

CONSTRUCTION CLAIMS

**T.C. YÜSEKÖĞRETİM BİLİMLERİ
DOKÜMANİTASYON MERKEZİ**

**M.Sc. Thesis by
H. Gürhan Üstün, B.Sc.**

501991182

101484

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Supervisor (Chairman): Lecturer Ph. D. Akın ERİŞKON

Members of the Examining Committee Prof.Dr. Güven ÖZTAŞ (I.T.U.)

Prof.Dr. Gülay ALTAY (B.U.)

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İNŞAAT SEKTÖRÜNDE HAK TALEPLERİ

YÜKSEK LİSANS TEZİ
Müh. H. Gürhan ÜSTÜN
501991182

Tezin Enstitüye Verildiği Tarih : 11 Haziran 2001

Tezin Savunulduğu Tarih : 26 Haziran 2001

Tez Danışmanı : Öğr. Gör. Dr. Akın ERİŞKON
Diğer Jüri Üyeleri Prof.Dr. Güven ÖZTAŞ (İ.T.Ü.)
Prof.Dr. Gülay ALTAY (B.Ü.)



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PREFACE

It was a huge experience for me to prepare a master thesis in Construction Claims. I would like to express my special thanks to my teacher Lecturer Ph.D. Akın Erişkon for leading me, Mr. Orhan Daya, Mr. Seamus Ardren, and Mr. Gökhan Dündar for the references of the thesis, my pretty friends Emel Duran and Sibel Çakan for helps in typing the documents, and my family for everything they do for me.

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ABBREVIATIONS

FIDIC	: International Federation of Consulting Engineers
ICC	: International Chamber of Commerce
ADR	: Alternative Dispute Resolution
BOQ	: Bill of Quantities
DAB	: Dispute Adjudication Board
PIB	: Pepsi International Bottlers
VAT	: Value Added Tax



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LIST OF SYMBOLS

P_n	: adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period “n”
a	: fixed coefficient
b,c,d	: are coefficient, stated in the relevant table of adjustment data
L_n, E_n, M_n	: are the current cost indices or reference prices for period “n”, expressed in the relevant currency of payment
L_0, E_0, M_0	: are the base cost indices or reference prices, expressed in the relevant currency of payment



İNŞAAT SEKTÖRÜNDE HAK TALEPLERİ

ÖZET

İnşaat sektöründe hak talepleri sık rastlanılan bir durumdur. İnşaat sektörü belirsizliklerin yoğun olduğu bir sektör olduğu için bu taleplerden kaçınmak çok güç olsa da bunları azaltmak olasıdır.

Bu çalışmada, inşaat sektöründe hak talepleri incelenmiştir. Hak taleplerinin tanımı yapılarak çeşitleri birkaç tabana göre incelenmiştir. Hak taleplerinin nedenleri incelenerek bunlardan sakınmanın yolları irdelenmiştir. Uluslararası Danışman Mühendisler Birliği (FIDIC) tanıtılarak, bu birliğin örnek sözleşmelerinde hak taleplerine bakış açısı yorumlanarak incelenmiştir. Hak taleplerinin başlıca iki konusu olan süre talepleri ve ek ödeme talepleri FIDIC de göz önünde bulundurularak incelenmiştir. İşveren ve yüklenici arasındaki anlaşmazlık durumlarında alternatif çözüm teknikleri (pazarlık, arabuluculuk, iknasız arabuluculuk, mini-mahkeme işlemi, ortak kurul, uzman görüşü) tanıtılmıştır. Son yıllarda ülkemizde de benimsenen ve uygulanan tahkim yolu avantajlarıyla birlikte gözden geçirilmiştir. Uluslararası Ticaret Odası (ICC) tanıtılarak alternatif çözüm teknikleri ve tahkim konularında verdiği hizmetler incelenmiştir. Hukuk yolu hakkında da bilgiler verilerek alternatif çözüm teknikleri ve hukuk yolu karşılaştırılmış ve değişik parametrelere göre her birinin avantajları ve dezavantajları grafiklerle gösterilmiştir. Vaka çalışması bölümünde sonuca ulaştırılmış bir hak talebi iş programlarıyla desteklenerek incelenmiştir.

Anlaşmazlık halinde tezde önerilen bir çok çözüm yolu vardır. İki taraf için de bunlardan en uygunu öncelikle pazarlıktır. Çünkü bu yöntemde arada herhangi bir aracı olmadan taraflar kendi aralarında anlaşmazlığı çözmeye çalışırlar. Bu prosedürden sonuç alınamazsa sırayla tezde verilen yöntemler uygulanmalıdır.

Tahkim yasasının ülkemiz de kabul edilmiş olması Türkiye için büyük şanstır. Yabancı yatırımcı sermayesini riske etmeden rahatlıkla ülkemizde yatırım yapabilecektir.

Anlaşmazlıktan kaçınmak için projenin her safhasında gerekli önlemleri almalı, ortaya çıkması durumunda da her zaman çözüm yollarının mevcut olduğunun bilincinde olunmalıdır.

CONSTRUCTION CLAIMS

SUMMARY

Disputes are usually encountered events in the construction industry. Since construction industry is full of uncertainty conditions, it is difficult to avoid all construction claims but it is possible to minimise them.

Construction Claims are examined in this study. First definition of claim is made and it is classified according to a few bases. The reasons of construction claims and avoiding them are examined also. International Federation of Consulting Engineers (FIDIC) is introduced and the way of understanding of construction claims of it in its sample contracts is examined by making comments on it. The extension of time and additional payment claims which are the main two subject of construction claims are examined considering FIDIC. Alternative dispute resolution methods (negotiation, mediation, conciliation, mini-trial procedure, adjudication, and expert determination) are examined in the event of disputes between the Employer and the Contractor. Arbitration that is appreciated in recent years in our country also is examined with its advantages. International Chamber of Commerce (ICC) is introduced and its services of dispute resolution and arbitration are examined. Some information is given about litigation; alternative dispute resolution methods and litigation are compared according to different parameters and is presented by graphics. In case study part, a finalised case study supported by time schedules is examined.

In the event of dispute there are many recommended resolution methods in the thesis. Negotiation is the most convenient method of dispute resolution methods for both parties, because in this method parties try to resolve the dispute with coordination without help of third party. If a result can not be reached with this procedure the other methods mentioned in the thesis should be applied one by one.

Acceptation of arbitration rules is a really very big chance for Turkey. The foreign investors will make investments without risking the capital in our country from now on.

To avoid disputes all necessary precautions should be taken in all stages of the project, any way should it takes places, it should not be forgotten that there are resolution methods always.

1. INTRODUCTION

1.1. Introduction and Aim of the Study

Construction Industry is one of the leading industries of the country. Like in all works disputes may arise in this industry. Humanbeings has been faced to disputes since early ages of the history, and they have improved some methods to overcome these disputes amicably in a short time.

In this study construction claims are defined and categorized in a few ways. Avoiding claims is examined because of its high importance. FIDIC is introduced and its form of contracts' view of construction claims is examined. Extensions of time and additional payment claims are examined according to FIDIC. Alternative Dispute Resolution Methods are examined and they are compared with each other according to their advantages and disadvantages on the time, cost, human relations, basis. The main idea of all alternative dispute resolution methods is the existing trust between the parties, so what makes them different from arbitration and litigation is this fact. Arbitration and litigation are examined and ICC dispute resolution services are introduced. Finally a case study is examined. This case is an extension of time claim. The facts that are subjected to claim are defined and the sum of all duration comes out as total claim of extension of time in the end. The case study is supported with time schedules of the main contract and claim.

Negotiation should be preferred in all stages of the construction work when the dispute arises, because it is the simplest, cheapest and the shortest method among the alternative dispute resolution methods. The properties that the negotiators should have are indicated in this study. In all contracts a dispute adjudication board clause should be put considering a dispute may arise during the works. Also the procedures of this board according to FIDIC are examined in this study.

Arbitration is a really very big chance for Turkey too as for many other countries. Foreign investors will be interested in our country from now on much more than it was before. The reason for this is the trust of dispute resolutions. The foreign investors can not trust the country's own litigation procedures naturally. Arbitration is a neutral and a fast way that makes this method preferred.

The parties should not hesitate to get professional helps under the roof of some institutions that give services about dispute resolution methods. It is reasonable to put a clause to which institute will be recoured when a dispute arises.

A conclusion is made at the end of this thesis and it is assessed as a whole.



2. CONSTRUCTION CLAIMS AND TYPES

2.1 Definition Of Claim

The word “claim”, which comes from the old French word, “claime”, is defined in the Oxford English Dictionary as meaning (i) a demand for something as due; an assertion of a right to something; (ii) right of claiming; right of title (to something, or to have, be or do something). [1]

As it can be seen from the definition of the word “claim” basically it contains a meaning of assertion of a right to something. In construction industry this assertion takes place in two basic ways as defined in FIDIC.

- Extension of time claims
- Cost claims

We can simply summarise all claims in two basic words: Time and cost. As time means money, it is not wrong to consider all claims as a cost claim.

2.2 Types Of Claims

According to basis of law we can group claims as follows:

2.2.1 Contractual Claims

Contractor gains right to claim in the events of additional, and changed work; Employer’s failure to provide drawings, access etc. In these situations the Contractor recovers his cost or delay by submitting a claim in accordance with prescribed, agreed procedure in the current contract. [2] This is the Contract. For example if the Contract is pointing out FIDIC, in it all necessary provisions can be found about contractual claims. These claims can be examined in three categories:

2.2.1.1 Additional Work

If the Employer requires to do some additional works from the Contractor according to the current contract stipulation, it is obvious that the Contractor will be entitled to extra cost, and time resulting of execution of additional works and activities.

2.2.1.2 Damages

Damages by the Employer entitle the Contractor extra cost, and time also. (For example disruption and the breach of the contract.)

2.2.1.3 Neutral Risk

When the risk is shared between the parties, such that the Contractor is entitled to extension of time only [2].

2.2.2 Common Law Claims

These arise from causes, which are outside the express terms of a contract [3]. If a dispute arises out of the present Contract, it shall be settled under the pointed out courts by the Contract.

2.2.3 Other Types

- Tort: is defined in the dictionary as: “Damage, injury, or a wrongful act done wilfully, negligently, or in circumstances involving strict liability, but not involving breach of contract, for which a civil suit can be brought.” The acts which have nothing to do with the Contract, but is concerned with common law for example “negligence” is the subject of tort.
- Quantum Meruit: This is about the works, which has been done, but not any price has been agreed upon according to the Contract.
- Ex Graitia: is defined in the dictionary as “as a favour; not compelled by legal right” The claims that are not compelled by the Contract or law are called ex graitia. It is up to the Employer to take into consideration or not these types of claims, but according to fairness it is advised to come to a common point.

2.3 Construction Work Claims

According to construction work we can examine claims in eight different types. [4]

1. Directed changes: It is a change in Contractor's scope of work. It may be a deletion or addition of work. These changes should be instructed by the engineer.
2. Differing site conditions: It is known as all differing site conditions that affect performance of works which can not be anticipated when signing the Contract. It is generally sub-surface conditions.
3. Defective & deficient Contract documents: These claims rise from the errors and omissions in the Contract drawings, specifications and contract language. If the Contractor is forced to proceed the works according to these drawings and specifications either, he is not responsible of the consequences.
4. Superior knowledge: In this type of claims the Contractor alleges that the Employer has been aware of some difficulties that affect the performance of the works and has withheld these in the Contract negotiations and also in tender documentation.
5. Constructive change: It is a claim for Contract modifications without knowledge of Contractor.
6. Delay: It is a delay occurring claim where one of the parties is impacted because of the other's fault. The Contractor should go efficient record keeping.
7. Acceleration: When scope of work increases, but schedule of completing the works do not changed by the Employer the Contractor should claim according to acceleration basis.
8. Interference: This claim type involves third party disruptions or constraints because of the interference of the Employer.

Also claims can be grouped as Contractor's claims and Employer's claims.

2.4 Reasons Of Claims

All parties shall be aware of reasons of claims, if it is so it will be easy avoiding claims. Some are the reasons are listed below:

- Failure to make the site available at the time and in the condition required by the contract
- Ordered extra work
- Ordered delays or suspensions
- Delayed approval of contractor submissions
- Defects or delays in owner-furnished items
- Errors or inadequacy of the contract documents
- Failure to co-ordinate work of third parties
- Failure to grant, or delay in granting, legitimate time extensions
- Unreasonable or mistaken inspection
- Interference with the contractor's method or sequence of work.
- Custom and relevant tax legislation.
- Unforeseen conditions (hyper inflation, sub-soil conditions, adverse weather conditions)
- Material delivery and supply delays
- Advance payment
- Interim payment delay and consequences
- Labour force and mechanical equipment efficiency and interruptions.

3. AVOIDING CLAIMS

The most important part of claim management is avoiding claims. It is much more an efficient way to avoid a dispute than to make and gain a claim. Here are some of the claim avoidance methods:

3.1 Effective Planning

It is the most important phase in a project a good manager always plans, plan and plan. It requires some time, but really it is less than proceeding a work which is unplanned.

3.2 Right Recognition Of The Situation

Realistic and early recognition of the situations lead the contractor taking correct precautions before the claim arises. It does not matter at which stage of the claim is being in. A contractor should always make realistic and neutral recognition about the events and circumstances.

3.3 Human Relations

As the works are proceeded by humanbeings, human relations and communication between them are also very important facts in avoidance of claims. Instead of blaming each other people shall communicate, understand each other.

3.4 Existence Of A Problem

Both parties should not ignore the existence of a problem. This will not make the works better. If a problem is existing it is really existing; if not, it is really not. A

problem is either existing or there is not a problem. Acceptance of problems is a preliminary way of avoiding claims.

3.5 Notice Of Claims

As below examined, contractor should give a notice within 28 days after he became aware or should have become aware of the events or circumstance. If he misses this time interval he can not claim anything according to FIDIC contracts.

3.6 Record Keeping

Record keeping is an important activity, which will be made in site. Without records the contractor can not base a claim on reasonable grounds.

A lawyer, a consultant can help the contractor in every phase of the claim except one, that is the records. If a contractor has not any records there is nothing to do. He can either claim or defence himself to counter claims. There are a lot of types of records. It seems to be impracticable to keep all of them, but it is really necessary if you will claim.

- Your estimation documents with all calculations (BOQ, take off quantities)
- The original contract, and its attachments
- All correspondence
- Meeting minutes
- Diaries
- Weekly/monthly reports
- Photographs, also video camera if available
- Drawings and calculations made by the engineers at the site
- Quality control, assurance records

- Updated time schedules
- Procurement/purchasing records
- Cost and financial reports
- Payroll and personnel records.

3.7 Contract

The contract has to be prepared fairly to both parties. The contractor should not sign under any contract he thinks it is not precise. All the contract documents have to be net, and precise also, and the contractor should fully examine and understand all contract with its documents.

3.8 BOQ And Time Schedule Preparation

Two of the most important items of part of the contracts are BOQ and time schedule. Contractor must be aware of the risks he may be faced to, when preparing these documents. He shall always take into consideration he has some risks and effect him as a costly or timely basis.

3.9 Permits, Licences

The owner and the Contractor shall know which local permits and licences are required for construction. It should be identified in the contract that which party is responsible for taking the necessary permits and the contractor must have the required licences to proceed the construction works.

4. CLAIMS ACCORDING TO FIDIC

4.1 Introducing Fidic

“FIDIC represents for “Fédération Internationale des Ingenieurs-Conseils” in French and “International Federation of Consulting Engineers” in English. FIDIC, represents the international business interests of firms belonging to national Member Associations of engineering-based consulting companies. The member firms of each national association comply with FIDIC’s code of ethics which calls for impartial advice, competence and fair competition and endorse FIDIC's policy statements and statutes.

FIDIC was founded in 1913 by three national associations of consulting engineers within Europe. The objectives of forming the federation were to promote in common the professional interests of the member associations and to disseminate information of interest to members of its component national associations.

Today FIDIC membership numbers more than 60 countries from all parts of the globe and the federation represents most of the private practice consulting engineers in the world.” [5]

FIDIC has published many forms of contracts in different construction types. In Contract agreement if below wording is used by Employer and the Contractor, FIDIC is the base of the agreement, and deemed to be a reference if any dispute arises.

“The Conditions of Contract (Parts I and II) shall be deemed to form and be read and construed as part of this Agreement.”

4.2 Claims In Fidic

In FIDIC form of contracts, there are provisions about claims as below:

4.2.1 Claims, Disputes And Arbitration

4.2.1.1 Contractor's Claims

“If the Contractor considers himself to be entitled to any extension of the time for completion and/or any additional payment, under any clause of these conditions or otherwise in connection with the contract, the Contractor shall give notice to the Engineer describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.” [5]

As we can understand from this clause it is necessary to give a notice to the engineer and the Employer within 28 days after the event giving rise to the claim has first arisen, but there is an important point here, this notice does not have to include the amount claimed and the grounds upon which the claim is based.

“If the contractor fails to give notice of a claim within such period of 28 days, the time for completion shall not be extended, the Contractor shall not be entitled to additional payment, and the employer shall be discharged from all liability in connection with the claim. Otherwise the following provisions of this sub-clause shall apply.” [5]

It is obvious that it is very important to give the notice within 28 days otherwise the Contractor alleges nothing.

“The Contractor shall also submit any other notices which are required by the contract, and supporting particulars for the claim, all as relevant to such event or circumstance.” [5]

For this reason it is very important to keep records. Any claim without records are not possible.

“The contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the site or at another location acceptable to the engineer. Without admitting the employer’s liability, the engineer may, after receiving any notice under this sub-clause, monitor the record keeping and/or instruct the contractor to keep further contemporary records. The contractor shall permit the engineer to inspect all these records, and shall (if instructed) submit copies to the engineer.” [5]

As it can be seen from this paragraph it is not necessary for the engineer to admit employer’s liability, he has the right to inspect the records under every circumstance.

“Within 42 days after the contractor became aware (or should have become aware of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the contractor and approved by the engineer, the contractor shall send to the engineer a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of the time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

(a) this fully detailed claim shall be considered as interim;

(b) the contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the engineer may reasonable require; and

(c) the contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the contractor and approved by the engineer.” [5]

After giving notice in 28 days the contractor should give his detailed claim including the amount claimed and grounds upon which the claim is based in 42 days after he became aware of the event. That means he has two weeks to prepare his detailed claim. This is only possible if he has enough detailed records.

“Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the engineer and approved by the Contractor, the engineer shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further

particulars, but shall nevertheless give his response on the principles of the claim within such time.” [5]

Also the employer has right to give an approval or disapproval to a claim within 42 days after he has been submitted the claim documents, but the important point is that he shall give his response according to the principles of the claim.

“Each Payment Certificate shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate”

This means that if contractor has not been able to prepare the whole basis of the claim, he may be paid particularly with each payment certificates.

“The engineer shall proceed in accordance with sub-clause 3-5[Determinations] to agree or determine (i) the extension (if any) of the time for completion (before or after its expiry) in accordance with sub-clause 8-4 [extension of time for completion], and/or (ii) the additional payment (if any) to which the contractor is entitled under the contract.” [5]

According to sub-clause 3-5, and this clause the engineer has right to determine and give time extensions and additional cost to the contractor.

“The requirements of this sub-clause are in addition to those of any other sub-clause which may apply to a claim. If the contractor fails to comply with this or another sub-clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this sub-clause.” [5]

In this paragraph it is seen that submitting the documents in time is very important, because the Engineer should make his assessments in time. The contractor should submit his grounds of claims in time, otherwise he have to stand the consequences of limited time for making assessments.

The entire paragraph above is related with procedure of claims, which the contractor gives to the employer. The contractor should take into account of the dates above and never forget the importance of the record keeping.

4.2.2 Employer's Claims

“If the employer considers himself to be entitled to any payment under any clause of these conditions or otherwise in connection with the contract, and/or to any extension defects notification period, the employer or the engineer shall give notice and particulars to the contractor. However notice is not required for payments due under sub-clause 4.19 [electricity, water and gas], under sub-clause 4.20 [employer's equipment and free issue material], or for other services requested by the contractor.

The notice shall be given as soon as practicable after the employer became aware of the event or circumstances giving rise to the claim. A notice relating to any extension of the defects notification period shall be given before the expiry of such period.

The particulars shall specify the clause or other basis of the claim, and shall include substantiation of the amount and/or extension to which the employer considers himself to be entitled in connection with the contract. The engineer shall then proceed in accordance with sub-clause 3.5 [determinations] to agree or determine (i) the amount (if any) which the employer is entitled to be paid by the contractor, and/or (ii) the extension (if any) of the defects notification period in accordance with sub-clause 11.3 [extension of defects notification period].

This amount may be included as a deduction in the contract price and payment certificates. The employer shall only be entitled to set off against or make any deduction from an amount certified in a payment certificate, or to otherwise claim against the contractor, in accordance with this sub-clause.” [5]

In this provision a notice is again needed. The engineer or the Employer should give the notice to Contractor but this time not any time limitation is indicated for giving a notice. If the parties agree on the claim amount it will be appear as a deduction in the contract price and the payment certificates.

5. EXTENSION OF TIME AND ADDITIONAL PAYMENT CLAIMS

There are two main claims as said before. These are extension of time claims and additional payment claims. We'll examine these according to FIDIC now.

5.1. Extension Of Time Claims

Time is really a very important constraint for both contractor and employer. The contractor makes his financial plans according to the completion of the project, if a delay occurs he will be financially in risk. Also employer for example wants to put a trade centre in service immediately after project completion, and if he is late at it he won't get the profit.

