractor who was awarded a contract following the procurement procedure.

Contractor is always interested to handle profitable jobs. Both parties are helped by the project management concept to run a project smoothly.

The above case studies show the necessity of a Construction Project Management Expert to resolve not only claim matters but also to direct the project staff since the inception of the project up to the end.

With reference to the given chart (Fig. 4.1) page 89 the Current Dispute Resolution Procedure is portrayed. This is a lengthy procedure to achieve the objectives of the parties. Also apparently this procedure is not used to save time by preventing the parties going for Arbitration.

Therefore following the important facts in the literature review I have proposed by this research according to the following Dispute Resolution Procedure chart, the parties can resolve the disputes preventing the Arbitration stage.

Current Dispute Resolution Procedure

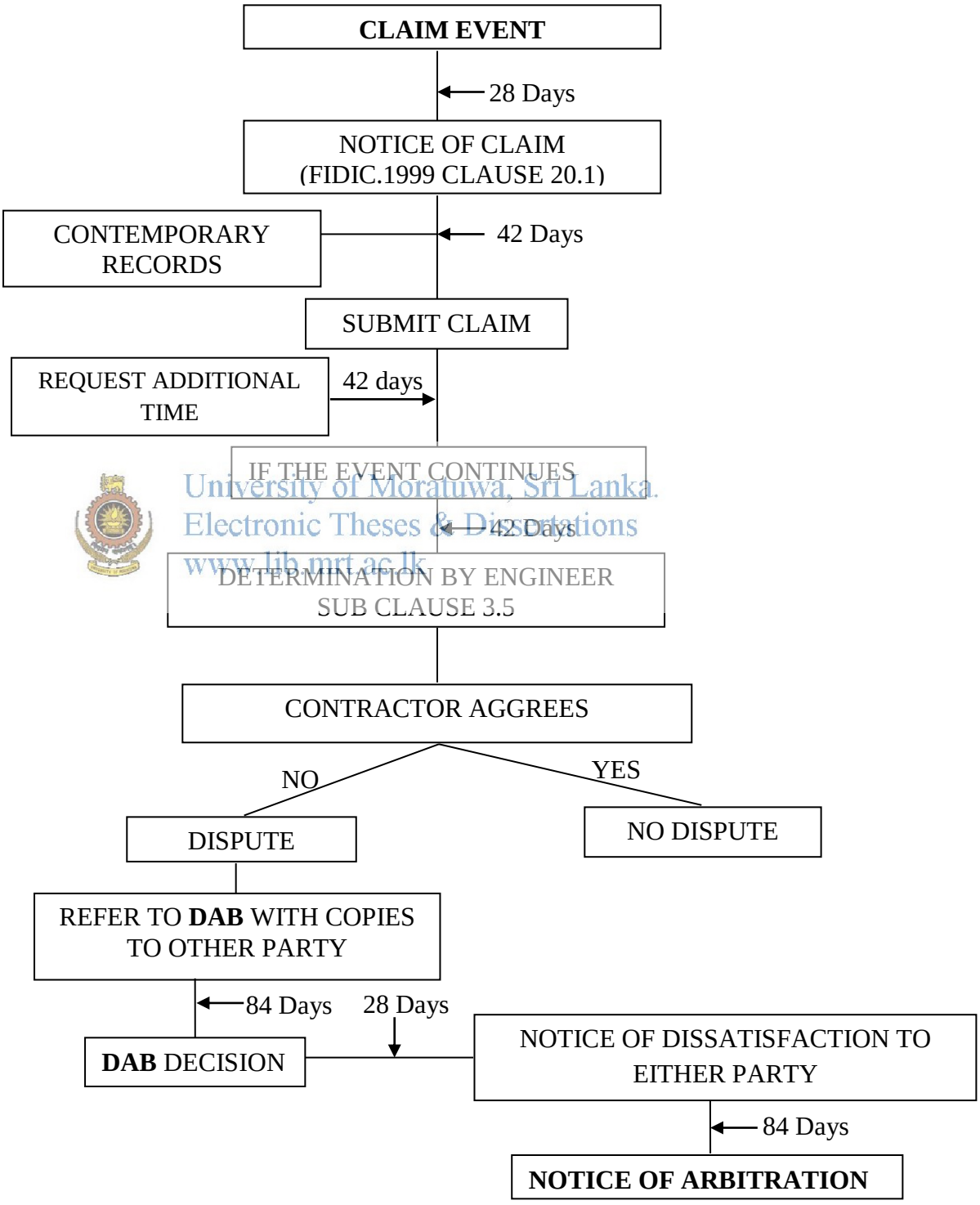


Figure 4.1 : Current Dispute Resolution Procedure

In terms of the above Resolution Procedure, it takes minimum 350 days to resolve a dispute, if the matter passes through the full process.

Therefore a less complicated and simple Dispute Resolution Procedure is needed to avoid unnecessarily wasting of time and money.

As such, based on the findings of these case studies, I propose the following Dispute Resolution Procedure, as a better mechanism for efficient cost effective and rational Project Management.