The most common type of claims in civil engineering contracts is time extension claims. Many time extension claims can be prevented if both parties give enough consideration to the reasons of it and, carefully put project completion date by taking into account the scope of work.

To put a time extension provision to the contract is the benefit of the both parties primarily of the employer. Because if the employer causes a delay, without such a provision the contractor is not bound to complete the works in time, and the employer wouldn't be able to rely on liquidated damages (the amount required to satisfy a loss resulting from breach of contract.) provisions in the contract.

Here is the related FIDIC contract conditions. FIDIC clause 8.4 comprises this topic:

5.1.1 Extension of Time for Completion

“The Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 Taking Over of the Works and Sections is or will be delayed by any of the following causes:

- (a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 Variation Procedure or other substantial change in the quantity of an item of work included in the Contract,
- (b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,
- (c) exceptionally adverse climatic conditions,
- (d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or
- (e) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer in accordance with Sub-Clause 20.1 Contractor's Claims. When determining each extension of time under Sub-Clause 20.1, the Engineer shall review previous determinations and may increase, but shall not decrease, the total extension of time." [5]

As can be seen from the provision above there are many reasons that may make the contractor considers himself to be entitled to an extension of time. They comprise variations, adverse climatic conditions, shortages of goods and personnel, delay caused by the employer. The contractor submits his claim to the engineer according to clause 20.1.

5.2 Additional Payment Claims

When a delay, disruption, or variation takes place it is unavoidable to prevent rising expenditures. One party claims either there is a breach of contract or there is a contractual provision to claim a loss or damage.

Disputes are mostly arise from ground conditions in the beginning of the execution of the works. Generally employers give some data to the contractor about ground conditions in tender documents. If this data misrepresents the ground conditions or the employer hide the situation from the contractor; the contractor entitles additional

time and payment as well. On the other hand the contractor is deemed to be aware of the ground conditions and to have examined the site. One of the provisions is at the employer's side and the other is at the contractor's side. Now here is the provision about adjustments for changes in cost:

5.2.1 Adjustments For Changes In Cost

"In this Sub-Clause, "table of adjustment data" means the completed table of adjustment data included in the Appendix to Tender. If there is no such table of adjustment data, this Sub-Clause shall not apply.

If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Works, by the addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.

The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae for each of the currencies in which the Contract Price is payable. No adjustment is to be applied to work valued on the basis of Cost or current prices. The formulae shall be of the following general type:

$$P_n = a + b \times L_n/L_0 + c \times E_n/E_0 + d \times M_n/M_0 + \dots \dots \dots (5.1)$$

Where:

" P_n " is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period "n", this period being a month unless otherwise stated in the Appendix to Tender;

"a" is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

“b”, “c”, “d”,...are coefficient, stated in the relevant table of adjustment data, cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

“ L_n ”, “ E_n ”, “ M_n ”,... are the current cost indices or reference prices for period “n”, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates), and

“ L_0 ”, “ E_0 ”, “ M_0 ”,..... are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. For this purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not correspond to the base cost indices.

In cases where the “currency of index” (stated in the table) is not the relevant currency of payment, each index shall be converted into the relevant currency of payment at the selling rate, established by the central bank of the Country, of this relevant currency on the above date for which the index is required to be applicable.

Until such time as each current cost index is available, the Engineer shall determine a provisional index for the issue of interim Payment Certificates. When a current cost index is available, the adjustment shall be recalculated accordingly.

If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices thereafter shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price: whichever is more favourable to the Employer.

The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be adjusted if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variations.” [5]

The Contractor will be paid according to the accepted contract amount during the execution of the works. But if this sub-clause applies then the contractor will be paid according to described formulae to be prevented against the increasing labour, goods and other inputs prices.



6. AMICABLE SETTLEMENT AND ALTERNATIVE DISPUTE RESOLUTION METHODS

ADR (Alternative Dispute Resolution) covers any methods for settling disputes other than litigation in the courts, but in construction industry it comes to meaning that other methods than arbitration and litigation. There is an important point that ADR methods work efficiently only there still exists trust between parties, and if they do not see the situation only black or white.

We can summarise the advantages of ADR as follow [6]

1. Whilst the procedure may or may not affect the amount of settlement, it will most likely affect the cost of achieving it.
2. The parties are in greater control of their own destiny, thus avoiding any of the uncertain consequences of litigation or arbitration.
3. The procedure tends to preserve business relationships and avoids the potential of one party being viewed as the loser.
4. Arbitration or litigation may be pursued should the alternative method fail to produce the desired result. It is important; however, to remember that a written agreement should be signed to prevent any information disclosed during the process from being used in subsequent litigation or arbitration

There are many kinds of ADR methods. It changes from country to country, but basically here are the major ADR methods:

1. Negotiation
2. Mediation
3. Conciliation
4. Mini-trial procedure

5. Adjudication
6. Expert determination
7. Pre-arbitral Referee procedure

6.1 Negotiation

Negotiation is the primary method of ADR. Also, it is the most powerful, easiest, cheapest, short timing method. There is no third party in this method. The two parties' representatives organise a meeting and negotiate the events being subject to dispute. It is the most recommended method in ADR. There are two types of negotiators. One of them is soft negotiator who is ready to agree and come to a middle point. The other is hard negotiator who always tries to get all he wants. Being a hard negotiator drives the situation up to the hill.

A skilled negotiator should have some pre-qualifications:

- See the situation from point of view of the other party.
- Express his thoughts clearly in both orally and writing
- Have the ability of persuading others
- Have the ability of to control and hide his emotions
- Think quickly during negotiations considering the new situations that developed in the meeting
- Be flexible, ready to agree.

Below assessment of risks between methods of dispute resolution is given as a table and its figure [7].

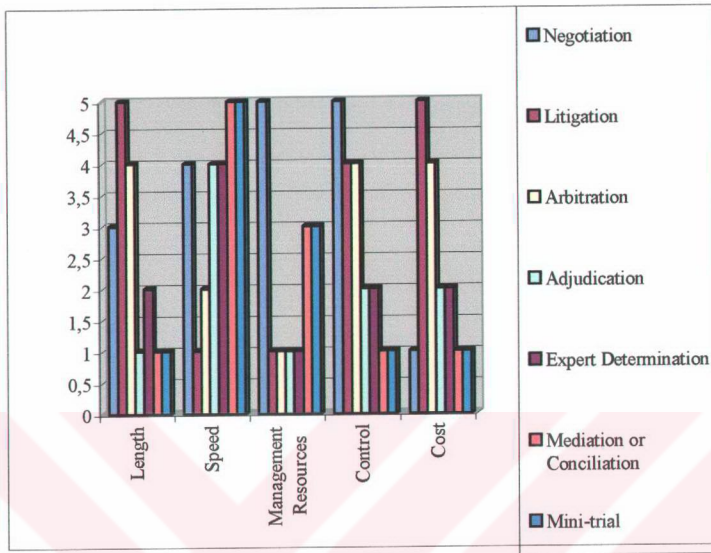


Figure 6.1 Assessment of risks between methods of dispute resolution

Table 6.1 Assessment of risks between methods of dispute resolution

Method	Length	Speed	Management Resources	Control	Cost
Negotiation	3	4	5	5	1
Litigation	5	1	1	4	5
Arbitration	4	2	1	4	4
Adjudication	1	4	1	2	2
Expert Determination	2	4	1	2	2
Mediation or Conciliation	1	5	3	1	1
Mini-trial	1	5	3	1	1

6.2 Mediation

If negotiations fail between the parties, then they should apply for a mediator who will try to find a common ground between the parties. It is an easier way than arbitration, but has no binding property the parties.

Mediator's role can be defined as follows:[8]

- a. The Reconciliator who brings parties together in order to engage in face-to-face discussions; opens channels of communication; and defuses hostility.
- b. The facilitator who keeps discussions going by providing a neutral ground, arranging meetings, offering to chair them, helping to shape the agenda, simplifying procedures, etc.

- c. The resource expander who helps to gain access to necessary factual and legal information, having an important bearing on the dispute; cuts through bureaucratic red tape, etc.
- d. The Interpreter/Translator who makes sure that each party understands what the other is saying; and increases perception and empathy between the parties.
- e. The Trainer who instructs the parties how to negotiate more effectively with each other through probing and questioning.
- f. The Reality Tester who gets each party to look at how the other side sees the problem; makes each side think through and justify its facts, demands, positions and views; has the parties assess the costs and benefits of either continuing or resolving the conflict; makes each party consider and deal with the other's arguments; raises doubts on rigid positions; and explores alternatives.

The mediator is the person who is thought to be impartial and to act in an independent manner, and to whom is trusted completely. His fees are shared between the parties.

6.3 Conciliation

This is a procedure between mediation and arbitration. The conciliator expresses his solution about the dispute, but it has no binding property unlike arbitration. The conciliator does not try to persuade the parties, this is the main distinguishing feature of conciliation from mediation.

In this process legal representatives are needed to act as a conciliator. This is why it is more expensive from the mediation. Here are some of the institutional rules for conducting conciliations.

- ICC Conciliation Rules, 1 January 1988
- The Chartered Institute of Arbitrators Conciliation Rules, 1 July 1981
- The UNCITRAL Conciliation Rules, 4 December 1989

- The ICE Conciliation Rules, 1988
- The Euro-Arab Chambers of Commerce
- The International Centre for the Settlement of Investment Disputes, ICSID Conciliation Rules

6.4 Mini-Trial Procedure

Mini-trial is a non binding process, which is a panel of people including senior executives from both parties and a neutral adviser. It is like conciliation, but it is a trial process. It is like arbitration, but it is non-binding. Here are some features of mini-trial procedure [9]:

(a) An independent and impartial adviser is appointed to take control of the proceedings, act as advisor to the parties in dispute, to ask questions of witnesses, to provide comments if the parties so request, to enforce time limits and to act as chairman to two assistants who may be selected from among the senior corporate officers of both parties and who are expected to make independent assessment of the issues in dispute.

(b) The mini-trial panel is expected to hear the parties and then to propose or to facilitate a settlement. If no settlement is reached or proposed within a reasonable time, then the panel should submit a recommendation either unanimously or by the chairman.

(c) The procedure is brief with only a few weeks allowed for the parties to prepare their case followed by a 'trial' of a few days' duration.

(d) Lawyers are permitted to represent the parties at the trial.

(e) A memorandum is exchanged between the parties and copied to the adviser two weeks prior to the trial, in which each party outlines its position on the dispute in question as well as all documentary evidence to be presented at the trial.

(f) The presentations are informal with rules of evidence not strictly adhered to. Cross-examination of witnesses is allowed but several limited in duration.

(g) The proceedings are confidential and no transcript or recording is allowed. No of the material generated by the trial may be used as evidence in pending or future proceedings. The adviser is disqualified as a witness, consultant or expert for either party in later proceedings should there be any

The following two institutes give mini-trial service:

(a) the Rules of the Centre for Public Resources (CPR) New York

(b) the Rules of the Zurich Chamber of Commerce

6.5 Adjudication

Adjudication is an effective way of settling disputes. A board shall be organised during contract negotiations, and it is named as Dispute Adjudication Board. In FIDIC contracts there are many clauses about DAB as below:

6.5.1 Appointment Of The Dispute Adjudication Board

“Disputes shall be adjudicated by a DAB in accordance with Sub-Clause 20.4 [Obtaining Dispute Adjudication Board’s Decision]. The Parties shall jointly appoint a DAB by the date stated in the Appendix to Tender.

The DAB shall comprise, as stated in the Appendix to Tender, either one or three suitably qualified persons (“the members”). If the number is not so stated and the Parties do not agree otherwise, the DAB shall comprise three persons.

If the DAB is to comprise three persons, each Party shall nominate one member for the approval of the other Party. The Parties shall consult both these members and shall agree upon the third member, who shall be appointed to act as chairman.

However, if a list of potential members is included in the Contract, the members shall be selected from those on the list, other than anyone who is unable or unwilling to accept appointment to the DAB.

The agreement between the Parties and either the sole member (“adjudicator”) or each of the three members shall incorporate by reference the General Conditions of Dispute Adjudication Agreement contained in the Appendix to these General Conditions, with such amendments as are agreed between them.

The terms of the remuneration of either the sole member or each of the three members, including the remuneration of any expert whom the DAB consults, shall be mutually agreed upon by the Parties when agreeing the terms of appointment, Each Party shall be responsible for paying one-half of this remuneration.

If at any time the Parties so agree, they may jointly refer a matter to the DAB for it to give its opinion. Neither Party shall consult the DAB on any matter without the agreement of the other Party.

If at any time the Parties so agree, they may appoint a suitably qualified person or persons to replace (or to be available to replace) any one or more members of the DAB. Unless the Parties agree otherwise, the appointment will come into effect if a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment.

If any of these circumstances occurs and no such replacement is available, a replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Sub-Clause.

The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Employer or the Contractor acting alone. Unless otherwise agreed by both Parties, the appointment of the DAB (including each member) shall expire when the discharge referred to in Sub-Clause 14.12 Discharge shall have become effective.” [5]

DAB (Dispute Adjudication Board) includes one or three members. Both parties shall nominate one member for the approval of the other party, and they agree upon third member who will act as chairman.

There is an important point that consulting to DAB is not possible without agreement of the other party.

If both parties agree they can replace the members. When discharge takes place (end of the project) the appointment of the DAB shall expire.

6.5.2 Failure to Agree Dispute Adjudication Board

If any of the following conditions apply, namely:

- (a) the Parties fail to agree upon the appointment of the sole member of the DAB by the date stated in the first paragraph of Sub-Clause 20.2,
- (b) either Party fails to nominate a member (for approval by the other Party) of a DAB of three persons by such date,
- (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DAB by such date, or
- (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

then the appointing entity or official named in the Particular Conditions shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DAB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.” [5]

So, it is important to appoint the members within the time stated in the Conditions of Contract.

There are standard forms of FIDIC that will be appendix to tender. It comprises some clauses about appointment of the members as follows:

- Date by which the DAB shall be appointed.....28 days after the commencement.

- The DAB shall beeither_____One sole member/adjudicator

Or:_____A DAB of three members

- Appointment (if not agreed) to be made by..... The President of FIDIC or a person appointed by the President

As stated above if parties fail in appointing a sole member or members within the stated time period the President's decision is binding.

6.5.3 Obtaining Dispute Adjudication Board's Decision

"If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Engineer, either Party may refer the dispute in writing to the DAB for its decision, with copies to the other Party and the Engineer, Such reference shall state that it is given under this Sub-Clause.

For a DAB of three persons, the DAB shall be deemed to have received such reference on the date when it is received by the chairman of the DAB.

Both Parties shall promptly make available to the DAB all such additional information, further access to the Site, and appropriate facilities, as the DAB may require for the purposes of making a decision on such dispute. The DAB shall be deemed to be not acting as arbitrator(s).

Within 84 days after receiving such reference, or Within such other period as may be proposed by the DAB and approved by both Parties, the DAB shall give its decision, which shall be reasoned and shall state that it is given under this Sub-Clause. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract.

If either Party is dissatisfied with the DAB's decision, then either Party may, within 28 days after receiving the decision, give notice to the other Party of its dissatisfaction. If the DAB fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference, then either Party may, within 28 days after this period has expired, give notice to the other Party of its dissatisfaction.

In either event, this notice of dissatisfaction shall state that it is given under this Sub-Clause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Except as stated in Sub-Clause 20.7 (Failure to Comply with Dispute Adjudication Board's Decision) and Sub-Clause 20.8 Expiry of Dispute Adjudication Board's Appointment, neither Party shall be entitled to commence arbitration of a dispute unless a notice of dissatisfaction has been given in accordance with this Sub-Clause.

If the DAB has given its decision as to a matter in dispute to both Parties, and no notice of dissatisfaction has been given by either Party within 28 days after it received the DAB's decision, then the decision shall become final and binding upon both Parties." [5]

If one of the parties applies DAB for its opinion, he shall submit the copies to the other party and the engineer also. All parties shall make available to DAB additional information and access to site.

Reference DAB for the dispute ~~84 days~~ → DAB shall give its decision ~~28 days~~ →

Notice of dissatisfaction with the DAB's decision ~~56 days~~ → Arbitration starts if amicable settlement fails.

This is a summary of 20.4 and 20.5 of FIDIC. The 84 days time period is not reasonable it is a little bit long for the projects that has a big scope.

6.5.4 Amicable Settlement

"Where notice of dissatisfaction has been given under Sub-Clause 20.4 above, both Parties shall attempt to settle the dispute amicably before the commencement of

arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of dissatisfaction was given, even if no attempt at amicable settlement has been made.” [5]

If notice of dissatisfaction has been given to the DAB’s decision amicable settlement phase starts. In this phase the parties may use alternative dispute resolution methods. These methods are the most effective and the least costly methods for both parties. They should be used as main process of settling the disputes

6.5.5 Failure To Comply With Dispute Adjudication Board’s Decision

“In the event that:

- (a) neither Party has given notice of dissatisfaction within the period stated in Sub-Clause 20.4 (Obtaining Dispute Adjudication Board’s Decision),
- (b) the DAB’s related decision (if any) has become final and binding, and
- (c) a Party fails to comply with this decision,

then the other Party may, without prejudice to any other right it may have, refer the failure itself to arbitration under Sub-Clause 20.6 (Arbitration). Sub-Clause 20.4 (Obtaining Dispute Adjudication Board’s Decision) and Sub-Clause 20.5 [Amicable Settlement] shall not apply to this reference.” [5]

If one party fails to comply with Dispute Adjudication Board’s decision, the other party shall commence the arbitration procedure under this clause.

6.5.6 Expiry of Dispute Adjudication Board’s Appointment

“If a dispute arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works and there is no DAB in place, whether by reason of the expiry of the DAB’s appointment or otherwise:

- (a) Sub-Clause 20.4 (Obtaining Dispute Adjudication Board’s Decision) an Sub-Clause 20.5 (Amicable Settlement) shall not apply, and

(b) The dispute may be referred directly to arbitration under Sub-Clause 20.6 (Arbitration).” [5]

If DAB does not exist in anyway the dispute may be referred directly to arbitration, but it is always much more easier and quicker to go on with DAB.

FIDIC form of Contracts have many additional clauses about claims, mostly about DAB in appendixes. They are also included in the Appendix I of this thesis. Here is a summary of the important clauses:

The DAB's member's all expenditures related with the work will be paid by the parties. These include daily, with receipt expenditures and taxes. The procedure is like this: First the Contractor pays the bills and he takes half of it from the Employer in 56 days. If the Contractor does not pay fees, the Employer pays and takes half of it from the Contractor. If the Member couldn't get the payment in 70 days he can suspend his services or resignate

In termination procedures the Employer and the Contractor can together terminate the board or the Member can resignate.

If the Member fails according to Clause 4 he reimburses the before payments. Always there is an open way to go arbitration when a dispute arises about the adjudication board.

Also in the annex of FIDIC form of contracts it tells about procedural rules as following:

The DAB shall visit the site at intervals of not more than 140 days, this makes 3.5 months. After the site visit the Member shall send his report to the parties.

The parties shall submit the required documents to the Member. If a dispute arises the DAB shall proceed in accordance with the clause 20.4. The DAB shall conduct a hearing on the dispute. It can adopt an inquisitorial procedure during the hearings. The Employer and the Contractor empower the DAB with many other rights. During the hearings the DAB shouldn't express his opinions.

6.6 Expert Determination

Unless otherwise agreed this is also a binding method of ADR. This method is not commonly used, but advised to use in big projects, and in disputes, which are, required a large experience and an expert opinion. Many institutions give expertise service. Among this International Chamber of Commerce (ICC) is the best known. Here is some information about ICC:

“ICC is the world business organisation, the only representative body that speaks with authority on behalf of enterprises from all sectors in every part of the world.

ICC promotes an open international trade and investment system and the market economy. Its conviction that trade is a powerful force for peace and prosperity dates from the organization's origins early in the last century. The small group of far-sighted business leaders who founded ICC called themselves "the merchants of peace".

Because its member companies and associations are themselves engaged in international business, ICC has unrivalled authority in making rules that govern the conduct of business across borders. Although these rules are voluntary, they are observed in countless thousands of transactions every day and have become part of the fabric of international trade.

ICC also provides essential services, foremost among them the ICC International Court of Arbitration, the world's leading arbitral institution.

Within a year of the creation of the United Nations, ICC was granted consultative status at the highest level with the UN and its specialized agencies.

Business leaders and experts drawn from the ICC membership establish the business stance on broad issues of trade and investment policy as well as on vital technical and sectoral subjects. These include financial services, information technologies, telecommunications, marketing ethics, the environment, transportation, competition law and intellectual property, among others.

ICC was founded in 1919. Today it groups thousands of member companies and associations from over 130 countries. National committees in the world's major

capitals coordinate with their membership to address the concerns of the business community and to convey to their governments the business views formulated by ICC.”[10]

Here is the ICC’s definition of Expertise: [11]

The ICC International Centre for Expertise, established in 1976, operates under the 1993 ICC Rules for Expertise. It deals with technical, financial or other questions calling for specialized knowledge. Parties to a contract may apply to the Centre for the appointment of an expert to provide a report on such a question. The expert's intervention can help the parties to resolve questions amicably or simply to establish certain facts. Any party or Arbitral Tribunal may request the Centre to propose the name of an expert. Recent cases include: assessing the operational capacity of a product unit, assessing corrosion of materials, the financial audit of a company during a take-over, revaluation of a contract price, and assistance relating to dispute adjudication boards in international construction projects. Since expertise and arbitral proceedings are distinct, the ICC recommends parties to separate technical and legal disputes in contracts by inserting the model clause for expertise, in addition to the arbitration clause.

6.7 Pre-arbitral Referee Procedure

As arbitration takes a long time (but, not longer than litigation) parties may need a provisional measure about a dispute. If this is the situation, Pre-arbitral Referee Procedure is the right method. The main idea of this procedure is time saving. The parties are free to select the referee, if they do not he is appointed by the Chairman of International Court of Arbitration. The decision of the Court is binding. Parties agree to apply to Pre-arbitral Referee Procedure when a dispute arises or at the contract signing stage.

ICC recommends the below clause to be written in the contract to be bound by the Pre-arbitral Referee Procedure Rules.

"Any party to this contract shall have the right to have recourse to and shall be bound by the Pre-arbitral Referee Procedure of the International Chamber of Commerce in accordance with its Rules."

If parties want to have the right of recouring both arbitration and pre-arbitral referee, it is advised to make the contract include the following clause:

"Any party to this contract shall have the right to have recourse to and shall be bound by the Pre-arbitral Referee Procedure of the International Chamber of Commerce in accordance with its Rules. All disputes arising in connection with the present contract shall be finally settled under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said Rules."



7. ARBITRATION AND LITIGATION

7.1 Arbitration

In the contract parties should put a provision about what will be done when a dispute arises between them. When a dispute arises between the parties they may go to litigation, but if the parties are of different nationalities what will be done, again litigation? In this situation litigation isn't preferred, it is a risky way, for the contractor if we assume that the work is being done in the country of the employer. Opposite of it is risky for the employer if the work is in contractor's country. Maybe worse than that the time needed for a decision in litigation is very long, and neither the contractor nor the employer has this long time period, because the time period for construction works have to be as short as possible as the employer makes his financial plans according to project completion date, and wants to put the plant in service as soon as possible.

Arbitration can be explained simply that it is a process, which is applied when a dispute arises and applied to a decision of a person in whom both parties trust and agree to abide by his decision.

Agreements to arbitrate consist of two types:

7.1.1 Ad Hoc Agreement

Parties in dispute agree to refer arbitration outside an institutional framework for the disputes that have already been existing, this is named as ad hoc agreement .In this type arbitrators administer the case by themselves. If problems arise the parties may require the help of the state court or an institution.

7.1.2 Institutional Arbitration

In this type parties have already agreed to refer to arbitration administered by an institute in their contract agreement. This type of agreement is recommended strictly because the service of an institution is much more trustable and may be summarized as follows:

- Decide on the number of arbitrators
- Appoint arbitrators (if there is a challenge against them by one or both of the parties, it decides on it)
- Ensure that arbitrators are conducting the arbitration in accordance with institute's rules, if not replace them
- Decide on the place of arbitration and time limits.
- Determine the fees of the arbitrators
- Examine the arbitral awards.

The arbitration process has many advantages against litigation. Here is how International Court of Arbitration defines the advantages of arbitration. [12]

7.1.3 Advantages Of Arbitration

Among the available dispute resolution alternatives to the courts, arbitration is by far the most commonly used internationally. The reasons for this are clear:

7.1.3.1 Final, Binding Decisions

While several mechanisms can help parties reach an amicable settlement – for example through conciliation under the ICC Rules of Conciliation – all of them depend, ultimately, on the goodwill and cooperation of the parties. A final and enforceable decision can generally be obtained only by recourse to the courts or by arbitration. Because arbitral awards are not subject to appeal, they are much more likely to be final than the judgements of courts of first instance. Although arbitral awards may be subject to being challenged (usually in either the country where the

arbitral award is rendered or where enforcement is sought), the grounds of challenge available against arbitral awards are limited:

7.1.3.2 International Recognition Of Arbitral Awards

Arbitral awards enjoy much greater international recognition than judgements of national courts. About 120 countries have signed the 1958 United Nations Convention on the Recognition and Enforcement of Foreign Arbitral Awards, known as the “New York Convention”. The Convention facilitates enforcement of awards in all contracting states. There are several other multilateral and bilateral arbitration conventions that may also help enforcement.

7.1.3.3 Neutrality

In arbitral proceedings, parties can place themselves on an equal footing in five key respects:

1. Place of arbitration
1. Language used
2. Procedures or rules of law applied
3. Nationality
4. Legal representation

Arbitration may take place in any country, in any language and with arbitrators of any nationality. With this flexibility, it is generally possible to structure a neutral procedure offering no undue advantage to any party.

7.1.3.4 Specialized Competence Of Arbitrators

Judicial systems do not allow the parties to a dispute to choose their own judges. In contrast, arbitration offers the parties the unique opportunity to designate persons of their choice as arbitrators, provided they are independent. This enables the parties to have their disputes resolved by people who have specialized competence in the relevant field.

7.1.3.5 Speed And Economy

Arbitration is faster and less expensive than litigation in the courts. Although a complex international dispute may sometimes take a great deal of time and money to resolve, even by arbitration, the limited scope for challenge against arbitral awards, as compared with court judgements, offers a clear advantage. Above all, it helps to ensure that the parties will not subsequently be entangled in a prolonged and costly series of appeals. Furthermore, arbitration offers the parties the flexibility to set up proceedings that can be conducted as quickly and economically as the circumstances allow. In this way, a multi-million dollar ICC arbitration was once completed in just over two months.

7.1.3.6 Confidentiality

Arbitration hearings are not public, and only the parties themselves receive copies of the awards.

7.1.4 Arbitration According To FIDIC

If one of the parties or both of them dissatisfy with the decision of DAB and also amicable settlement fails, the dispute shall be settled by international arbitration of the International chamber of commerce. The engineer is a witness, and obligations of the parties and the engineer do not change during the arbitration procedure. Here is the related provision (20.6 Arbitration) of FIDIC.

“Unless settled amicably, any dispute in respect of which the DAB’s decision (if any) has not become final and binding shall be finally settled by international arbitration. Unless otherwise agreed by both parties:

- (a) the dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce,
- (b) the dispute shall be settled by three arbitrators appointed in accordance with these Rules, and
- (c) the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 (Law and Language).

The arbitrator(s) shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, and any decision of the DAB, relevant to the dispute. Nothing shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator(s) on any matter whatsoever relevant to the dispute.

Neither Party shall be limited in the proceedings before the arbitrator(s) to the evidence or arguments previously put before the DAB to obtain its decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the DAB shall be admissible in evidence in the arbitration.

Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, the Engineer and the DAB shall not be altered by reason of any arbitration being conducted during the progress of the Works.” [5]

If parties agree to be bound by ICC Rules of arbitration it is necessary to write the below expression in their contract:

“All disputes arising out of or in connection with the present contract shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said Rules.”

And the model clause in Turkish is:

“İşbu sözleşmeden doğacak veya bu sözleşmeyle ilgili bütün anlaşmazlıklar Milletlerarası Ticaret Odası Tahkim Kuralları uygulanarak, bu kurallar dairesinde tayin edilen bir veya birden fazla hakem tarafından kesin olarak karara bağlanacaktır.”

The decision to go the courtroom route has to be mutual if an arbitration clause has been included in the contract. [13]

Here is a table and a figure of it of some comments on different techniques [7]:

Table 7.1 Perceptions of dispute resolution techniques

Attribute	Negotiation	Mediation	Expert Determination	Adjudication	Arbitration	Litigation
Reduces time necessary to resolve dispute	3,9	2,4	2,3	2,2	1,6	1,3
	96,3%	73,6%	71,9%	73,3%	90,6%	90,1%
Reduces the cost of resolving disputes	4,2	2,5	2,3	2,3	1,4	1,2
	95,7%	73,0%	71,6%	73,3%	90,3%	89,2%
Provides a satisfactory outcome of resolving disputes	3,7	2,3	2,1	2	2,4	2,3
	95,7%	72,2%	71,0%	72,2%	90,1%	88,9%
Minimises further disputes	3,2	2,1	1,9	1,8	2,2	2,1
	94,0%	70,2%	70,2%	71,9%	88,6%	86,9%
Opens channels of communication	3,9	2,5	1,8	1,8	1,6	1,4
	94,9%	70,7%	69,0%	71,0%	88,4%	86,4%
Preserves or enhances job relations	3,8	2,3	1,9	1,8	1,4	1,1
	94,0%	71,0%	69,3%	71,3%	87,2%	86,4%

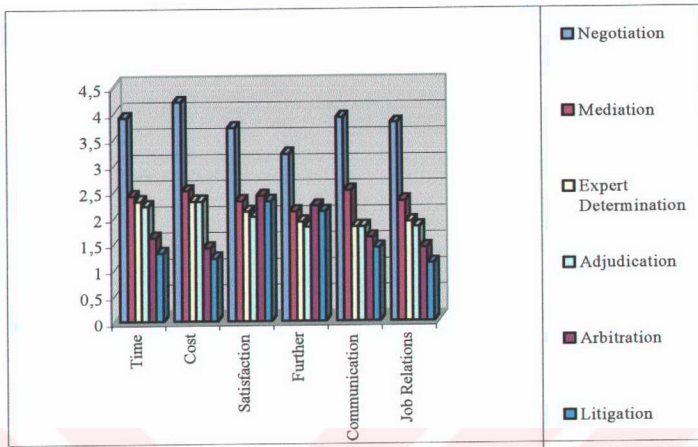


Figure 7.1 Perceptions of dispute resolution techniques

7.2 Litigation

It is a judicial proceeding to resolve a dispute in state courts. It is called as legal proceedings also. One of the most differing features of litigation from other methods of dispute resolution is that the litigation process may be commenced by one party without prior consent of the other party. It is not the most successful way of resolving disputes, but it is the most traditional method in dispute resolution as the other methods are seen as alternative methods.

If:

- The arbitration agreement made by the parties does not lead to immediate acts. For example there is a long time gap between the dispute first arises and starting the litigation for giving a chance of negotiation, but it seems impossible to agree on the subject.
- The subject of the dispute is out of the boundaries of the arbitration.
- If the matter to be decided in the dispute is a question of law.
- If fraud is alleged by one or both of the parties.

The parties begin getting evidence to establish each one's case is stronger than the other's. They will hire lawyers who are paid to find out and present his client's case is stronger than the other's. The decision of the court is final unless any appealing attempt is made. The construction consultants and expert witnesses may be used during the litigation process. After litigation the parties will reflect on the costs they have incurred. Successful party will recover his costs from the other party. Some experts say two-thirds of the costs may be recovered from the unsuccessful party.

As a result litigation should be the last way in dispute resolution. However, it is advised if the case is on the fundamental issues of law. Here is a table and its graphic of some firms in U.K. and their actual experience of using dispute resolution techniques.



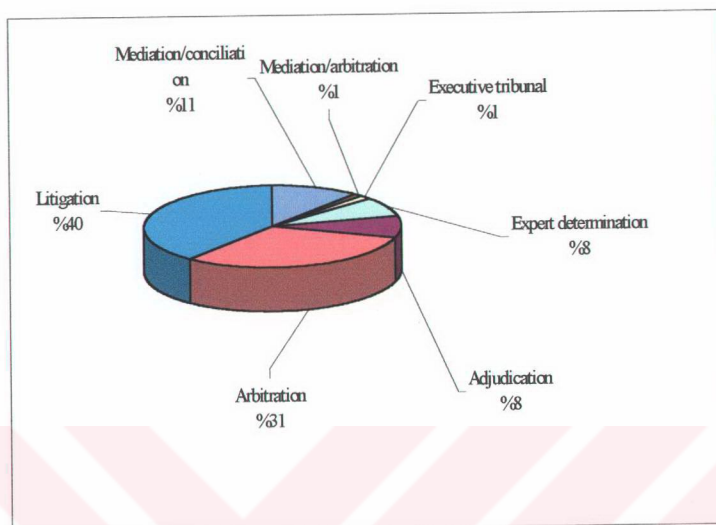


Figure 7.2 Actual experience of using dispute resolution techniques

Table 7.2 Actual experience of using dispute resolution techniques

	Number of times respondents had participated in the techniques during the preceding 12 months	Number of times respondents had participated in the techniques during their careers
Mediation/conciliation	251	1024
Mediation/arbitration	28	71
Executive tribunal	32	151
Expert determination	178	943
Adjudication	193	1096
Arbitration	711	6324
Litigation	890	8950

The above table and shows the methods used in preceding 12 months and during their whole careers. It can be seen easily that litigation and arbitration are the commonly used methods.

8. CASE STUDY

Here is a case study, which Soyak International Construction and Investment Inc. claimed extension of time.

“Preamble: Pepsi International Bottlers (Yekaterinburg) (PIB) and Soyak Uluslarasi Insaat ve Yatirim A.S. (Soyak), building employer and contractor respectively, entered into two separate agreements relating to the supply of materials and construction of a new Pepsi Cola production facility at Yekaterinburg in the Russian Federation. These agreements were as follows:

1. Contract for the Supply and Delivery of Materials to the Russian Federation stated as having been entered into 10 February 1997 executed 8 April 1997 (“Supply Contract”)
2. Contract for Construction, Renovation and Retrofitting of Pepsi Cola Production Facilities entered into on or about 7 March 1997, having effect from 10 February 1997, and executed 8 April 1997 (“Construction Contract”)

The Supply Contract would appear to have been set-up to allow early payment by PIB to Soyak for the supply of materials. The contract period for this Contract is stated as continuing until ended in accordance with the Construction Contract.

The completion date for the Construction Contract is stated as being 21 August 1997. Practical Completion of the Construction Contract was achieved on 24 December 1997. Handover of certain parts had been achieved prior to that date. The Construction Contract allows for the extension of the Period for Completion in certain circumstances. This case study has been prepared to explain Soyak’s entitlement to an extension of the Period for Completion.

Construction Contract Particulars:

Client's Representative	:Bovis International Ltd ('Bovis')
Contract effective from	:10 February 1997
Contract entered into by the parties	:on or about 7 March 1997
Commencement of work on site	:27 March 97
First issue of construction drawings	:7 April 1997
Completion date (see below)	:21 August 1997
Practical completion certified	:24 December 1997
Period of delay to completion	:25 weeks
Contract sum (see below)	:US \$5,169,874
Gross value of payments earned to date	
(24 January 1998 – Interim valuation no:10)	:US \$ 12,671,017

Note : The Supply Contract Sum was US\$ 2,783,778 (US \$ 4,765,533 paid to date). Total for both contracts US \$ 7,953,653. Total earned to date for both contracts US \$ 17,436,550. (Supply Contract - Interim valuation no:6 date 24 January 1998, US \$ 4,765,533 and Construction Contract -Interim Valuation no: 10 date 24 January 1998, US \$ 12,671,017)

8.1 Introduction and Claim Summary

Introduction: This case study describes important aspects of the construction works carried out on site by Soyak at the Pepsi Cola Bottling Plant, Yekaterinburg in the Russian Federation. Where relevant, design and procurement issues are also considered.

The document seeks to establish Soyak's entitlement to a full extension of time to the Period for Completion of the Works, as provided for by various Clauses in the Construction Contract.

The conclusions are set out in Claim Summary below. 2.0 The Construction Contract highlights and briefly discusses some of the Clauses, which have a bearing on Soyak's obligation to complete the Works by a particular date. The Supply Contract is considered under 3.0 The Supply Contract and the relationship between the two contracts regarding the Period for Completion is analysed. Otherwise the Supply Contract is not discussed in this document.

The critical delays to the progress of the Works are considered in some detail in 4.0 Delays to the Works. The early progress of Buildings 1 and 5 merit special attention, the effect of delays on the start of the mechanical installation in those buildings and the subsequent problems caused by the lengthy periods required for the customs clearance of materials and equipment were all crucial in defining Soyak's Period for Completion. Some additional delays are detailed in 4.8 Delays to Other Activities.

Claim Summary: Soyak's obligation under Clause 3.1 and Clause 21.1 of the Construction Contract was to carry out the Works in accordance with that Contract, which had effect from 10 February 1997, and to practically complete the Works by 21 August 1997, and in compliance with the various milestone dates set out in the Master Programme.

The Master Programme defined activities starting on site from 10 March 1997. Materials, which had to be procured outside the Russian Federation and with significant lead-in times were required on site from 1 April 1997 (see 4.4 External Rain and Sewage Drainage, 4.2 Building 5 Floor Drainage, and 4.3 Mechanical Installation). Complete design for these activities was therefore required by 10

February 1997, the date the Contract had effect from retrospectively. Complete design for follow-on activities was required soon after 10 February 1997 and no later than 1 March 1997.

In the event drawings with contractual effect were not available to Soyak until about 7 March 1997, the date the contract was actually entered into (see 2.0 The Construction Contract). This represented a delay from 10 February to 7 March to these early activities, a period of 25 days.

Soyak were issued with a set of 'construction issue' drawings on 7 April 1997, two months after the date from which the Contract had effect and one month after work was due to start on site.

Soyak set up site in early March and immediately identified many possible defects to large areas of external wall in Building 1 which were structurally unsound and unsafe. No repairs to these walls had been defined in the scope of Soyak's work. The repairs to the walls were eventually instructed 2 months later from 10 May 1997. Furthermore this additional repair work and other repair work caused the prolongation of the repair activity. As a direct result the commencement of the critical follow-on activities, the mechanical and electrical services installation work in Building 1, were delayed until 10 June 1997. The Master Programme defines this work as starting on 21 April 1997, some 6 weeks earlier. Concurrent delays affected the progress of the Building 5 floor and prevented the commencement of the mechanical and electrical installations until 10 June 1997 in that Building (see 4.2 Building 5 Floor Drainage).

The commencement of the services work was on the critical path for the completion of the works as a whole and was therefore crucial.

Mechanical and electrical materials and equipment had been delayed because of the original delay in drawing issue and later drawing revisions but were procured to arrive in Yekaterinburg on time when taking into account progress of the work. However, following delivery to Yekaterinburg customs there occurred a series of delays, of varying length, whilst clearance was achieved. The result was to delay the completion of the service installation and its commissioning until December 1997 (See 4.3 Mechanical Installation and 4.8 Delays to Other Activities, Electrical

Installation). Although the critical path is traced through the mechanical heating installation, significant delays occurred to almost every piece of mechanical and electrical equipment whilst going through customs.

Other relevant problems included the placing 'on-hold' of important parts of the general design in March/April whilst the Boiler House, the CO2 Room and Truck Maintenance areas were put under review. There was also a late instruction to construct a Waste Water Treatment Plant, not originally in the scope of Soyak's Works. The change in the relocation of these areas and the addition of the Waste Water Treatment Plant to the scope of Soyak's work impacted initially on the civil and building design in April/early May 1997 with a number of associated drawing issues and new drawings. This was followed by revisions and new drawing issues to the services design in these areas in May and early June 1997. For a sample selection of changes resulting from the drawing issues refer to Soyak-Bovis letter dated 16 June 97 reference 97.001-458. It should not be forgotten that in order to procure materials from abroad and complete the Works by 21 August 1997 the design had to be substantially completed by 10 February 1997. These significant revisions were taking place 3 to 4 months late.

Soyak also encountered problems whilst excavating. Almost wherever Soyak excavated obstructions were encountered. Breaking out these obstructions prolonged most of the activities associated with the excavation including Buildings 1, 5, 7, 8 and 9 floors and drainage, construction of the Water Tank, and external drainage and utilities.

The effect of the above delays have been illustrated on a series of bar charts included.

Please see the single bar chart illustrating how the delays affected the Works as a whole.

It is helpful to reflect on the total amount of extra work instructed by PIB and undertaken by Soyak in addition to their original contracted scope. The original Lump Sum Price was US \$7,953,653 (including supply). The present agreed value of works carried out is US \$ 15,324,714 (including supply, not including VAT) an increase of 93 %. The Final Account is anticipated as being US\$ 17,500,000 (not

including VAT). Clearly, on the basis of the extra value of work carried out alone Soyak are entitled to a very significant extended Period for Completion, 5 ½ months calculated on the basis of additional value. In fact the Period for Completion was only prolonged by about 4 months. This was accomplished despite further delays, which were not related to the amount of extra work carried out. These included delays caused by late design, customs clearance problems, and the extension of the construction period into winter. Soyak accomplished this by substantially increasing its labour resources and accelerating the work.

Much of the work was in the event completed earlier than the Practical Completion date of 24 December 1997.

As a direct result of the matters summarised above and detailed in the following sections Soyak is entitled to an extension of time to the Period for Completion of their Works from 21 August to the earlier dates set out in the Schedule of Partial Possession for the areas and installations identified, and to 24 December 1997 for the balance of the Works. Under Clauses 7.1, 8.2, 23.2 and 23.6 of the Construction Contract General Conditions Soyak formally request that extension to their Period for Completion.

8.2 The Construction Contract

The Formation of the Construction Contract: Soyak submitted a tender to PIB for the construction work on 20 January 1997. After an expression of interest from PIB there followed a period of negotiation during which price, time for completion, advance payments, contract terms, and other matters were all discussed. Regarding matters that were to do with construction Soyak reached initial agreement with PIB on or about 17 February 1997 and Soyak signed a letter of agreement for the Construction works on that date (valid only until the signing of the Construction Contract). The contract conditions had not been agreed, and nor had the set of drawings to be incorporated into the contract been viewed and agreed by Soyak on that date. The drawings for incorporation were received at Soyak's Istanbul office on 25 February 97, at the same time final negotiations on the contract conditions were taking place. Agreement was eventually achieved on or about 7 March 1997. On 10 March 1997

Soyak signed a copy of the Construction Contract and sent it to PIB. PIB eventually signed it on 8 April 1997. It would appear that the Construction Contract was therefore entered into on or about 7 March 1997.