Proposed Dispute Resolution Procedure

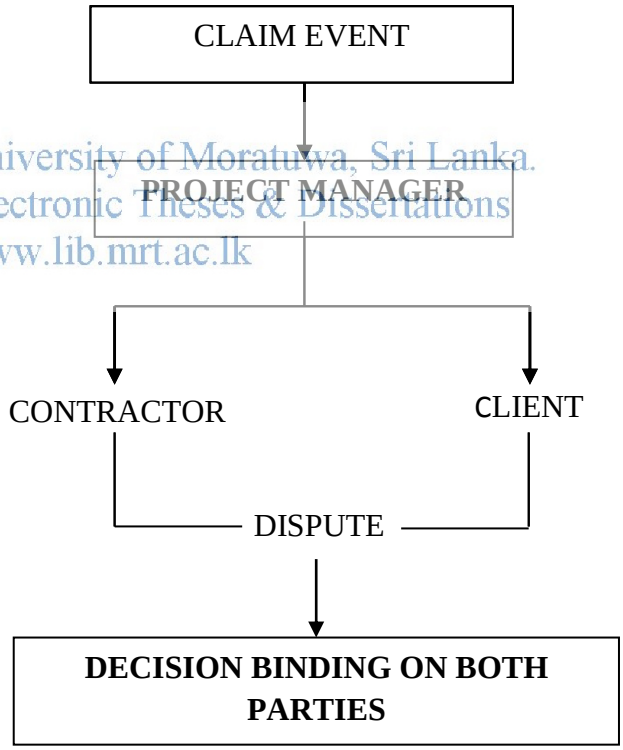


Figure 4.2: Proposed Dispute Resolution Procedure

CHAPTER 5: CONCLUSION AND RECOMMENDATION

The bitter lessons learnt from the experience of the foregoing case studies and my own experience over the past 33 years in the engineering field it is convinced that the present mechanism available for contract dispute resolution is extremely cumbersome, time consuming lengthy inefficient and very often appears to be partial as the "The Engineer "who attends to dispute resolution is an employee of the Client.
The appointment of adjudicator and arbitrator to resolve disputes has failed to facilitate effective and efficient Project implementation. Therefore the crying need for a better mechanism of dispute resolution, to simplify the procedure involved, save time, minimize delays ,reduce cost and finally to be Fair and Just as impartial by both, the Client and the Contractor.

Often lawyers and retired judges represent contracting parties to make matters worse. As a result, contractors are reluctant to appoint adjudicators and arbitrators who succumb to legal pressures of defending lawyers and prolong the dispute resolution process, which prefer resorting to alternate methods of amicable settlements through the interference of influential parties and politicians.

The Project Management Concept is very appropriate under these circumstances. However the project manager should be a person knowledgeable in engineering and construction management, contract administration, dispute resolution and other requisite knowledge to take impartial decisions than lawyers.
The project manager shall be appointed with the consent of the contractor and the employer by an independent party such as the Institution of Engineers.
His remuneration shall be included in the Contract payment.

He should be involved in the project throughout from the beginning to the end.
He takes decisions immediately when a disagreement arises between the contractor and the employer.

The law shall provide for the appointment of the Project Manager by repealing the relevant section of the Arbitration Act No 11 of 1995 and substitute the term "Project Management Act for contracts".

The Project Manager's decision shall be final and binding unless set aside by the High Court. The High Court shall not have jurisdiction to hear or settle disputes as provided in the Arbitration Act, but shall intervene only in instances of fraud or incapacity of the Project manager.

Recommendations

A permanent and an independent panel of Project Managers, competent and well versed in engineering and construction, dispute resolution and contract law should be set up by the ministry from among whom one could be nominated for each contract to act as the Independent Project Manager.

REFERENCE LIST

- **Aftuck, S. A. (1999). *Delay Claims in Construction Cases: Common Pitfalls.* Boston: Haese,LLC.**
- **Asem:M, A.-M. U., Asce, A., Mustafa, & El-Saadi, M. *Process Model for Administrating Construction Claims.***
- **Baccarini, D., & Archer, R. (1999). The risk ranking of projects: a methodology. *International Journal of Project Management,* 139.**
- **Bent, J. (1989). *Project Management for Engineering and Construction.* Englewood Cliffs New Jersy: Prentice Hall.**
- **Choudhuri, N. M. (2004). *Project Management Fundamentals.* India: ITC Infotech India Ltd.**
- ***Construction Contract Administration.* (2002). Alberta: Alberta Transportation.**
- **Frank, H. (2000). *A guide to project management.* European centre for Modern Languages Council of Europe Publishing.**
- **Geraldi, J. G. (2007). *The Development of Project Management Thinking and Current Research Streams.* Germany: UNIVERSITAT SIEGEN.**
- **Griffin, M. V. (1993). How to avoid Construction Claims and what to do about them if they occur. *National Association of County Engineers Annual Convention* , 1-11.**
- **Harmsen, H., Kramer, R., Sesink, L., & Zundert, J. V. (2006). *Project Management Handbook.* San Francisco: Data Archiving and Networked Services.**
- **Harris, F., & McCaffer, R. (1989). *Modern Construction Management.* U.K.: BSP.**
- **Hawker, G., Uff, J., & Timms, C. (1986). *The Institution of Civil Engineers' Arbitration Practice.* London: Thomas Telford Ltd.**
- **Heyworth, F. (2002). *A guide to project management.* Graz: Council of Europe Publishing.**

- **Jugdev, K. (2004). Through the Looking Glass: Examining Theory Development in Project Management with the Resource-Based View Lens. *Project Management Journal* , 15-26.**
- **Kerzer, H. (1995). *Project Management: A Systems Approach to Planning, Scheduling, and Controlling.* U.K.: Van Nostrand.**
- **Munns, A. K., & Bjeirmi, B. F. (1996). The role of project management in achieving project success. *International Journal of Project Management* , 81-87.**
- **Pinheiro, A. B. (2010). Journal of technology management & innovation. *How Do Managers Control Technology-Intensive Work?***
- **Richard, J., & Long, P. E. (2012). *Construction Claims Prevention.* London: Long International.**
- **Sable, B. (2012). Analyzing and Defending Construction Delay Claims. *RLI Design Professionals* , 1-31.**
- **Verster, J. (. (2005). *managing cost,contracts,communication and claims:a quantity surveying perspective onfuture opportonities.* South Africs: Univercity of the Free State,Bloemfontein.**