Express Provisions: Relevant clauses of the executed Construction Contract are set out below and briefly commented upon.

Page 4, Clause 1; Subject of Contract: “This Contract is solely for the supply of material and workmanship and the installation of local and imported materials for the construction, renovation of and retrofitting of the Pepsi Cola Production Facilities at 13 Kosmonatov Avenue Yekaterinburg 620017 the Russian Federation according to the Client’s designs, drawings and specifications and international construction and installation practices.”

The clause goes on to incorporate The General Conditions and The Special Conditions as part of the Contract.

Page 5, Clause 3; Construction Schedule and Completion Period: 3.1 “The Contractor shall carry out the Works in accordance with the Contract with effect from the 10th February 1997 and complete the works to the acceptance of the Client and/or the Client’s Representative in accordance with this Contract. Period of completion for phase 1 A. of the Works is 21 July 1997, and for completion of phase 1 B. the completion date is 21 August 1997.”

Page 5, Clause 4; Taxes, Legal Fees and Customs: 4.1 “The Client will be responsible for Value Added Tax and any increase in any tax, duty, levy or charge, whether federal or local, arising as a result of this Contract and any such new tax, change, duty or levy in either case arising after the date of the Notice to Proceed, 10th February 1997, and the Client shall be responsible for all construction permits from local authorities and any other permits or approvals for the execution of the Works or the approval of any drawings in accordance with the local and federal laws, regulations and rules of Russian Federation the procurement of which permits and approvals shall be the exclusive responsibility of the Client except the permits for the importation of the Contractor’s equipment by the Contractor which shall be the responsibility of the Contractor.”

This clause makes it the Client's responsibility to obtain all permits and approvals necessary for the execution of the Works and for any drawing. Responsibility for customs clearance and local authority drawings approval is therefore the Client's.

Page 11, General Conditions Clause 1 ; Certain Definitions and Interpretation: "Master Bar Chart" means the chart attached as a schedule to the SC and called as such.

"Milestone" means any date(s) expressly set forth in the Master Bar Chart (or such other extended date(s) which may be fixed in accordance with the Contract, by which the Contractor is obliged to complete such part of the Works to which the Milestone (s) relate(s).

"Period For Completion" means period during which the Works are to be carried out over such period as is set out in the Master Bar Chart."

Page 15, General Conditions Clause 7 ; Clients Supplied Information: 7.1 "The Client acknowledged that the Contractor has solely relied on the information provided by the Client. No account has been taken of the topological, hydrological or sub-surface conditions in calculating the Fixed Price Lump Sum and the Period of Completion i.e. Any of such conditions which may exist are therefore at the risk and responsibility of the Client and may therefore have the effect of increasing Fixed Price Lump Sum and resulting in an extension of the Period for Completion."

This clause places the risk of encountering unforeseen problems or obstructions within the ground on the Client, and gives the Contractor the right to an extension to the Period for Completion and adjustment of the Fixed Price Lump Sum were relevant.

Page 15, General Conditions Clause 8 ; Contractor's Design Obligation: 8.1 "The Contractor shall perform all necessary design development, detailed design and shop drawings required, if any, to complete the design of the Works. The Contractor shall proceed immediately after receiving the Notice to Proceed with the preparation of drawings and shall submit all such drawings to the Client's Representative for its approval which approval shall not be unreasonably withheld or delayed. No portion of the Works requiring a shop drawing shall commence until the Client's

Representative has returned to the Contractor the relevant drawings stamped “Approved”. The Contractor’s design responsibility shall be limited to detail drawings to incorporate approved materials and equipment into the drawings approved for construction. A maximum period of five (5) days shall be allowed for the Client’s Representative to approve the Contractor’s drawings.”

The express limitation on the Contractor’s design responsibility to the production of detail drawings to incorporate approved materials and equipment into the construction drawings should be noted.

Page 20, General Conditions Clause 21 ; Timely Completion: 2.1 “Time is of the essence of this Contract and the Contractor undertakes to:

- a) Commence the Works promptly after issuance of the Notice to Proceed.
- b) Practically complete the whole of the Works within the Period for Completion and in compliance with the Master Bar Chart and Milestone.”

Page 21, General Conditions Clause 23 ; Changes in the Works: 23.2 “The Contractor shall be entitled to a Contract Variation Order if any unreasonable delay is caused or contributed whether directly or indirectly by the Client or any local authority including without limitation and delay in approving shop drawings.”

Soyak therefore had an obligation to allow for a reasonable period for customs clearance in planning the procurement of materials from abroad in relation to the dates and milestones for commencing activities on site. Any unreasonable period for customs clearance would give rise to entitlement to an extension of time. Regarding what was a reasonable period for customs clearance Soyak’s previous experience was based on a Krasnoyarsk project. Customs clearance periods at Krasnoyarsk averaged 1 week. Some materials had also entered the Russian Federation through Moscow customs for that project. There the period for clearance was one to two days. Soyak therefore planned on the basis of a week for this process in Yekaterinburg. This period was also thought reasonable by Bovis.

Page 32, Special Conditions Clause 1.23: “Bring all plant materials and equipment to the Site only on an “as need” basis.”

Implied Provisions: It is submitted that a clause would be implied into the Contract that PIB would ensure all information required for executing the Works would be provided in a timely manner so as not to cause delay to Soyak in carrying out the Works.

8.3 The Contract For The Supply Of Materials Into The Russian Federation

Soyak and PIB entered into a contract dated 10 February 1997 for the supply of materials into the Russian Federation. The subject of the agreement is stated as being “the supply and delivery of Construction Materials for the Pepsi Cola Yekaterinburg Production Facilities Construction in Russian Federation in accordance with the Construction Contract” (Clause 1.1, page 1) and “The Contractor will supply the Client with the Construction Materials required by the Contractor to carry out the Works and fulfil the General Conditions annexed.” (Clause 1.3, page 1).

Under the heading Taxes, Legal Fees and Customs it is stated at Clause 5.1 (page 3):

“The Contractor will not be responsible for the Russian Federation taxes, penalties, fees import/custom taxes and charges whether caused by delays in customs clearance of imported materials related to the work or otherwise.”

Under Clause 1 of the General Conditions (pages 8 and 9):

“Period for Completion” is defined as the Period for Completion defined in the Construction Contract.

“Contract Period” is defined as the period commencing on the date of the Notice to Proceed and continuing until ended in accordance with the Construction Contract.

Clause 12 of the General Conditions states (page 13):

“Soyak undertook to supply the Construction Materials in a timely manner such that the whole of the Works can be completed within the Period for Completion agreed between the Client and the Contractor and in compliance with the Construction Contract.”

Soyak's obligation under the Supply Contract was therefore to supply and deliver materials for importing into Russia as required by the Construction Contract Specifications and Construction Contract Master Programme.

Soyak were required by Clause 20.3 of the General Conditions to "bring all Construction Materials to the site only on an "as need" basis".

It follows from the above that if the Works subject to the Construction Contract are delayed as a result of matters for which Soyak are entitled to an extension of the Period of Completion under the Construction Contract, so Soyak's obligations regarding the timing of the supply and delivery of materials under the Supply Contract will be automatically affected. In particular the completion of Soyak's Supply Contract will be automatically effected by any extended date for completion of the Construction Contract. For these reasons any matters stated in this document to have affected the timing of the execution of the Construction Contract may be read as also affecting the Supply Contract.

8.4 Delays To The Works

8.4.1 Building 1, Additional Work

The Original Scope of Soyak's Work: The original scope of Soyak's work in Building 1 was described on drawings APLO 101/E Rev E, entitled 'Site Plan 1st Phase', drawing APLO 103/E Rev.E entitled 'Roof Plan 1st Phase', drawing APLO 106/E Rev.E entitled '1st Sector Plan', drawing APLO 107/E Rev.E entitled '2nd Sector Plan', and drawing APLO 114/E Rev.E entitled 'Elevations 1st Phase'. All these drawings were dated 14 February 1997 and were issued for contract signing purposes.

The work described on these drawings included some minor demolition and replacement of block walls, some very minor repairs to the building, an acrylic coating with plaster finish to existing block walls generally, and a new concrete slab.

Soyak contracted to carry out this work between the dates identified for the relevant activities on the Master Programme. These dates were defined as:

Table 8.1 Activities of building-1 according to master program

Activity No.	Activity	Duration	Start	Finish
64	Concrete Floors	33	10 March	12 April
65	Temp. Filling of Openings and Healing	6	12 March	18 March
66	Repairs to Walls and Columns	19	17 March	5 April
67 to 69	Roof Repairs, Block up Windows, Steam Clean	29	7 April	6 May
70	Services Installation	40	14 April	24 May
74	Painting and New Doors	40	14 April	24 May

Design responsibility for the concrete floor and repairs to the existing walls and columns rested solely with PIB and PIB's consultants.

As identified above The Master Programme required that the first activity in Building 1 should be the construction of a new concrete floor. The other activities, in particular the repairs to the walls and columns, were to follow on.

Late Instruction for Additional Repair Work: Soyak were on site in early March 1997 preparing amongst other things for the commencement of the concrete floor excavation on 10 March 1997. Inspection of Building 1 at this time made it immediately apparent that extensive repairs were necessary to structural elements of Building 1 and that significant areas of the 6m high external block wall were unsound and required repair. Soyak pointed out many of the discrepancies with the contract issue drawings in their letters to Bovis dated 13 March 1997 reference 97.001-008 and 17 March 1997 reference 97.001-020. Soyak also identified the safety issue to Bovis in their letter dated 13 March reference 97.001-015.

In these conditions and without design proposals for making the existing structure safe Soyak were unable to commence the excavation of the floor slab.

On 3 April 1997 Bovis issued Soyak with a copy of a structural survey report of the condition of Buildings 1 and 5. The survey had been carried out during the previous weeks and following Soyak's letter dated 13 March 1997 identified above.

The progression of the new floor slab was required so that the initial services installation could start in Building 1. In order that the floor slab work could be carried out safely structural external wall repairs were necessary, as noted above. Since these repairs were not in the original scope of works they required instruction. The repair work was eventually instructed on 10 May 1997 with the issuing of a number of A4 sketches by Consultant Submissions Report 005. This late instruction delayed the start of work in Building 1 from the original start date of 10 March to 10 May a period of 61 days (Delay no. 1). The additional repair work instructed by this drawing issue involved the demolition and rebuilding of 1080 m² of 400 mm double skin block wall at heights from ground level up to 10 m, a very significant amount of extra work. The work was carried out between 12 May to 16 June 1997 but caused only 9 days delay to the commencement of the excavation of the floor slab (Delay no. 2).

Additional Excavation Work: Excavation for the new slab commenced in the Syrup Room area on 20 May 1997. Because of poor soil bearing conditions a suitable formation level was not found at the design level. Soyak were instructed to excavate an additional 650mm on average. The total additional excavation totalled 1,420m³. This additional volume also required filling and compacting, etc with sub-base material. The additional work further delayed the commencement of the floor slab activity by 5 days. (Delay no.3)

Effect of the Delays on Progress: The total delay to the commencement of the pouring of the concrete slab caused by the above matters was 75 days, However because Soyak brought forward their services installation to commence as soon as possible after floor slab was started, the effect of the delays was reduced to 57 days (the contracted start date to the services work was 14 April and the actual start date was 10 June 97).

8.4.2 Floor Drainage Building 5

The Original Scope of Soyak's Work: The original scope of the Soyak's floor drainage work to Building 5 was described on drawings CPLO 112/E Rev.E entitled "Water Distribution and Drainage Phase 1" and CPLO 114/E Rev.E entitled "Floor Drainage Details". Both these drawings were dated 14 February 1997 and were issued for contract signing purposes.

The layout drawing CPLO 112/E Rev.E, showed underfloor drainage systems disposing of waste water from the factory processing activities and sewage in a southerly direction out of the building and towards a Waste Water Treatment Plant. The total length of drainage run was 550m. The positions of many of the floor gullies and manholes were not defined and nor were the invert levels.

Soyak contracted to carry out the floor drainage installation to Building 5 between dates defined for that activity on the Master Programme. These dates were defined as follows:-

Table 8.2 Activities of floor drainage building-5 according to master program

Activity No.	Activity	Duration	Start	Finish
45	Break out floors	26	17 March	12 April
46	Install Drainage	43	24 March	6 May

Soyak had no design responsibility for these activities. Design responsibility rested solely with PIB and PIB's consultants.

The substantial completion of the floor drainage work in Building 5 was critical to the commencement of the mechanical services installation and it was therefore important that the design of the floor drainage was complete in early February to allow procurement of the materials from outside Russia, commencement of excavation work on 17 March 1997 and laying of drainage pipework from 24 March 1997.

Development of Drawing CPLO 112/E: Soyak were aware in March 1997 that the location of important plant, including the Waste Water Treatment Plant, CO2 Room, Boiler House and Truck Maintenance was not finalised. All of these had a direct bearing on the floor drainage design. The effect that this had on progress and other related matters was recorded in Soyak - Bovis letter, reference 97.001-65 dated 10 April 1997.

The first set of drawings identified as being “for construction” were received by Soyak on 7 April 1997. However, the whole of the floor drainage layout shown on drawing CPLO 112/E Rev.0 (zero) received on that date was shown as being “on-hold”.

Soyak were informed a further revision was on its way, and on 11 April that the “on-hold” status of drawing CPLO 112/E Rev.0 was removed (refer to letter Bovis - Soyak, reference RJ:ON:152 dated 11 April 1997).

This confirmed that the drainage system had changed from running in a southerly direction across Building 5, as shown on previous revisions, to a northerly direction.

The release on the “on-hold” status of the design of the floor drainage allowed the commencement of excavation in Building 5. The start of excavation activity was therefore delayed because of this late design from the original contract start date of 17 March 1997 (see Master Programme) until the day after the removal of the “on-hold” status of drawing CPLO 112/E Rev.0, that is 12 April 1997, a period of 26 days (Delay No. 4).

Excavation of Drain Runs: Excavation of the drainage runs commenced on 18 April 1997. Since Building 5 had an existing slab that was to remain, excavation for the drainage runs required breaking through that existing slab prior to excavating underneath to the required depth.

The progress of the excavation of the drainage runs in Building 5 was delayed and disrupted because of concrete obstructions encountered. Refer to CVO 34 dated 11 July 1997 and CVO 45 dated 20 August 1997. The obstructions included an extra thickness of existing slab (on average an extra 300mm.), and old foundations and embedded steel below. The obstructions accounted for approximately 170m³ of

additional concrete requiring to be broken out. Furthermore the amount of drainage work increased by approximately 14% in Building 5 further increasing the time necessary for excavating and breaking out concrete and laying of drains. Together the obstructions and extra work delayed the commencement of the laying of drainage pipes by approximately 4 weeks. However because of accelerated working some of this time was made up. The critical delay caused by these obstructions to the commencement of the mechanical installation, which required approximately 50% of the floor drainage and related slab to be completed in Building 5, was 10 days (Delay No. 5).

Effect of Delays on Progress: The total delay caused to the commencement of the mechanical installation to Building 5 was 26 days because of late provision of design (Delay No. 4) and 7 days because of concrete obstructions and additional work (Delay No. 5), a total delay of 33 days. The concrete floor should have been sufficiently ready for the commencement of the mechanical services installation on 5 May 97 according to the Master Programme. The 33 day delay caused by the matters identified above therefore prevented the floor being sufficiently completed until 10 June 97.

8.4.3 Mechanical Installations

The following section considers the progress of the mechanical installation. Closely tied in with the mechanical installation was the electrical installation. Both these activities were severely delayed. However, because the mechanical work was affected by the delays over a greater period it is this work rather than the electrical work which is considered in most detail. However, reference should also be made to 4.8 Other Delays which describes some of the lengthy delays to the electrical installation.

The original scope of the mechanical installation was described on a series of drawings designated "MPLO". These drawings described a mechanical system providing heating and ventilation to the factory processing and warehouse areas using a forced air system. Air was to be heated by being drawn through a series of individual fan coil units set around the factory and with the air being ducted into specific areas. The fan coil units were to be heated via the City's district heating

system. A series of wall mounted extractor fans were designed to remove air from the inside factory.

Soyak contracted to carry out the services installation to Building 1 initially, then Building 5, and then Buildings 7, 8 and 9. The Master Programme defines the dates for commencement and completion of the activities as follows:-

Table 8.3 Activities of mechanical installations according to master program

Activity No.	Activity	Duration (Days)	Start	Finish
71	Heating Building 1	15	21 April	6 May
52	Mechanical and Plumbing	32	5 May	6 June
60	Snag, Clean, Clear Building 5	14	7 July	21 July
99	Mechanical and Plumbing	33	16 June	19 July
120	Heating and Plumbing	26	16 June	12 July
104	Snag, Clean, Clear Buildings	19	21 July	9 August

Responsibility for the design, apart from the production of detail drawings to incorporate approved materials and equipment into the approved construction drawings, rested with PIB and PIB's consultants.

The mechanical installation was seen as critical to the completion of Soyak's work. The earliest date for the commencement of this work in Buildings 1 and 5 was the completion of the repairs to the existing structures and the floor drainage and partial completion of the floor slabs. As has been detailed in 4.1 and 4.2 all of these activities had already been substantially delayed (Delay Nos. 1 to 5) so delaying the commencement of the initial mechanical work until 10 June 1997.

Carbon steel pipe and fittings for the heating system were the first materials required for the mechanical installation. These were procured by Soyak in Turkey under the supply contract and shipped to arrive in Yekaterinburg on 20 May (total 235m of pipe) and 2 July 1997 (total 2,948m of pipe), (refer to Soyak - Bovis letters, reference 97.001 - 295 and 97.001 - 375 dated 21 May 1997 and 2 June 1997 respectfully, informing Bovis of the need to commence customs clearance procedures). Both these materials shipments therefore arrived in good time for commencement of work on 10 June 1997 the date enough floor slab in Building 1 and 5 had been completed to allow mechanical installations to commence, if 7 days is allowed for customs clearance.

In the event, the first delivery (20 May 1997) was held in customs for 36 days until 25 June 1997 and the second shipment 2 June 1997 was held for 46 days until 18 July 1997.

The effect of the delay to the first shipment release from customs was to prevent the commencement of the first fix works from 10 June until 23 June 1997 (the date fixing pipe supports procured locally began), a period of 13 days (Delay No. 6).

A further delay then occurred following the completion on 1 July 1997 of the fixing of all the carbon steel pipe released from customs by the first shipment, until the release of the second shipment. During this period mechanical installation work had to cease. This further delayed the completion of the carbon steel pipework from 1 July until 18 July 1997, a period of 17 days (Delay No. 7).

The carbon steel pipe was required to supply hot water to the fan coil units. The fan coil units were required on site at this time (early August) for fixing in place and connecting to the carbon steel heating pipes, following on the pipework installation.

The shipment of fan coil units arrived in Yekaterinburg on 28 July 1997 (refer to Soyak - Bovis letter, reference 97.001 - 697, dated 29 July 1997). This shipment was therefore in good time when taking into account actual progress of work on site and allowing 7 days for customs clearance, since installation work could have started on 5/6 August 1997.

In the event the fan coil units were held in customs until 18 October 1997, a period of 86 days. Because of this delay, work on the heating system, which was on the critical path of the mechanical installation, could not continue until 19 October, the day after the fan coil units arrived on site. The completion of the mechanical installation was therefore delayed from 5 August (8 days after arrival of the fan coils units in customs) until 19 October 1997. This was a period of 76 days (Delay No. 8).

Effect of Delays on Progress: Considering initially the contracted time for carrying out the mechanical installation the Master Programme identifies three separate periods for installation :-

- (i) Building 1, 21 April to 6 May 1997;
- (ii) Building 5, 5 May to 6 June 1997;
- (iii) Buildings 7, 8 and 9, 16 June to 19 July 1997;

and three periods partly overlapping with the installation periods for snagging and commissioning the electrical and mechanical installations together:-

- (i) Building 5, 7 July to 21 July 1997;
- (ii) Building 9, 7 July to 14 July 1997;
- (iii) Buildings 7 and 8, 21 July to 9 August 1997.

Soyak therefore contracted to commence the mechanical installation on 21 April and complete it on 19 July, followed by completion of snagging and commissioning up to 9 August 1997 and with contract completion 12 days later on 21 August 1997.

Ignoring the period of float identified on the Master Programme of 12 days identified between the end of the snagging and commissioning activity and the contract completion date, and also ignoring the 9 day period between the end of the Building 5 installation and the commencement of Building 7 installation, Soyak contracted to complete the work over a continuous period of 101 days (21 April to 9 August less 9 days).

Soyak are therefore entitled to at least this period for the execution of the mechanical work (arguably Soyak are entitled to longer if the contractual nature of the Master Programme dates and the periods between them are taken into account).

As has already been shown the commencement of the mechanical installation was delayed until 10 June 1997 because of additional repair work and excavation carried out to Building 1 (Delay Nos. 1 to 3) and late floor drainage design and obstructions encountered whilst excavating in Building 5 (Delay Nos. 4 and 5). The impact of these delays on the completion date of the mechanical installation including related snagging and commissioning work is considered initially. Soyak were entitled to the period of 101 days (calculated above) commencing on 10 June 1997 for carrying out their work. Consequently, these earlier delays caused the completion date of services work and the works as a whole to be delayed until 19 September 1997.

Finally the impact of the customs clearance delays on the progress and completion of the mechanical installation, commissioning and snagging are considered. Taking into account the three separate and critical delays identified above, Delay no. 6 of 13 days, Delay no. 7 of 17 days and Delay no. 8 of 76 days, Soyak are entitled to a further 106 days for completing their work, that is until 3 January 1998.

In addition to the matters detailed above Soyak had to accommodate late services design (see 4.8 Delays to Other Activities), additional services work instructed by PIB (the scope of the services work increased by approximately 31% in value), other additional work (Building 7 mezzanine for example), a prolonged period of working by PIB's direct process installation contractor (108 days on Master Programme and approximately 157 actual days) and cold weather working inside the factory building up until the date heat was on (12 November 97). All these matters caused delay and disruption which adversely affected the progress of the works but which were overcome by acceleration measures adopted by Soyak. The acceleration resulted in the effect of the above delays being reduced from a figure greatly in excess of 106 days to 96 days.

Taking into account the delays and acceleration Soyak's contractual entitlement is therefore to an extension of time for the completion of the Works as a whole from 21 August up to 24 December 1997, a period of 125 days.

8.4.4 External Rain And Sewage Drainage

The Original Scope of Soyak's Work: The original scope of the external drainage work was described on drawing CPLO 110/E Rev.E entitled 'Site Development External Drainage 1st Phase' and drawing CPLO 114/E Rev.E entitled 'Floor Drainage Details'. Both drawings were dated 14 February 1997 and were issued for contract signing purposes.

The layout shown on drawing CPLO 110/E Rev.E consisted of a rainwater system draining a new paved lorry loading/unloading area to the south side of the factory, and draining the south side of the factory itself and the new factory roof internally. This system drained directly into the City rainwater system off the west side of the site. Part of the system was shown as being on-hold. The drawing also showed a waste water system, for draining sewage and waste water from the factory processing areas, running out of the factory on the south side and then turning in a westerly direction into an area where the design was described as 'on-hold'. This 'on-hold' area was indicated as being a Waste Water Treatment Plant, and was not part of Soyak's scope of work at this time.

The total length of pipework in the two systems was 1180m with 34 manholes and 5 road gullies. Pipes were identified as being PVC and fibre glass, manholes were precast concrete. No invert levels were given on the drawing.

Soyak contracted to carry out this work as two separate but parallel continuous activities in 63 days. The Master Programme defines the dates for commencement and completion of the activities as follows:-

Table 8.4 Activities of external rain and sewage drainage according to master program

Activity No.	Activity	Duration (Days)	Start	Finish
9	External Rain Drainage	63	1 April	3 June
12	External Sewage	63	1 April	3 June

Responsibility for the design of the drainage systems rested solely with PIB and PIB's consultants.

Soyak were aware in March 1997 that a number of crucial aspects of the design which affected the drainage system were being re-evaluated and generally much of the related design was in the early stages of development. Areas under review included the position of the factory Boiler House and CO2 Room, the location of and development of a Waste Water Treatment Plant for processing waste water prior to discharge into the city sewage system, the location of and development of a filtering system for the rainwater from the lorry loading/unloading areas, and the development of both rain and sewage systems around the north side of the factory.

Clearly in order to procure materials and commence excavation a reasonably complete design was required.

There followed a lengthy design development process during which the drainage layout was developed either at the same time as, or immediately after, the development of the design of other critical areas of the factory itself.

Following the contract sign issue of drawing CPLO 110/E Soyak received a further 'pre-construction' status revision. Revision F was received by Soyak on 26 March 1996 (transmittal no. 6). This drawing was classified as being for review purposes. This revision showed the Waste Water Treatment Plant relocated from the 'on-hold' position on the south side of the site to an 'on-hold' position on the north side for the first time.

The next revision of the layout drawing was the first 'for construction' issue. Revision 0 (zero) was received by Soyak on 07 April 1997 (transmittal no. 8). Most of the layout on revision 0 was described as being 'on-hold' and no levels were given.

Revision 1 of the drawing CLPO 110/E was received one week later on 17 April 1997 (transmittal no. 17). Once again, this drawing was described as being 'for review' purposes only.

Revisions 2 and 3 of the layout drawing were issued on 7 May and 2 June 1997, respectfully. Design on both these drawings was incomplete and would not allow excavation work to commence, for example no pipe or manhole invert levels were given.

The first revision, which contained enough information to allow some excavation to commence, was Revision 4, received by Soyak on 12 June 1997 (transmittal no. 48). This drawing had a more developed external drainage system, which showed drainage lines and related structures close to their final positions, and defined pipe and manhole invert levels for the first time. It also showed 1 km of additional drainage system (refer to Soyak – Bovis letter dated 16 June 97 ref 97.001-458) (Delay no.9)

Customs Delay: PVC pipes had been procured by Soyak to arrive in Yekaterinburg on 5 June 1997 (refer to Soyak-Bovis letter 97.001-356 dated 29 May 1997 informing Bovis of the need to commence customs clearance). The pipes arrived at customs 7 days prior to the receipt by Soyak of revision 4 of drawing CPLO 110/E, the first revision with enough information to allow excavation work to commence. It was accepted by Bovis and Soyak at the time that 7 days was a reasonable period for customs clearance. In the event the PVC pipes were held in customs until 18 July 1997, a period of 37 days (Delay no. 10).

Conformity with SNIP Regulations: A further and partly concurrent delay occurred with a further development in the design at this time. The Russian SNIP (Construction norms and rules) Regulations require that a co-ordinated external services drawing is produced prior to the commencement of any excavation showing the position of external utilities. PIB's consultant appeared to be unaware of this fact, and Soyak reminded PIB by way of letter dated 20 June 1997 (reference no. 97.001-478a). Further design development took place whilst drawing CPLO 110/E was revised in order to comply with Russian norms and rules and a co-ordinated services drawing was produced for the first time and approved (drawing no. GPLO 004/R).

The new co-ordinated drawing was approved and issued to Soyak as drawing GPLO 004/R Rev.C at the same time as drawing CPLO 110/E Rev.7. These drawings were

received by Soyak on 21 July 1997 (transmittal no. 65). Significantly, a Draft Variation Order (no. 46), was issued stating “Drawing CPLO 110/E Revision 7 issued for construction. Proceed accordingly” (Delay no. 11).

The Commencement of Work: With the release of the first shipment of PVC pipes and fittings from customs a few days earlier on 18 July 1997, the issue of revision 7 of the layout drawing allowed excavation work to commence. The first trenches and manholes associated with the rain and sewage systems were dug in the area adjacent to Building 1 and 7, working in a westerly direction towards the connection with the City drainage systems.

Drainage Delays up to 21 July 1997: The failure of PIB’s consultant to provide sufficient design information to allow the rain and sewage drainage activities to commence until revision 4 of Drawing CPLO 110/E was received by Soyak delayed the start of the two activities from the contracted commencement dated of 1 April until 12 June 1997, a period of 72 days (Delay no.9).

The further failure of PIB’s consultant to provide the co-ordination drawing required by Russian regulations to ensure the three dimensional co-ordination of underground service lines prior to the start of excavation, and further design development of the drainage systems caused additional delay the commencement of the rain and drainage activities. This further delay took place over the period from the receipt of revision 4, up to the receipt of the effective ‘for construction’ issue revision 7, received by Soyak on 21 July 1997. The start of the two activities were therefore further delayed from 12 June, the end of Delay no 9, until 21 July, a period of 40 days (Delay no. 11).

The delay caused by the late release by customs of the first shipment of PVC pipes ran concurrently with Delay no.11, from 12 June until 18 July 1997, a period of 37 days (Delay no. 10).

Increased Scope of Work: From revision E to revision 7 and subsequent revisions of the drainage layout drawing the scope of the drainage work increased dramatically along with many other aspects of Soyak’s construction work. The rain and sewage drainage systems developed from relatively straightforward systems draining only from the south side of the factory and running in one direction out to the existing city

drains, to drainage systems running on three sides of the factory draining two separate paved areas, with connections into filter tanks and a Waste Water Treatment Plant. The total length of rain and sewage runs nearly doubled and the number of manholes more than doubled:-

Table 8.5 Increase in scope of drainage pipeline and manholes

	Revision E CPLO 110/E	Revision 8 CPLO 110/E	Increase in Scope
Drainage Pipeline	1180 m	2279 m	93 %
Manholes	34 no.	74 no.	118 %

The amount of rain and sewage drainage work carried out by Soyak therefore increased by approximately 100% overall .

Soyak were also instructed to install an underground water mains around the factory totalling 850m (increased up to 937m with further revisions) of 150mm carbon steel pipe (DVO No:35 dated 30 June 1997).

Taking into account the increase of 100% in the amount of drainage work and the disruption caused by having to excavate and lay an additional 850m of 150mm diameter fire water mains around the factory during the same period Soyak are entitled to an additional period at least equal to the original contracted period of 64 days for carrying out the rain and sewage drainage work (Delay no.12.).

Allowing for the previous delay identified above (Delay nos. 9,10 and 11) the earliest commencement date for the activities was 22 July 1997 and adding the originally contracted period of 64 days for carrying out the two activities the earliest completion date is 23 September 1997. Allowing then for the additional drainage work and the effect of the fire mains the earliest completion date is 26 November 97.

Further delays occurred to the rain and sewage drainage work.

DVO 109 and Obstructions: On 10 September 1997 Soyak were instructed to stop excavation work to the rain and sewage runs in the area adjacent to newly discovered diesel and oxygen tanks, which were thought might be in a dangerous condition. Refer to Draft Variation Order 109 dated 10 September 1997 and Bovis letter GS: LM: 584 dated 11 September 1997. Work was not allowed to recommence until 26 September 1997 following the issue of Draft Variation Order No 123 dated 26 September 1997. A delay of 16 days therefore occurred to the completion of both activities (Delay no. 13).

Throughout the drainage excavation activity a significant number of obstructions were encountered which severely disrupted and delayed the completion of the work. Details of these obstructions including locations and photographs are provided in the Cost Claim Files on External Drainage. It is estimated that the combined effect of these obstructions delayed the completion of the rain and sewage drainage systems by 27 days (Delay no. 14).

Effect of Delays on Progress: The effect of the delays on progress is shown on the Bar Chart. As a result of the delays to commencement (Delay nos. 9, 10 and 11) Soyak are entitled to a completion date for this activity of 26 November 97. Assessing the impact of these further delays (Delay nos. 13 and 14) Soyak are entitled to a further 43 (16 + 27) days for completion, that is until 8 January 98.

8.4.5 External Pavings (Phase 1a)

The Original Scope of Soyak's Work: The original scope of the external paving work was described on drawing CPLO 101/E, Rev.E entitled "Site Development – External Pavements", and drawing CPLO 105/E, Rev.E entitled "Pavements Excavation and Filling Standard Details". Both drawings were dated 14 February and were issued for contract signing purposes.

The paving layout shown on drawing CPLO 101/E, Rev.E consisted of an existing paved area on three sides of the factory building and a new paved area to the south of the factory for lorry parking, loading and unloading. The total new area of work shown on the drawing was 3,778m². Soyak contracted to carry out this work

between the dates identified on the Master Programme. These dates were defined as:-

Table 8.6 Activities of external paving phase1-A according to master program

Activity No.	Activity	Duration	Start	Finish
18	Excavation	22	5 April	27 April
19	Sub base	29	18 April	17 May
20	Asphalt Paving	42	5 May	16 June
21	Kerbing and Sidewalks	13	3 June	16 June

Responsibility for the design of the external paving rested solely with PIB and PIB's consultants.

The commencement of the external paving work was dependent upon the completion of the underground rain and sewage drainage systems and utilities in the relevant areas. It was planned to commence paving work in the area adjacent to the west side of Building 1, following completion of the first drainage runs and associated manholes and an external fire mains.

In the event, the commencement of the drainage work was delayed until 22 July 1997 (Delay Nos. 9,10 and 11) as detailed in 4.4 External Rain and Sewage Drainage. Furthermore Draft Variation Order No. 35 dated 30 June 97 required a 150mm. diameter carbon steel fire main to be installed around the factory. This ran under the areas to be paved. The carbon steel pipe was procured immediately following the instruction and arrived in Yekaterinburg on 15 July 1997. Customs clearance was given on 8 August 1997, some 25 days later.

The drainage runs, manholes and the fire mains were completed in the area to be paved adjacent to Building 1, 7 days after release of the carbon steel pipe from customs, that is 15 August 97.

It is clear therefore that the first activity associated with the paving work, the strip down to formation level, could not have commenced prior to 16 August 1997, the day after the fire mains trench was backfilled. The commencement of the paving works was therefore delayed from the original date shown on the Master Programme, 5 April 1997, until 16 August 1997. This is a period of 134 days (Delay No. 15).

Draft Variation Order 121 dated 23 September 1997 increased the area of new paving on the south side of the factory by 1,460m². A reasonable time for carrying out this extra work over and above the original period is 28 days (Delay No. 16).

In excavating for the additional paved area and part of the original area unsuitable formation conditions were encountered. The excavation depth increased on average by 900mm as a result. Soyak informed Bovis about these problems by letter dated 3 November 1997, reference 97.001-1080. A reasonable time for carrying out this work is 14 days (Delay No. 17).

Effect of delays on progress: The effect of the delays on progress is shown on the Bar Chart. Considering initially only the impact of the delayed start (see above) on the completion date of the paving works, Soyak are entitled to the contracted period for the activity of 73 days added on to 16 August 1997 for carrying out their work. Consequently, these earlier delays caused the completion date of the paving work to be delayed until 27 October 1997.

Finally the impact of the delays caused by the additional work are considered. Taking into account the two separate and critical delays identified above, Delay No. 16 of 28 days and Delay No. 17 of 14 days, Soyak are entitled to a further 42 days for completing their work, that is until 8 December 1997.

Dock Levellers: The installation of a dock levelling system for loading lorries was required at the lorry loading area adjacent to the entrance of Building 8. Installation was required after completion of the asphaltting to the paved area in the vicinity. The Master Programme shows this activity as being carried out over a 20 day period from 7 to 26 July 1997.

Since the commencement of the dock levelling installation was delayed until 1 December 1997 by the paving work Soyak are entitled until this date, plus the 19 day

period for installing the dock levellers that is until 29 December 1997. The completion of this activity and the Works as a whole were therefore delayed until 29 December 1997.

8.4.6 Supply

The Original Scope Of Soyak's Work: The original scope of Soyak's work was described on a series of civil drawings showing the water tank and pump house structures, and services drawings showing the associated mechanical and electrical installation.

Raw (mains) water was to be supplied to the factory for use in processing, fire protection systems and supply to the offices via a water tank and pump house. The drawings identified the incoming mains supply flowing into a holding tank. The tank was to be constructed of reinforced concrete 24.5 m long x 12 m wide x 6.6 m deep. A series of pumps housed in a pump room above were to distribute the water to the factory and offices. Two pumps were required for the supply to the processing area, one operational and one standby, and two pumps for the fire water mains, one jockey pump to provide constant initial pressure and an operational pump.

Soyak contracted to carry out this work between the dates defined by the Master Programme. These dates were defined as:-

Table 8.7 Activities of excavation and pipework according to master program

Activity No.	Activity	Duration (Days)	Start	Finish
25	Excavation	12	10 March	22 March
26-29	RC Work and Waterproof	63	24 March	26 May
30-34	Pumps, Electrical and Pipework	76	1 April	16 June

As can be seen from the dates above and the Master Programme the Construction of the Water Tank and Pump Room was planned to be completed on 16 June 1997 two months before the completion of the Works as a whole on 21 August 1997.

Revision to Water Tank: The Water Tank framing and reinforcement was originally defined on drawing CPLO 207/E Rev.0 issued 7 April 1997. The details on the drawing were however 'on hold' preventing commencement of the excavation work.

The 'on hold' status of the drawing was removed a few days later with the issue of Revision 1 on 17 April 1997. Excavation work for the water tank started that same day. The commencement of the excavation work was therefore delayed from the contracted date of 10 March 1997 until 17 April 1997, a period of 38 days (Delay no. 18).

Obstructions Encountered Whilst Excavating: As soon as excavation commenced rock was encountered which delayed the completion of the excavation work. The work would have taken between 10 and 12 days in normal soil conditions but actually took 43 days with continuous breaking out. The details of the excavation are contained in the Contract Variation Order no.16 dated 11 July 1997 which shows agreement of an extra US \$100,000 for this work. The excavation activity was therefore delayed 31 days (Delay no. 19).

Late reinforcement design: The excavation work was completed on 29 May 1997 and construction should have continued with the reinforced concrete base and walls. However, Soyak had notified Bovis of a problem with the steel reinforcement design by RFI 152 dated 9 May 1997 which was well before the design was required. This was eventually clarified on 19 June 1997 following Bovis's response to a second RFI, no. 230 dated 16 June 1997, on 16 June but which was followed by some further design development by PIB's consultant, which was finalised on 19 June 1997. The progress of the water tank was therefore delayed from 30 May to 19 June 1997, a period of 21 days. (Delay no. 20).

The civil works continued with the tank completed by 31 August 1997.

Customs Delays: The 4 pumps arrived in Yekaterinburg in good time for actual progress on 5 August 1997 (refer to Soyak-Bovis letter dated 30 July 1997 ref

97.001-707). The pumps were eventually released from customs on 18 October 1997. The actual delay therefore caused by customs clearance problems was from 31 August 1997 to 18 October 1997, a period of 48 days (Delay no. 21).

Impact of delays up to 18 October 1997: Taking into account the above delays (Delay nos. 18, 19, 20 and 21) the completion of the pump installation was delayed by a total of 138 days ($38 + 31 + 21 + 48 = 138$ days). The Master Programme identifies 9 June 1997 for the completion of the pumps, adding the total delay to this date results in a delayed completion date for the activity of 25 October 1997. Adding the 7 further days for pump installation means that Soyak are delayed until 1 November 1997 in completing the pumps installation.

Delay to Pumps Electrical Panel: Revision 2 of drawing no. EPLO 702/E issued 20 August 1997 modified the design of the electrical panel to the pumps. This required the re-manufacturing of the panels and transportation from Turkey to Yekaterinburg. The revised panels were eventually received on site on 16 October 1997, two days before the release of the pumps from customs. This revision to the panel caused a delay to the completion of the pump installation, which was concurrent with the delay in customs to the pumps themselves (Delay no 21).

In the event the pump installation was completed along with the electric by 8 November 1997.

By letter dated 25 November 1997 (ref AY:LK:823) and at a meeting dated 10 December 1997 Bovis instructed Soyak to modify the design of the water supply pipeline from the water tank. Soyak substantially completed this work by 24 December 1997. This extra work delayed completion of the installation by 29 days (Delay no.22).

8.4.7 Waste Water Treatment Plant And Drainage Connection

The Original Scope of Soyak's Work: The original scope of Soyak's work did not include the construction of a Waste Water Treatment Plant.

Soyak were instructed by Contract Variation Order no. 41 dated 15 May 1997 to construct the civil works associated with the Waste Water Treatment Plant. The

value of this additional work was US \$ 266,057. The installation of the specialist plant required for treating the waste was to be installed by PIB's own direct contractor, Hayden.

Contract Variation Order no. 41 referred to a set of drawings issued on 17 April 1997 (refer to transmittals 17, 18 and 19). However, construction of the Plant was 'on-hold' whilst its orientation was reconsidered, and the additional cost agreed.

A revised Site Plan, drawing APLO 101/E Rev.2, was issued to Soyak on 29 May 1997 (refer to Consultant's Submission Report no. 14). This drawing showed the orientation of the Plant had altered and allowed construction to commence.

The Waste Water Treatment Plant consisted of three separate structures:

1. The Waste Water Treatment Plant itself comprised of four connected but separate tanks of a reinforced type of concrete type structure approximately 35m long x 13m wide x 5m deep overall, below ground level. There was also a small structure above.
2. A caustic tank comprising an underground reinforced concrete tank 11m long x 6m wide x 5m deep with a structure over 3m high.
3. A laboratory building 18m long x 10m wide x 5m high.

Clearly construction of these structures required significant resourcing in terms of both manpower and time.

Construction: Excavation actually commenced on 5 June 1997 a week after the instruction, following demolition of a water tank over the area of the dig.

Construction was eventually completed by 18 September 1997 with PIB's specialist contractor Hayden commencing work a week or so later.

Soyak were also responsible for installing the waste water drainage connection between the factory processing area and the Waste Water Treatment Plant. Drawing CPLO 110/E showed this pipeline with the comment "to be confirmed by Hayden" against it.

Hayden eventually identified in Draft Variation Order 145 dated 18 November 1997 that this pipe was to be completed in fibreglass. Soyak attempted to source this pipe locally but without success. It was eventually found in Moscow and arrived on site on 19 December 1997. The pipe connection was completed by 22 December 1997, 2 days prior to Practical Completion of the Works.

Since this work was entirely additional and not identified on the Master Programme it represents an effective activity delay from its commencement on 5 June 1997 to its completion on 22 December 1997 of 201 days (Delay no. 23).

8.4.8 Delays To Other Activities

The following delays are concurrent with those identified in previous sections of this document. In considering the overall impact of the critical delays on Soyak's progress these non-critical delays should also be taken into account since the general progress of the whole of the Works was adversely affected.

Electrical Installation: The delays caused by preceding activities to the commencement of the mechanical installation is documented in 4.3 Mechanical Installation. These delays also affected the commencement of the electrical installation by the same period (14 April to 10 June 1997) which was dependent upon the completion of the same preceding activities.

Further delays to the electrical installation occurred as a result of late design revisions. The Contract electrical design had been based on the Boiler House and CO2 Room, and Truck Maintenance in one position, and with no power distribution whatsoever to a Waste Water Treatment Plant (the design of which was on-hold at the time). The civil and building design of these installations was finalised on the 29 May with the issue of a set of related drawing revisions (transmittal no. 41, Consultant Submission Report no. 14,). These drawings confirmed the final positions of the Boiler House, CO2 Room, Truck Maintenance and Waste Water Treatment Plant, which all altered significantly from the positions shown on the drawings defining the original scope of Soyak's work.

The civil / building drawing issue of 29 May 1997 was followed by an electrical issue on 11 June 1997 (transmittal no. 48). Because of the alterations to the positions

of the Boiler House, CO2 Room and Truck Maintenance, and the inclusion of the Waste Water Treatment Plant, the power distribution system was revised. Procurement of electrical cable and important equipment was affected by these late revisions and orders of cable, lighting fixtures, cable trays, ducts, lighting tower, panels only finalised after this drawing issue. Some of the changes were in identified Soyak – Bovis letter dated 16 June 97 ref.97.001-458, items 8 to 13.

Electrical materials and equipment was delivered to Yekaterinburg over a period from 20 May 1997 (cable tray, hangers, etc), to 15 August 1997 (MV cubicles, LV switch gear, panels, etc), generally on time when taking into account progress on site. For details refer to table below:-

Table 8.8 Site arrivals of materials

No	Material	Shipment No	Shipment Date	Arrival Date	Custom Clearance Date	Clearance Duration
1	Grounding and lightning systems material	049	01 Jul.	16 Jul.	20 Sep.	66
2	Galvanized steel conduits: Indoor & outdoor lighting	079	29 Jul.	15 Aug.	08 Sep.	24
3		049	01 Jul.	16 Jul.	20 Sep.	66
4		043	25 Jun.	14 Jul.	20 Sep.	68
5	Lighting fixtures indoor	043	25 Jun.	14 Jul.	20 Sep.	68
6	Lighting Conduits (flexible and pliable)	043	25 Jun.	14 Jul.	20 Sep.	68
7		049	01 Jul.	16 Jul.	20 Sep.	66
8	Connection box and junction box: lighting system	049	01 Jul.	16 Jul.	20 Sep.	66

9		065	30 Jun.	12 Jul.	11 Sep.	61
10	Lighting fixtures	043	25 Jun.	14 Jul.	20 Sep.	68
11	Industrial Lighting Fixtures + Emergency Lighting Fixtures	043	25 Jun.	14 Jul.	20 Sep.	68
12	External Lighting Fixtures	043	25 Jun.	14 Jul.	20 Sep.	68
13	MV panel	079	29 Jul.	15 Aug.	08 Sep.	24
14	Tripolar MV Terminations	079	29 Jul.	15 Aug.	08 Sep.	24
15	1600 kVA transformer	049	01 Jul.	16 Jul.	20 Sep.	66
16	Switchboard Panels	079	29 Jul.	15 Aug.	08 Sep.	24
17	Cables	079	29 Jul.	15 Aug.	08 Sep.	24
18		065	30 Jun.	12 Jul.	11 Sep.	61
19		043	25 Jun.	14 Jul.	20 Sep.	68
20		049	01 Jul.	16 Jul.	20 Sep.	66
21	Cable trays, C-channels	079	29 Jul.	15 Aug.	08 Sep.	24
22		065	30 Jun.	12 Jul.	11 Sep.	61
23		043	25 Jun.	14 Jul.	20 Sep.	68
24		049	01 Jul.	16 Jul.	20 Sep.	66
25	Switch, socket, junction box and connection box	065	30 Jun.	12 Jul.	11 Sep.	61
26		043	25 Jun.	14 Jul.	20 Sep.	68
27		049	01 Jul.	16 Jul.	20 Sep.	66

28	Feed-through terminals and accessories for panels	079	29 Jul.	15 Aug.	08 Sep.	24
29	Electrical Water Heaters	076	24 Jul.	05 Aug.	18 Oct.	74
					Total	1626
					Average	56

Customs clearance problems delayed arrival on site of the equipment on average by
 $56 - 7 = 49$ days.

Typical of the problems was the main power supply installation. Following the 11 June 1997 revisions identified above the suppliers were ready to ship the MV Panels on 15 July 1997. On the same date and 3 weeks after the installation should have been completed according to the Master Programme a new drawing revision (drawing no. EPL1 102/E Rev.4, transmittal no. 63) altered to number of cells from 4 to 7. New panels were manufactured and shipped by 29 July 1997 and received in Yekaterinburg by 15 August 1997. They were released from customs on 8 September. Transformers had been dispatched in good time by 1 July 1997. Arrival in Yekaterinburg was by 16 July 1997. Release from customs was by 22 September 1997. The impact of these delays taken together was to delay the completion of the installation of the panels and transformers until 14 October 1997. This activity should have been completed by 20 May 1997 and therefore represents an overall delay of nearly 5 months.

Building 7: Building 7 was a new structure to adjoin Buildings 1 and 5 enlarging the existing open warehouse area of Building 5.

Delay had occurred in May and June to the completion of the Building 7 floor drainage for the same reasons that delayed the Building 5 floor drainage (see 4.2 Building 5 Floor Drainage). The floor itself was due to be partially complete ready for early services work by 16 June 1997 (see Master Programme). The drainage problems delayed this point by just over one month until 18 July 1997. On this date

both the new concrete floor and building structure were sufficiently complete to allow the electrical and mechanical work to begin. Work commenced from this date. From then on the completion of the services work was controlled primarily by the delays caused by customs clearance (see above Electrical Installation and 4.3 Mechanical Installation), with completion of work at the same time or just following that in Building 5.

Building 7, Mezzanine Construction: Soyak were instructed late by the issue of a new drawing APL3 136/B on 23 September 1997 (DVO 120) to construct a new mezzanine structure in the corner of Building 7. The instruction was confirmed by Draft Variation Order 120 dated 23 September 1997.

The design was for an upper floor and roof supported by a steel structure with blockwork infill and metal staircase. The structure was 'L' shaped and 12 x 14.7m in plan overall.

The steel for the structure was procured locally and was delivered to site on 10 October 1997. The completion of the mezzanine structure should have taken about six weeks from this date, however a series of problems arose with clashes between the roof steel and services pipework, ducts and fan coil supports above. This problem prolonged the period for completion of this work by 14 days. The structure was substantially completed by 24 December 1997, 25 weeks after the original contract completion date.

Acid Resistant Tiles: Acid resistant ceramic floor tiles were required for the Syrup Room, Sugar Disolver, Filling Room and Laboratory. The tiles were procured to arrive in Yekaterinburg by 13 May 1997 in good time taking into account progress of the floors. The tiles were eventually released from customs on 24 June 1997 after a period of 42 days. Although this activity is not specifically identified on the Master Programme, the programme shows Soyak's works to Building 1 should have been completed by 24 May 1997, one month prior to their release from customs.

Late Revisions to Blow Moulding Room: The Blow Moulding Room in Building 5 lies at the centre of the bottle processing operation. The mechanical and electrical installations in the vicinity are reasonably developed.

On 5 July 1997 Soyak were issued with a late instruction enlarging the room by moving the end wall out by 12m. 48m² of blockwork was required to be demolished and 150 m² rebuilt. This change came at a critical time when much activity was underway in this area.” [14]

As a result of this claim 30 days were entitled. The signed master time schedule and effect of delays on all project as a schedule are included in Appendix II.

8.5 A Problem Of Additional Payment

Here is an another case study of an additional payment about labour wages: [1]

A-)Contract hours: 176676 hours

Each man will work: 50 hours per week

Contract period: 154 weeks

Contract labour allowance assumed in the estimate: 669600\$

$176676/50=3534$ man-weeks

$3534/154=23$ men

$669600/3534=189.47$ \$ per man-week

B-)The final account hours: 198413

Hours worked per week: 45

$198413/45= 4409$ man-weeks

Extended contract period: 201 weeks

$4409/201= 22$ men

The labour cost amounts: 922617\$

$922617/4409=209.26$ \$ per man-week

The difference as a percentage: $(209.26-189.47)/189.47 \times 100 = 10.44\%$

Average weekly wage sheet is 3751\$ and there are 25 weeks for which the Employer is liable the value will be:

$25 \text{ weeks} \times (10.44\% \text{ of } 3751\$) = 25 \times 391.60 = 9790 \$$



9. CONCLUSIONS

In construction industry claim management is one of the most popular subjects in recent years. By acceptance of international arbitration rules in Turkey, claim management has gained more importance.

“Construction Claims” is examined in this study with a case study at the end. Maybe avoiding claims is the principal subject of claim management. If the both parties take precautions to avoid claims, no further expenditures will be needed to solve the dispute.

In contracts it is more practical and time saving to accept a base contract like FIDIC form of contracts ,in every aspect. Otherwise it will be much more time consuming to prepare a special form of contract. Also the clauses of special contracts are far open to different interpretations.

The two common way of claiming is an extension of time and additional payment. The contractor should follow effective recording techniques and prepare his claim on the grounds of these records. Without adequate records neither claiming nor defence to counter claiming can be made successfully. While making an extension of time claim the Contractor should enumerate the facts that are subjected to claim and should take a total of his extension of time duration. Similarly in additional payment claims he should again enumerate his facts and take a total to get the final sum.

An arising of dispute must be considered in all stages of construction. In bidding phase the time schedule should be prepared by taking into account of all permits and licences submissions. In contract negotiations stage a setting of a dispute board is highly recommended. In construction phase all recording should be made carefully as before said.

At the time of arising a dispute first attempts should be made to resolve the dispute in an amicably way that are alternative dispute resolution methods. First negotiation method should be used. It is the most easiest, fastest, cheapest method of ADR

methods. By the way talking of two parties to each other when a dispute arises is the most natural way. If negotiations fail mediation is recommended. In this method a person is appointed by two parties and he tries to get a common way between the parties. The other way is conciliation, this is commonly an institutional service. The conciliator expresses his opinion on the subject, but does not try to persuade the parties, so the conciliation procedure is not binding unless otherwise agreed. Mini-trial procedure is not a binding method and it is like a real trial, the advocates can participate the trial. Adjudication is also a recommended way. In this method a board of three members is appointed and it decides on the dispute. Expert determination is a practical way mostly in technical disputes. Pre-arbitral referee is useful when the main aim is time-saving. As a result there are many dispute resolution methods and their characteristics are different, but the main idea is human relations here, negotiation should be the starting method always.

If alternative dispute resolution methods fail arbitration and litigation should be used. In fact arbitration is classified in ADR in law terminology ,but in construction sector it is deemed to be out of ADR. Arbitration really is a very big chance for both parties. It has many advantages. Its decisions are final and binding. It has international recognition property. It is neutral for both parties and has specialized competence of arbitrators. It is fast, cheap and confidential. Because of all these advantages arbitration is the most preferred way of dispute resolution.

Litigation is a binding, final way but is very time consuming and expensive way for both parties. It should be resorted only if all methods fail.

It shouldn't be forgotten that arbitration and litigation are resorted only if trust between the parties doesn't exist any more. In practical parties have two chances, they either choose one of the ADR methods or they go to arbitration or litigation.

Disputes have always been existed between the parties because of the character of the construction sector. Parties should choose the right and convenient method at each situation.

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APPENDIXES

- [1] Fidic Conditions of Contract for Construction Apendixes and Annexes Related
With Claims
- [2] The Signed Master Time Schedule and Effect Of Delays On All Project As a
Schedule



APPENDIX [1]

Fidic Conditions of Contract for Construction Appendixes and Annexes Related
With Claims



APPENDIX

General Conditions of Dispute Adjudication Agreement

Definitions: Each “Dispute Adjudication Agreement” is a tripartite agreement by and between:

- a. the “Employer”;
- b. the “Contractor”; and
- c. the “Member” who is defined in the Dispute Adjudication Agreement as being:
 - (i) the sole member of the “DAB” (or “adjudicator”) and, where this is the case, all references to the “Other Members” do not apply, or
 - (ii) one of the three persons who are jointly called the “DAB” (or “dispute adjudication board”) and, where this is the case, the other two persons are called the “Other Members”.

The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the “Contract” and is defined in the Dispute Adjudication Agreement, which incorporates this Appendix. In the Dispute Adjudication Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.

General Provisions

Unless otherwise stated in the Dispute Adjudication Agreement, it shall take effect on the latest of the following dates:

- a. the Commencement Date defined in the Contract,
- b. when the Employer, the Contractor and the Member have each signed the Dispute Adjudication Agreement, or
- c. when the Employer, the Contractor and each of the Other Members (if any) have respectively each signed a dispute adjudication agreement.

When the Dispute Adjudication Agreement has taken effect, the Employer and the Contractor shall each give notice to the Member accordingly. If the Member does not receive either notice within six months after entering into the Dispute Adjudication Agreement, it shall be void and ineffective.

This employment of the Member is a personal appointment. At any time, the Member may give not less than 70 days’ notice of resignation to the Employer and to the Contractor, and the Dispute Adjudication Agreement shall terminate upon the expiry of this period.

No assignment or subcontracting of the Dispute Adjudication Agreement is permitted without the prior written agreement of all the parties to it and of the Other Members (if any).

3 Warranties

The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Engineer. The Member shall promptly disclose, to each of them and to the Other Members (if any), fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.

When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:

- a. experienced in the work which the Contractor is to carry out under the Contract,
- b. experienced in the interpretation of contract documentation, and
- c. fluent in the language language for communications defined in the Contract.

4 The Member shall:

General Obligations

- (a) have no interest financial or otherwise in the Employer, the Member the Contractor or the Engineer, nor any financial interest in the Contract except for payment under the Dispute Adjudication Agreement;
- (b) not previously have been employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Adjudication Agreement;
- (c) have disclosed in writing to the Employer, the Contractor and the Other Members (if any), before entering into the Dispute Adjudication Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Employer, the Contractor or the Engineer, and previous involvement in the overall project of which the Contract forms part;
- (d) not, for the duration of the Dispute Adjudication Agreement, be employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except as may be agreed in writing by the Employer, the Contractor and the Other Members (if any);
- (e) comply with the annexed procedural rules and with Sub-Clause 20.4 of the Conditions of Contract;
- (f) not give advice to the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;
- (g) not while a Member enter into discussions or make any agreement with the Employer, the Contractor or the Engineer regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under the Dispute Adjudication Agreement;

- (h) ensure his/her availability for all site visits and hearings as are necessary;
- (i) become conversant with the Contract and with the progress of the Works (and of any other parts of the project of which shall be maintained in a current working file;
- (j) treat the details of the Contract and all the DAB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members (if any); and
- (k) be available to give advice and opinions, on any matter relevant to the Contract when requested by both the Employer and the Contractor, subject to the agreement of the Other Members (if any).

5. General Obligations of the Employer and the Contractor

The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the DAB's activities under the Contract and the Dispute Adjudication Agreement, and except to the extent that prior agreement is given by the Employer, the Contractor and the Other Members (if any). The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively. Provision, by the Employer's Personnel and the Contractor's Personnel respectively.

The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any):

- (a) be appointed as an arbitrator in any arbitration under the Contract;
- (b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or
- (c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith.

The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless against and from claims from which he/she is relieved from liability under the preceding paragraph.

Whenever the Employer or the Contractor refers a dispute to the DAB under Sub-Clause 20.4 of the Conditions of Contract, which will require the Member to make a site visit and attend a hearing, the Employer or the Contractor shall provide appropriate security for a sum equivalent to the reasonable expenses to be incurred by the Member. No account shall be taken of any other payments due or paid to the Member.

6. Payment

The Member shall be paid as follows, in the currency named in the Dispute Adjudication Agreement:

(a) a retainer fee Per calendar month, which shall be considered as payment in full for:

(i) being available on 28 days' notice for all site visits and hearings;

(ii) becoming and remaining conversant with all project developments and maintaining relevant files;

(iii) all office and overhead expenses including secretarial services, photocopying and office supplies incurred in connection with his duties; and

(iv) all services performed hereunder except those referred to in subparagraphs (b) and (c) of this Clause.

The retainer fee shall be paid with effect from the last day of the calendar month in which the Dispute Adjudication Agreement becomes effective; until the last day of the calendar month in which the Taking-Over Certificate is issued for the whole of the Works.

With effect from the first day of the calendar month following the month in which Taking-Over Certificate is issued for the whole of the Works, the retainer fee shall be reduced by 50%. This reduced fee shall be paid until the first day of the calendar month in which the Member resigns or the Dispute Adjudication Agreement is otherwise terminated.

(b) a daily fee which shall be considered as payment in full for:

(i) each day or part of a day up to a maximum of two days' travel time in each direction for the journey between the Member's home and the site, or another location of a meeting with the Other Members (if any);

(ii) each working day on site visits, hearings or preparing decisions; and

(iii) each day spent reading submissions in preparation for a hearing.

(c) all reasonable expenses incurred in connection with the Member's duties, including the cost of telephone calls, courier charges, faxes and telexes, travel expenses, hotel and subsistence costs: a receipt shall be required for each item in excess of five percent of the daily fee referred to in sub-paragraph (b) of this Clause;

(d) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.

The retainer and daily fees shall be as specified in the Dispute Adjudication Agreement. Unless it specifies otherwise, these fees shall remain fixed for the first 24 calendar months, and shall thereafter be adjusted by agreement between the Employer, the Contractor and the Member, at each anniversary of the date on which the Dispute Adjudication Agreement became effective.

The Member shall submit invoices for payment of the monthly retainer and air fares quarterly in advance, invoices for other expenses and for daily fees shall be submitted following the conclusion of a site visit or hearing. All invoices shall be accompanied by a brief description of activities performed during the relevant period and shall be addressed to the Contractor.

The Contractor shall pay each of the Member's invoices in full within 56 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the Dispute Adjudication Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the DAB; and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in Sub-Clause 14.8 of the Conditions of Contract.

If the Member does not receive payment of the amount due within 70 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice under Clause 7.

7 Termination

At any time: (i) the Employer and the Contractor may jointly terminate the Dispute Adjudication Agreement by giving 42 days' notice to the Member; or (ii) the Member may resign as provided for in Clause 2.

If the Member fails to comply with the Dispute Adjudication Agreement, the Employer and the Contractor may, without prejudice to their other rights, terminate it by notice to the Member. The notice shall take effect when received by the Member.

If the Employer or the Contractor fails to comply with the Dispute Adjudication Agreement, the Member may, without prejudice to his/her other rights, terminate it by notice to the Employer and the Contractor. The notice shall take effect when received by them both.

Any such notice, resignation and termination shall be final and binding on the Employer, the Contractor and the Member. However, a notice by the Employer or the Contractor, but not by both, shall be of no effect.

8. Default of the Member

If the Member fails to comply with any obligation under Clause 4, he/she shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses

received by the Member and the Other Members (if any), for proceedings or decisions (if any) of the DAB which are rendered void or ineffective.

9. Disputes

Any dispute or claim arising out of or in connection with this Dispute Adjudication Agreement, or the breach, termination or invalidity thereof, shall be finally settled under the Rules of Arbitration the International Chamber of Commerce by one arbitrator appointed in accordance with these Rules of Arbitration.



Annex PROCEDURAL RULES

1. Unless otherwise agreed by the Employer and the Contractor, the DAB shall visit the site at intervals of not more than 140 days, including times of critical construction events, at the request of either the Employer or the Contractor. Unless otherwise agreed by the Employer, the Contractor and the DAB, the period between consecutive visits shall not be less than 70 days, except as required to convene a hearing as described below.

2. The timing of and agenda for each site visit shall be as agreed jointly by the DAB, the Employer and the Contractor, or in the absence of agreement, shall be decided by the DAB. The purpose of site visits is to enable the DAB to become and remain acquainted with the progress of the Works and of any actual or potential problems or claims.

3. Site visits shall be attended by the Employer, the Contractor and the Engineer and shall be co-ordinated by the Employer in co-operation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services. At the conclusion of each site visit and before leaving the site, the DAB shall prepare a report on its activities during the visit and shall send copies to the Employer and the Contractor.

4. The Employer and the Contractor shall furnish to the DAB one copy of all documents which the DAB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract. All communications between the DAB comprises three persons, the Employer and the Contractor shall send copies of these requested documents and these communications to each of these persons.

5. If any dispute is referred to the DAB in accordance with Sub-Clause 20.4 of the Conditions of Contract, the DAB shall proceed in accordance with Sub-Clause 20.4 and these Rules. Subject to the time allowed to give notice of a decision and other relevant factors, the DAB shall:

(a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case, and

(b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.

6. The DAB may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.

7. Except as otherwise agreed in writing by the Employer and the Contractor, the DAB shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.

8. The Employer and the Contractor empower the DAB, among other things, to:

- (a) establish the procedure to be applied in deciding a dispute,
- (b) decide upon the DAB's own jurisdiction, and as to the scope of any dispute referred to it,
- (c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Rules,
- (d) take the initiative in ascertaining the facts and matters required for a decision,
- (e) make use of its own specialist knowledge, if any,
- (f) decide upon the payment of financing charges in accordance with the Contract,
- (g) decide upon any provisional relief such as interim or conservatory measures, and
- (h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute.

9. The DAB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DAB shall make and give notice to its decision in accordance with Sub-Clause 20.4, or as otherwise agreed by the Employer and the Contractor in writing. If the DAB comprises three persons:

- (a) it shall convene in private after a hearing, in order to have discussions and prepare its decision;
- (b) it shall endeavour to reach a unanimous decision: if this proves impossible the applicable decision shall be made by a majority of the Member, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and
- (c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision, unless:
 - (i) either the Employer or the Contractor does not agree that they do so, or
 - (ii) the absent Member is the chairman and he/she instructs the other Members to not make a decision.

Clause 20 Claims, Disputes and Arbitration

Sub-Clause 20.2 Appointment of the Dispute Adjudication Board

Unless the Engineer (although appointed by the Employer) is to make the pre-arbitral decisions under this Clause 2/, in accordance with the alternative option described below, the Contract should include the provisions under Clause 20 which, whilst not discouraging the Parties from reaching agreement on disputes as the works proceed, allow them to refer contentious matters to an impartial dispute adjudication board (“DAB”).

The adjudication procedure depends for its success on, amongst other things, the Parties’ confidence in the agreed individual(s) who will serve on the DAB. Therefore, it is essential that candidates for this position are not imposed by either Party on the other Party; and that, if the individual is selected under Sub-Clause 20.3, the selection is made by a wholly impartial entity. FIDIC is prepared to perform this role, if this authority has been delegated in accordance with the example wording in the Appendix to Tender.

It is preferable, but not essential, for the individual(s) to be agreed before the Letter of Acceptance is issued, and for the DAB to visit the Site on a regular basis. Under the example text in the Appendix to Tender, the Parties may either so agree before the Letter of Acceptance is issued or agree the appointment within the specified period thereafter. Alternatively. The Parties may prefer to defer the appointment until a dispute has arisen, in which case Sub-Clause 20.2 plus the Appendix – General Conditions of Dispute Adjudication Agreement with its Annex (Procedural Rules) and the Dispute Adjudication Agreement should be amended to comply with the wording contained in the corresponding sections of FIDIC’s Conditions of Contract for Plant and Design –Build.

Sub-Clause 20.2 provides for two alternative arrangements for the DAB :

- (a) One person , who acts as the sole member of the DAB , having entered into a tripartite agreement with both Parties ; or
- (b) a DAB of three persons , each of whom has entered into a tripartite agreement with both Parties .

The form of this tripartite agreement could be one of the two alternatives shown at the end of this publication , as appropriate to the arrangement adopted . Both of these forms incorporate (by reference) the General Conditions of Dispute Adjudication Agreement , which are included as the Appendix to the General Conditions because they are also referred to in Sub-Clause 20.2. Under either of these alternative forms of Dispute Adjudication Agreement , each individual person is referred to as a Member .

At an early stage, consideration should be given as to whether a one-person or three-person DAB is preferable for a particular for project, taking account of its size, duration and the fields of expertise which will be involved. For some projects, it may be considered appropriate to appoint a one- person DAB for each major field of expertise relevant to the Works; however, this may give rise to the problems if, when

a dispute arises, the Parties cannot agree which field is applicable and, therefore, to whom the dispute should be referred.

For a one-person DAB to be mutually agreed, the Employer (or the tenderer) could propose the names and curriculum vitae of suitable persons, for the tenderer (or the Employer) to accept. It may be advisable to propose alternates in case some subsequently decline the appointment, assuming that they have not previously indicated their willingness to accept. Each party may be reluctant to choose names from a list of people who have already been contacted by the other Party.

For a three- person DAB, the Employer and the tenderer may each propose one member, similar to the above procedure, for the tenderer and Employer respectively to accept. For the chairman, the Employer (or the tenderer) could similarly propose suitable persons for the tenderer (or the Employer) to accept. It may be appropriate for the chairman's retainer fee to be more than of the other two members, reflecting the additional administrative tasks which a chairman will have to perform.

The appointment of the DAB may be facilitated, especially if the members are not to be appointed at the commencement of the Contract, by including an agreed list of potential members in the Contract: in a Schedule.

Alternatively, the Engineer may take these pre- arbitral decisions. This alternative, which has been the Engineer's traditional role in common law countries, may be appropriate if the Engineer is an independent professional consulting engineer with the experience and resources required for the administration of all aspects of the contract. The Employer should recognise that , although the Engineer generally acts for the Employer as specified in Sub-Clause 3.1(a), the Engineer will make these pre- arbitral decisions impartially and the Employer must not prejudice this impartially. If this alternative is considered appropriate, the Sub- Clause may be varied:

Example Sub- Clause For Pre-Arbitral Decisions By The Engineer

Delete Sub- Clause 20.2 and 20.3

Delete the second paragraph of Sub-Clause 20.4 and substitute;

The Engineer shall act as the DAB in accordance with this Sub-Clause 20.4, acting fairly, impartially and at the cost of the Employer. In the event that the Employer intends to replace the Engineer, the Employer's notice under Sub-Clause 3.4 shall include detailed proposals for the appointment of a replacement DAB.

Sub-Clause 20.5 Amicable Settlement

The provisions of this Sub-Clause are intended to encourage the parties to settle a dispute amicably, without the need for arbitration: for example, by direct negotiation, conciliation, mediation, or other forms of alternative dispute resolution. Amicable settlement procedures often depend, for their success, on confidentiality and on both

Parties' acceptance of the procedure. Therefore, neither Party should seek to impose the procedure on the other party.

Sub-Clause 20.6 Arbitration

The Contract should include provisions for the resolution by international arbitration of any disputes which are not resolved amicably. In international construction contracts, international commercial arbitration has numerous advantages over litigation in national courts, and may be acceptable to the Parties.

Careful consideration should be given to ensuring that the international arbitration rules chosen are compatible with the provisions of Clause 20 and with the other elements to be set out in the Appendix to Tender, The Rules of Arbitration of the International Chamber of Commerce (the 'ICC', which is based at 38 Cours Albert 1^{er}, 75008 Paris, France) are frequently included in international contracts. In the absence of specific stipulations as the number of arbitrators and the place of arbitration, the international Court of Arbitration of the ICC will decide on the number of arbitrators (typically three in any substantial construction dispute) and on the place of arbitration.

If the UNCITRAL (or other non- ICC) arbitration rules are preferred, it may be necessary to designate, in the Appendix to Tender, an institution to appoint the arbitrators or to administer the arbitration, unless the institution is named (and their role specified) in the arbitration rules. It may also be necessary to ensure, before so designating an institution in the Appendix to Tender, that it is prepared to appoint or administer.

For major projects tendered internationally, it is desirable that the place of arbitration be situated in a country other than that of the Employer or Contractor. This country should have a modern and liberal arbitration law and should have ratified a bilateral or multilateral convention (such as the 1958 New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards), or both, that would facilitate the enforcement of an arbitral award in the states of the Parties.

It may be considered desirable in some cases for other Parties to be joined into any arbitration between the Parties, thereby creating a multi- party arbitration. While this maybe feasible, multi- party arbitration clauses require skilful drafting, and usually need to be prepared on a case – by- case basis. No satisfactory standard form of multi- party arbitration clause for international use has yet been developed.

DISPUTE ADJUDICATION AGREEMENT

(For a one-person DAB)

Name and details of Contract _____
Name and address of Employer _____
Name and address of Contractor _____
Name and address of Member _____

Whereas the Employer and the Contractor have entered into the Contract and desire jointly to appoint the Member to act as sole adjudicator who is called the “DAB” .

The Employer , Contractor and Member jointly agree as follows :

1. The conditions of this Dispute Adjudication Agreement comprise the “General Conditions of Dispute Adjudication Agreement” , which is appended to the General Conditions of the “Conditions of Contract for Construction” First Edition 1999 published by the Fédération Internationale des Ingénieurs-Conseils (FIDIC) , and the following provisions. In these provisions , which include amendments and additions to the General Conditions of Dispute Adjudication Agreement , words and expressions shall have the same meanings as are assigned to them in the General Conditions of Dispute Adjudication Agreement.

2. (Details of amendments to the General Conditions of Dispute Adjudication Agreement , if any. For example :

In the procedural rules annexed to the General Conditions of Dispute Adjudication Agreement , Rule _ is deleted and replaced by : “...”)

3. In accordance with Clause 6 of the General Conditions of Dispute Adjudication Agreement , the Member shall be paid as follows.

A retainer fee of _____ per calendar month ,
Plus a daily fee of _____ per day

4. In consideration of these fees and other payments to be made by the Employer and the Contractor in accordance with Clause 6 of the General Conditions of Dispute Adjudication Agreement , the Member undertakes to act as the DAB (as adjudicator) in accordance with this Dispute Adjudication Agreement.

5. The Employer and the Contractor jointly and severally undertake to pay the Member , in consideration of the carrying out of these services , in accordance with Clause 6 of the General Conditions of Dispute Adjudication Agreement.

6. This Dispute Adjudication Agreement shall be governed by the law of _____

SIGNED by : _____ SIGNED by : _____ SIGNED by : _____

For and on behalf of the Employer for and behalf of the Contractor the Member in the
In the presence of in the presence of presence of

Witness : _____	Witness : _____	Witness : _____
Name : _____	Name : _____	Name : _____
Address : _____	Address : _____	Address : _____
Date : _____	Date : _____	Date : _____



DISPUTE ADJUDICATION AGREEMENT

(For each member of a three-person DAB)

Name and details of Contract _____
Name and address of Employer _____
Name and address of Contractor _____
Name and address of Member _____

Whereas the Employer and the Contractor have entered into the Contract and desire jointly to appoint the Member to act as one of the three persons who are jointly called the “DAB” (and desire the Member to act as chairman of the DAB) .

The Employer , Contractor and Member jointly agree as follows :

1. The conditions of this Dispute Adjudication Agreement comprise the “General Conditions of Dispute Adjudication Agreement” , which is appended to the General Conditions of the “Conditions of Contract for Construction” First Edition 1999 published by the Fédération Internationale des Ingénieurs-Conseils (FIDIC) , and the following provisions. In these provisions , which include amendments and additions to the General Conditions of Dispute Adjudication Agreement , words and expressions shall have the same meanings as are assigned to them in the General Conditions of Dispute Adjudication Agreement.
2. (Details of amendments to the General Conditions of Dispute Adjudication Agreement , if any. For example :

In the procedural rules annexed to the General Conditions of Dispute Adjudication Agreement , Rule _ is deleted and replaced by : “...”)
3. In accordance with Clause 6 of the General Conditions of Dispute Adjudication Agreement , the Member shall be paid as follows.

A retainer fee of _____ per calendar month ,
Plus a daily fee of _____ per day

4. In consideration of these fees and other payments to be made by the Employer and the Contractor in accordance with Clause 6 of the General Conditions of

Dispute Adjudication Agreement , the Member undertakes to serve , as described in this Dispute Adjudication Agreement , as one of there persons who are jointly to act as the DAB .

5. The Employer and the Contractor jointly and severally undertake to pay the Member , in consideration of the carrying out of these services , in accordance with Clause 6 of the General Conditions of Dispute Adjudication Agreement.

6. This Dispute Adjudication Agreement shall be governed by the law of _____

SIGNED by : _____ SIGNED by : _____ SIGNED by : _____

For and on behalf of the Employer	for and behalf of the Contractor	the Member
In the presence of	In the presence of	in the presence of

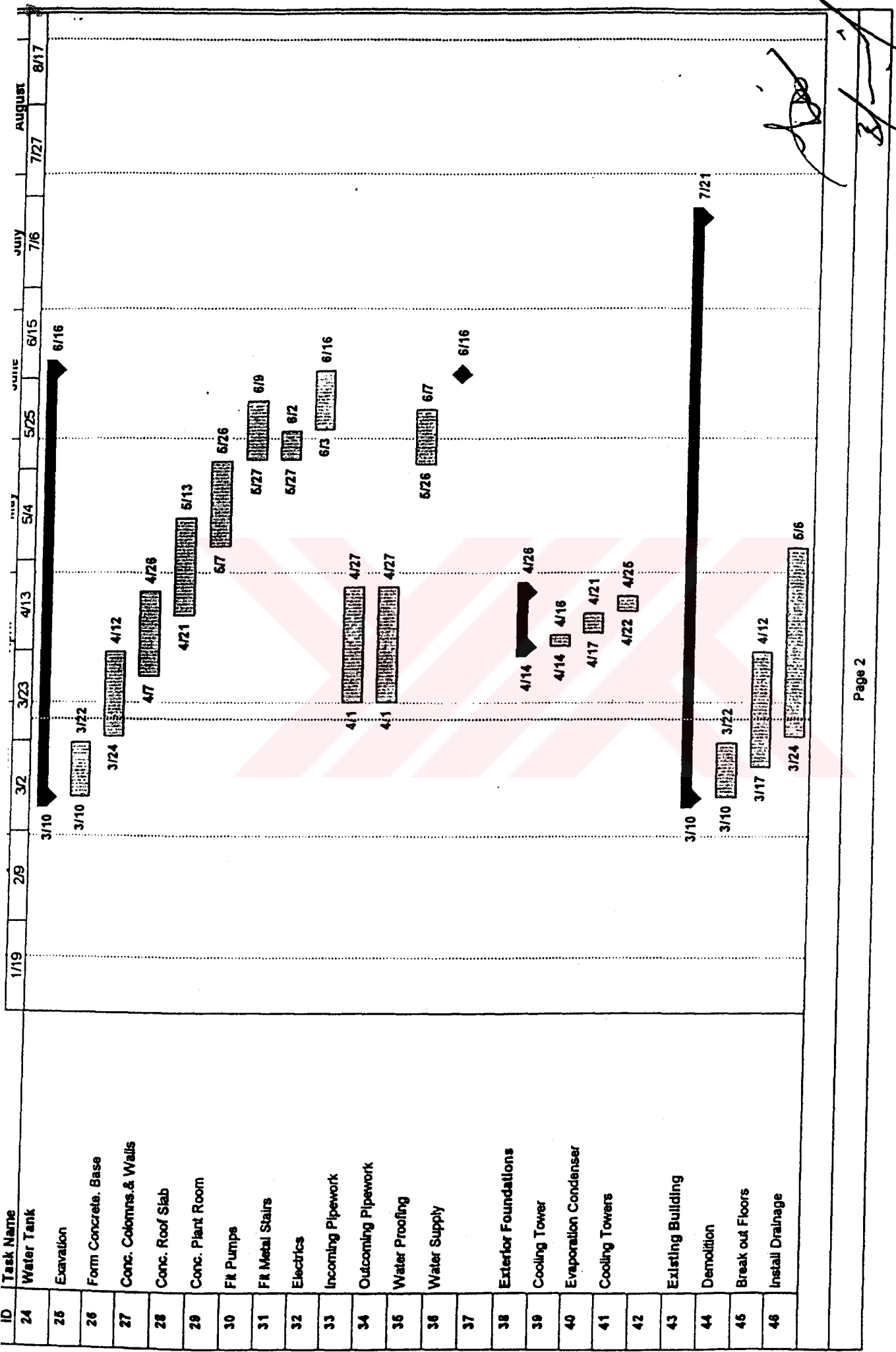
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Name : _____	Name : _____	Name : _____
Address : _____	Address : _____	Address : _____
Date : _____	Date : _____	Date : _____

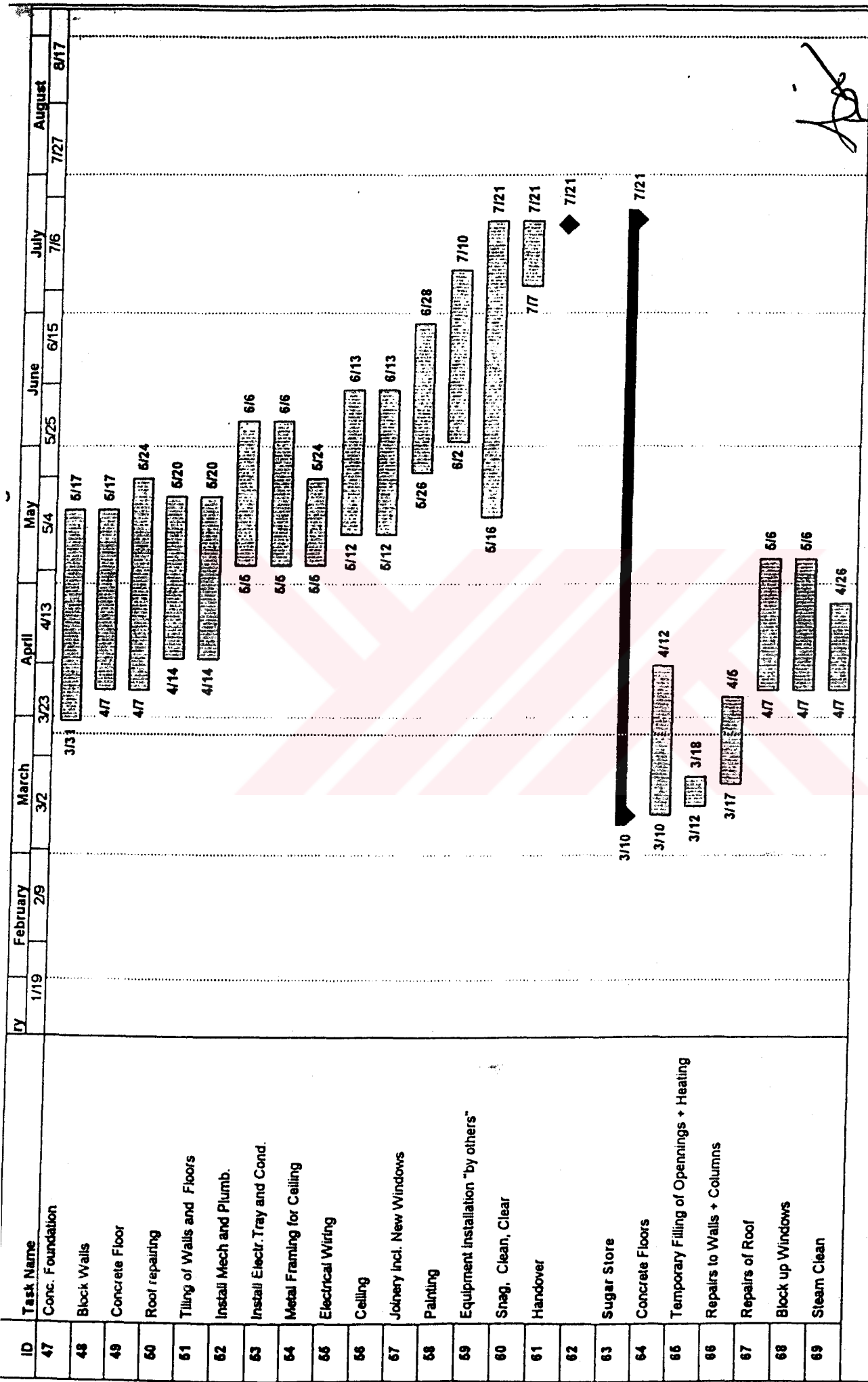
APPENDIX [2]

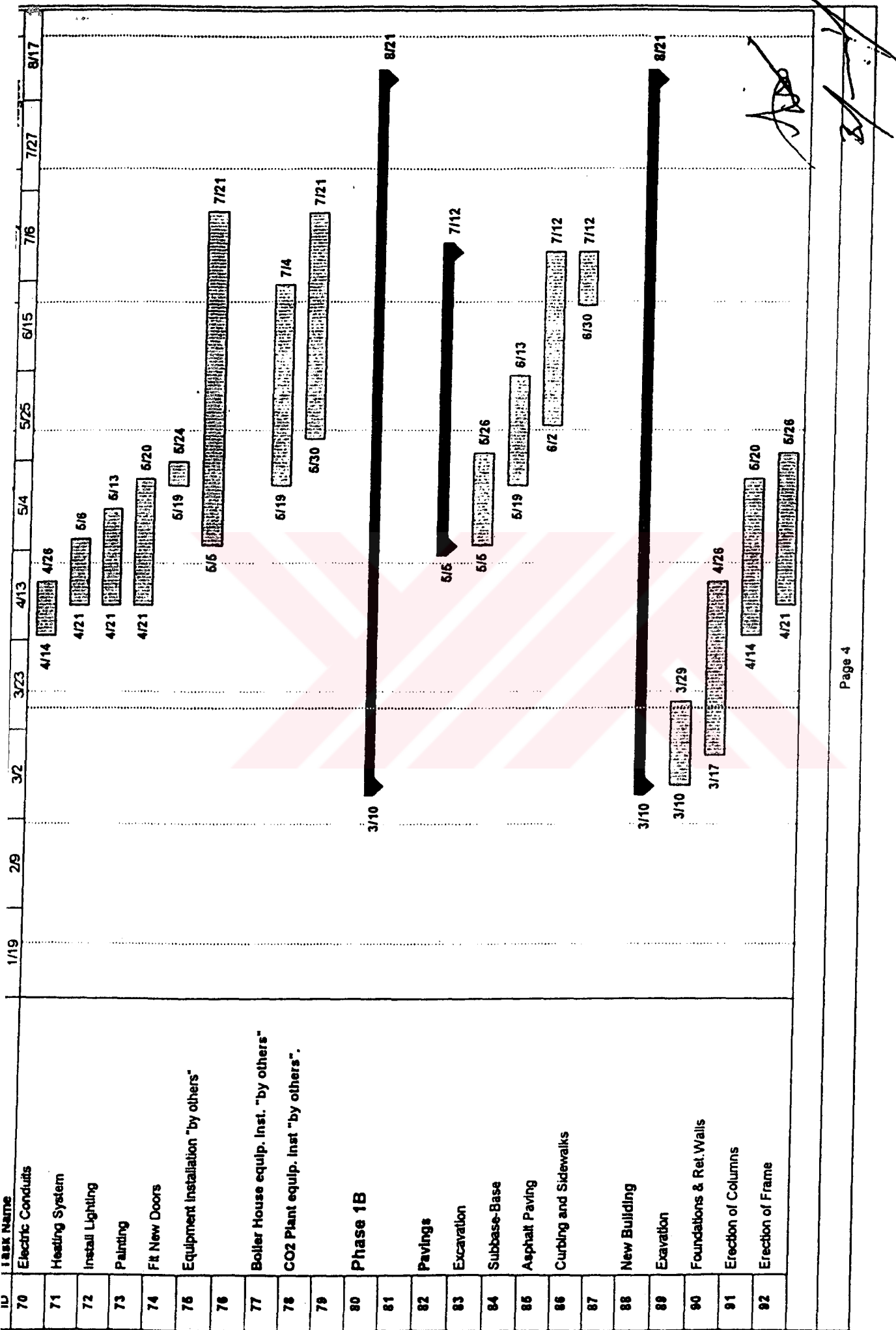
The Signed Master Time Schedule and Effect Of Delays On All Project As a
Schedule

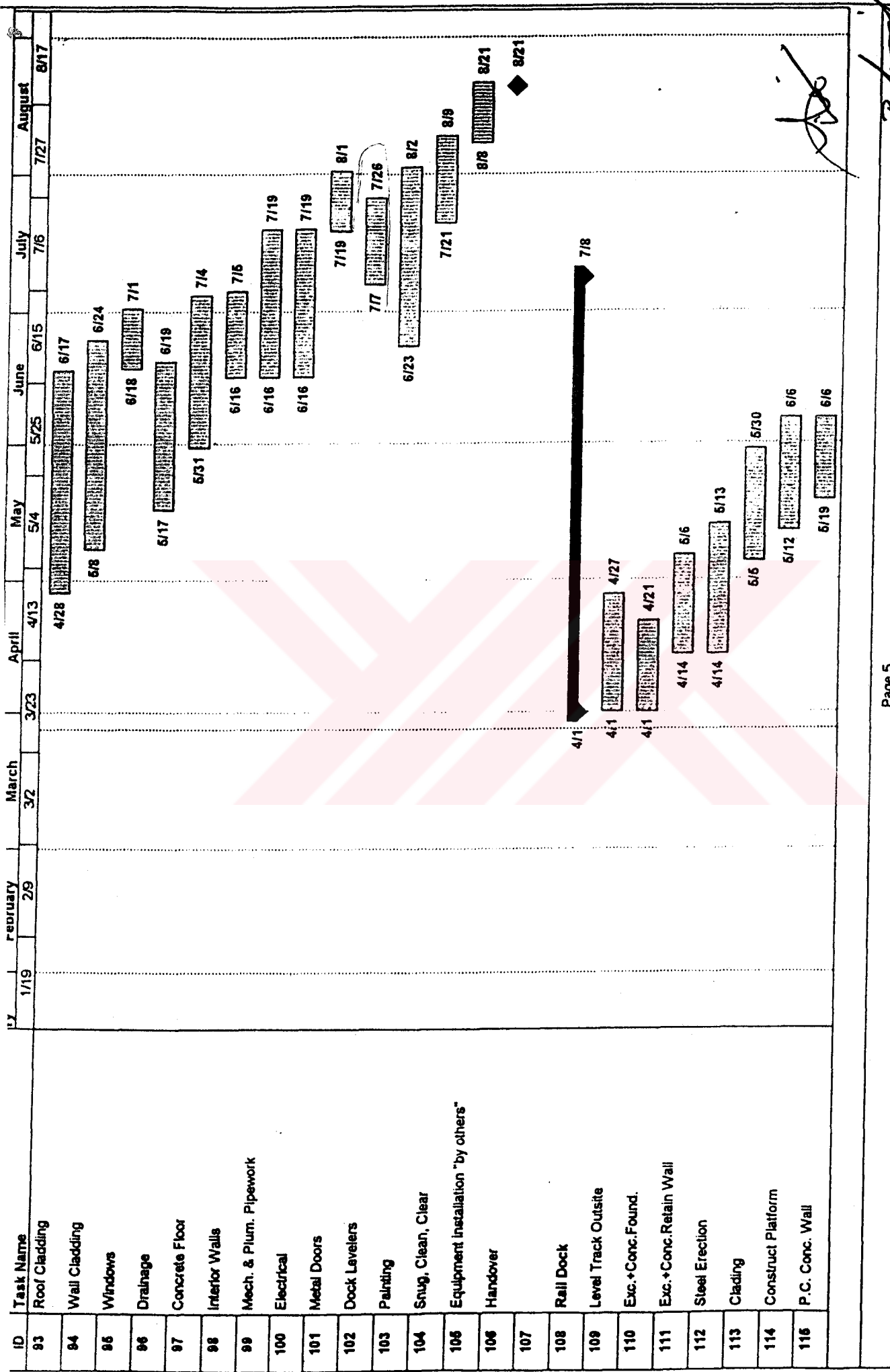


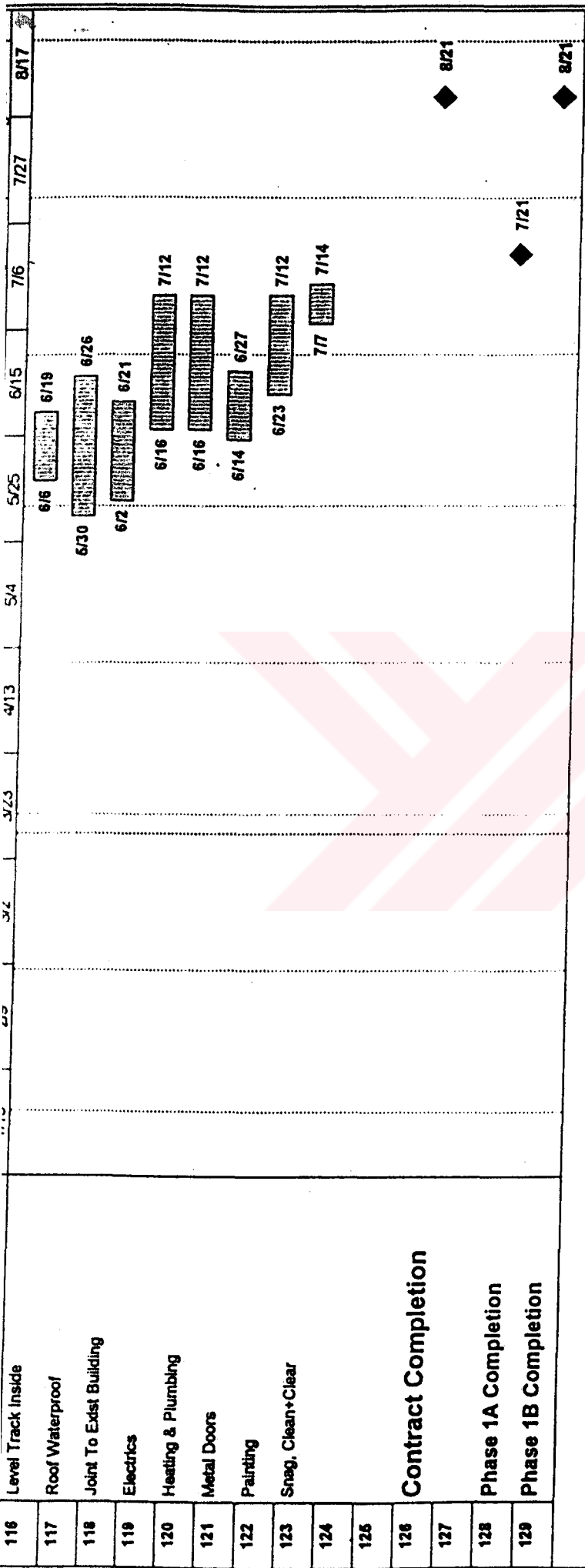
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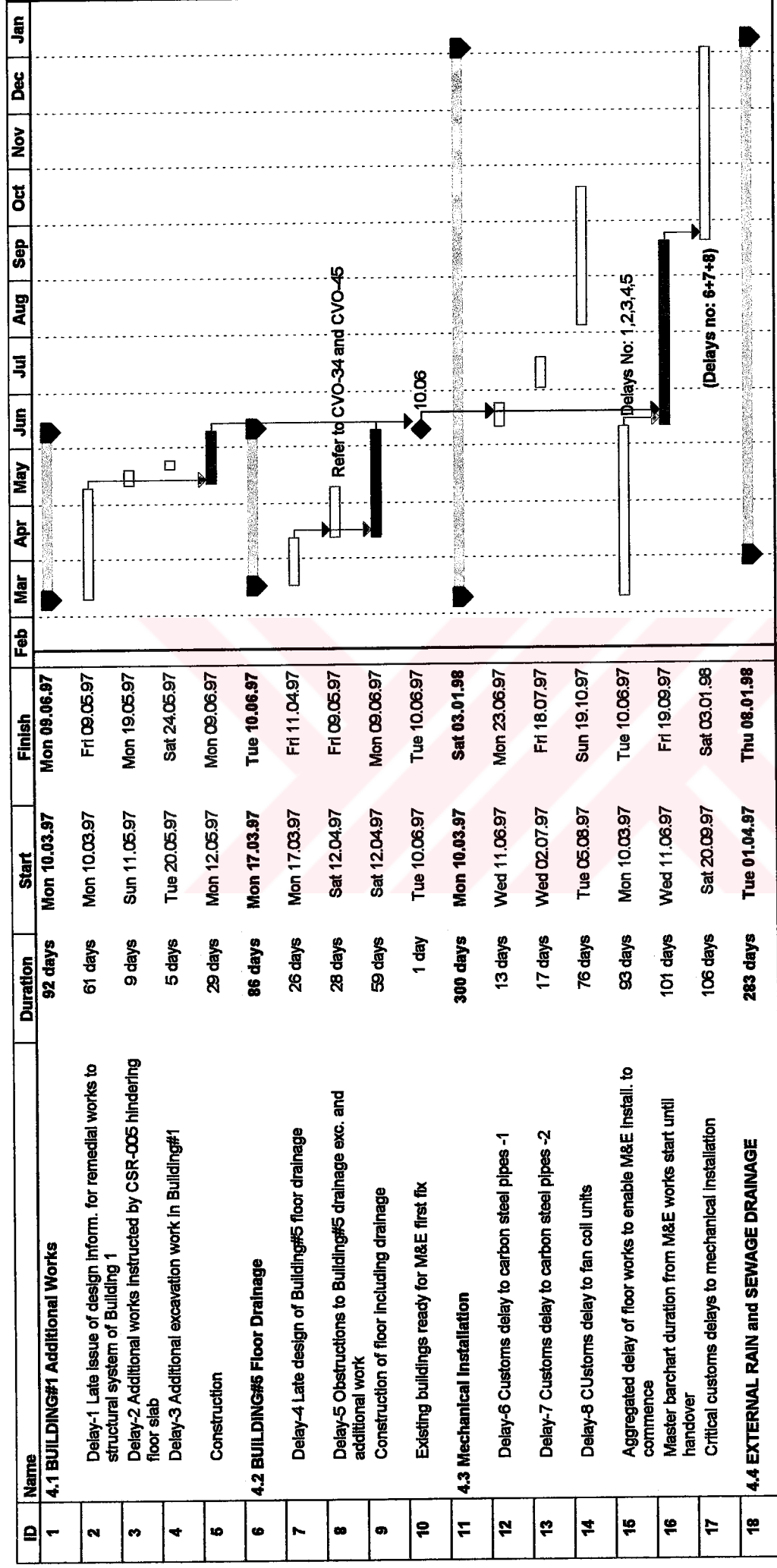






Handwritten signatures and initials.

PEPSI - EKATERINBURG PROJECT
4.0 EFFECT OF DELAYS on OVERALL PROJECT



Project: PEPSI - EKATERINBURG PR
Date: Sat 07.07.01

Task

Critical Task

Progress

Milestone

Summary

Rolled Up Task

Rolled Up Critical Task

Rolled Up Milestone

Rolled Up Progress

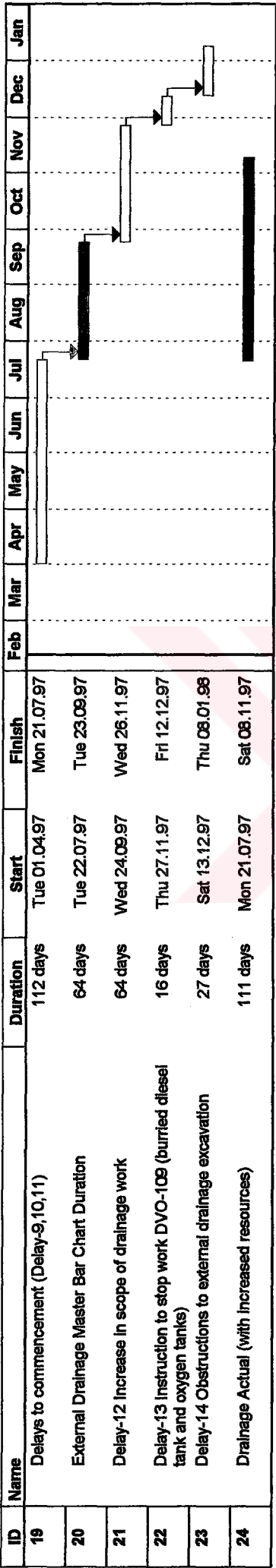
External Tasks

Project Summary

Split

Rolled Up Split

PEPSI - EKATERINBURG PROJECT
4.0 EFFECT of DELAYS on OVERALL PROJECT



Task

Critical Task

Progress

Milestone

Summary

Project Summary

Split

Rolled Up Split

Project Summary

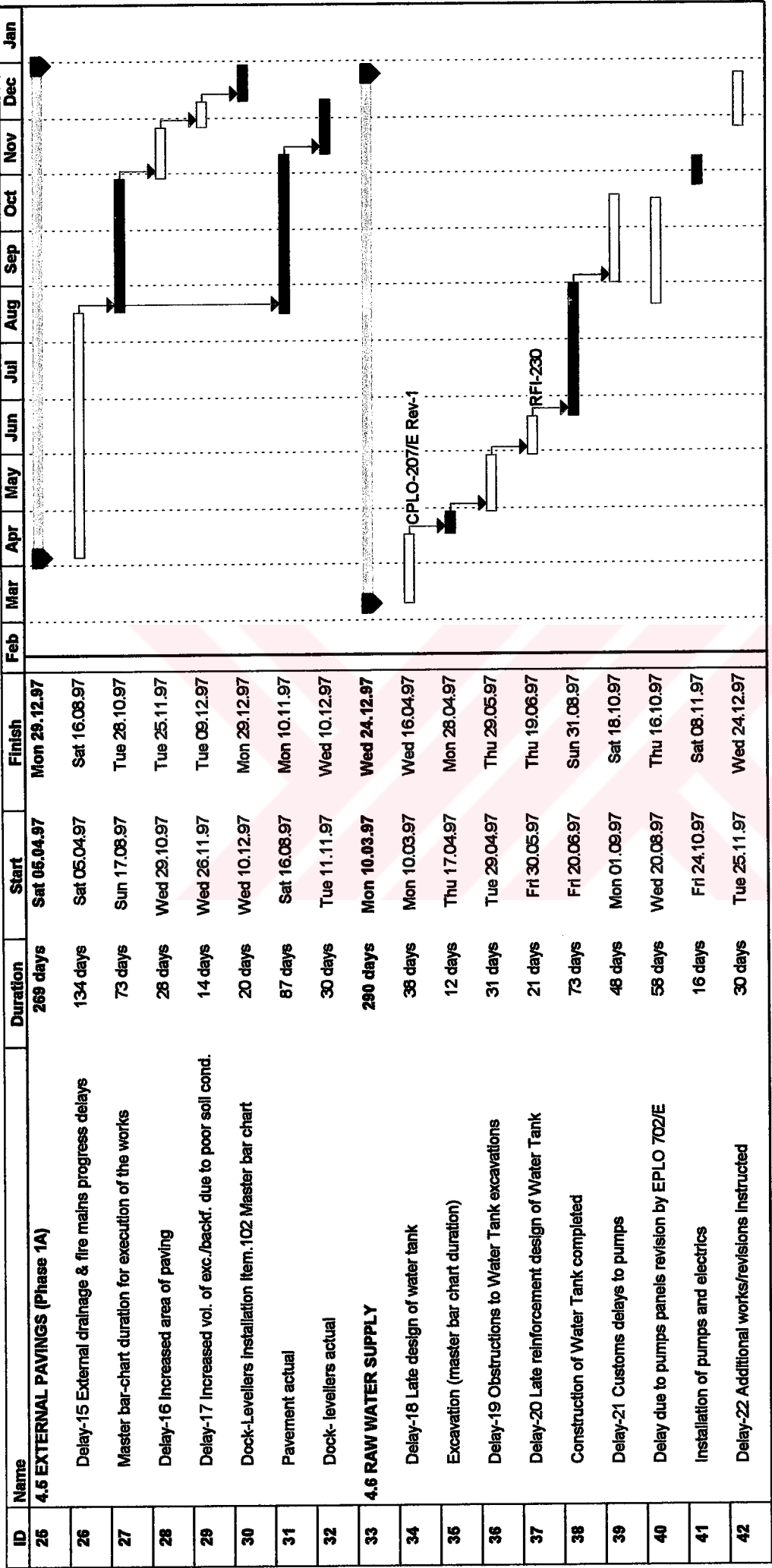
Split

Rolled Up Split

Project: PEPSI - EKATERINBURG PR

Date: Sat 07.07.01

4.0 EFFECT OF DELAYS on OVERALL PROJECT



Task

Critical Task

Progress

Milestone

Summary

Rolled Up Task

Rolled Up Critical Task

Rolled Up Milestone

Rolled Up Progress

External Tasks

Project Summary

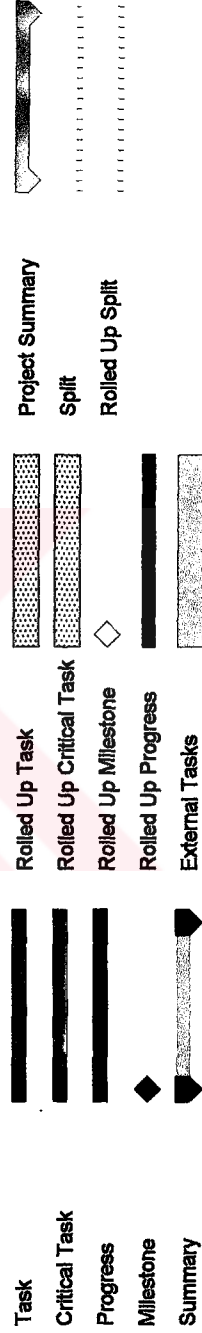
Split

Rolled Up Split

REPORT - EKATERINBURG PROJECT

4.0 EFFECT of DELAYS on OVERALL PROJECT

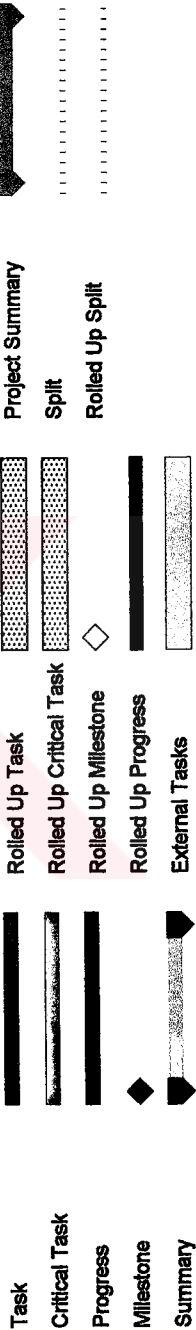
ID	Name	Duration	Start	Finish	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
43	4.7 Waste Water Treatment Plant and Drainage Connections	201 days	Thu 06.06.97	Mon 22.12.97												
44	Delay-23 Instruction to construct WWTP	201 days	Thu 05.06.97	Mon 22.12.97												
45	4.8 Delays to Other Activities	208 days	Sat 31.06.97	Wed 24.12.97												
46	Delay-24 Aggregated delays to Electrical Installation	82 days	Fri 22.08.97	Tue 11.11.97												
47	Delay-25 Aggregated delays to Building#7	105 days	Fri 22.08.97	Thu 04.12.97												
48	Delay-26 Mezzanine construction in Building#7	93 days	Tue 23.09.97	Wed 24.12.97												
49	Delay-27 Customs delay-1 to acid resistant tiles	24 days	Sat 31.05.97	Mon 23.06.97												
50	Delay-28 Late revisions to Blow Moulding	68 days	Sat 05.07.97	Wed 10.09.97												



Project: PEPSI - EKATERINBURG PR
Date: Sat 07.07.01

PEPSI - EKATERINBURG PROJECT
4.0 EFFECT of DELAYS on OVERALL PROJECT

ID	Name	Duration	Start	Finish	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
51	SUMMARY	318 days	Mon 10.02.97	Wed 24.12.97												
52	Contracted duration	193 days	Mon 10.02.97	Thu 21.08.97												
53	Time extension claim due to the effect of delays (no:1 to 28)	125 days	Fri 22.08.97	Wed 24.12.97												
54	Practical completion date	1 day	Wed 24.12.97	Wed 24.12.97												



BIOGRAPHY

H. Gürhan Üstün was born in 27.09.1976 in Denizli. After he completed his education in Denizli Anatolian High School he attended İstanbul Technical University Civil Engineering Faculty in 1995. His undergraduate thesis was about “Joint Ventures”. He attended Construction Management graduate program in the same faculty in 1999.

He began working in Soyak International Construction & Investment Inc. in 2000. He works here as a value and planning engineer in bidding department. He knows English. He can use Basic, Fortran, Ms. Project 98, Access, Primavera. He attended and completed “Programming with Microsoft Access for Win95”, “Access 97 Intro”, “Microsoft Project 98 Complete” seminars successfully. Taking photographs and dancing are some of his hobbies.