



¹ Abdelnaser OMRAN, ² Abdul Aziz HUSSIN

MINIMIZING THE UNNECESSARY COSTS ON SITE

¹⁻²SCHOOL OF HOUSING, BUILDING & PLANNING, UNIVERSITI SAINS MALAYSIA, MINDEN, PULAU PINANG, MALAYSIA

ABSTRACT: There are numerous causes of unwanted costs in site. Often times these costs come camouflaged as claims and others come in the form of cost overruns incurred due to extended stay on site beyond the planned time. These costs could be triggered by either party to the contract or their representatives. This paper is attempted to identify the unnecessary costs in construction sites in Malaysia.

KEYWORDS: Minimizing, Unnecessary costs, cost overruns, construction site, Malaysia

❖ INTRODUCTION

The construction industry is one of the numerous industries that keep every economy of the world going. It contributes to the economy of every nation in various ways that the health of the industry is of utmost importance to all stakeholders. The construction industry in terms of size is only second to agriculture (Werna, 2009). The construction industry is the silent philanthropist in every economy of the world as it provides employment to every class of human being ranging from the most educated through the least educated to those classes of people with specialists skills and those with none. Hinze (2001) indicated that the construction projects are relatively complex and generally are completed through the combined efforts of different crafts, thereby creating jobs for a wide variety of craftsmen. The industry is of such significance that it appear too times in the national account first under GDP and then under capital formation, and is used by some government to control the economy. The uniqueness of the industry did not escape. Toh (1988) who observed that it is the only industry that appears two times in the national account; under Group Domestic Product (GDP) and also under Capital Formation. It is also one of the few sectors of the economy that is included in the quarterly and annual statement of national account. It is often advocated that construction should be used by governments to assist in stabilizing the economy' When there is too much money in circulation the government cuts down on its capital projects and during recession the government stimulates the economy by increasing spending through commissioning of large construction and infrastructural development as evidenced by the recent Malaysian government stimulus package. The government stimulus package of RM 7 billion, apportioned RM 4 billion for infrastructural development this it did because construction work stimulates demand for 86 intermediate products and commodities (CIDB Malaysia) and this generates a "ripple effect" causing economic activates to be set in motion.

Table1. Malaysian Input-Output Tables 2000,
Dept of Statistics

| Activity | Value | Number of Commodity |
|--------------------------|-----------------|---------------------|
| Oil and fat factory | RM 23.9 billion | 71 |
| Petrol and coal industry | RM 16.5 billion | 59 |
| House hold factory | RM 14.1 billion | 66 |
| Radio, tv etc. factory | RM 30.9 billion | 44 |
| Building, construction | RM 19.6 billion | 86 |

passengers per year. It is expected to be completed by March 2011. It also announced a US\$831.2million mixed golf course and residential development called Mines Golf City. The development, located near Bukit Beruntung would eventually feature a 63-hole golf course, the largest in the country.

To further keep the industry healthy in respect of its contribution to the national economy, in December 2008, the government approved a new US\$443million low cost carrier terminal to be built in Labu. The new terminal would be called KLIA East at Labu and be built with financing from Sime Darby Bhd. The airport would have parking places for 70 planes and a terminal capacity of 30 million

In addition to the residential bungalows and property lots being offered for sale, the site would also include a golf academy, a health clinic and spa, an international school, an equestrian academy, a diving academy, a country retail mall and a world-class entertainment centre. Construction is expected to be completed sometime in 2015. Another unique attribute of construction work is that it consists mainly of the assembly of materials through labor on the site generating demand from suppliers and employment per the population. Financing for construction work comes from taxes for public projects and bank loans for private projects and each project is meant for specific users and when a project is initiated its completion date is also stated creating an anticipation in the mind of the proposed occupants or users. However projects do not always progress as desired they are either delayed not meeting time, of low quality not meeting specification and often exceed stipulated budget. Though all projects stakeholders hold different views about what they consider as success factors, over the years all their views have been synthesized by scholars, researchers and industry players to 3 basic success factors namely delivering projects to time, quality and within budget. In the cause of construction work costs which were not provided for or anticipated sometimes comes up, most resulting essentially from neglecting of the potential of the contract. Construction contracts are unique in that they recognized beforehand the existence of “unforeseen” conditions that can impact on the project in terms of cost, time and quality and have made due provision on how such “unforeseen” issues would be dealt with in the contract conditions. The cause of these extra costs is not limited to one party alone; it could be caused by the architect, the contractor or the owner. Most disputes are caused by the owner (Hinze, 2001).

❖ CLAIMS AND DISPUTES

Five principle of contract administration (Fisk, 2000):

1. Construction contracts are subjected to broader principle of interpretation than most other contracts.
2. The courts are frequently unfamiliar with the specialized rules that have evolved in the construction industry and often rely upon the testimony of experts in the subject area to guide them in forming decisions.
3. A written contract is mainly a form of documentation of the conditions agreed upon by the parties.
4. If every written contract was clear, unambiguous and complete, the rules of contract interpretation would be unnecessary, as the intent and understanding of the parties would be self evident.

In any construction contract, it is almost inevitable that the written documents will not adequately address every single matter. There may be gaps, conflicts and subtle ambiguities.

❖ PRINCIPLES OF CONTRACT INTERPRETATIONS

- ❖ The document must be read as a whole often in a construction dispute, each party concentrates on some narrow provision of the specifications, general conditions or drawings that seem to support his or her position.
- ❖ The document will be construed against the party that drafted the agreement. There may be latent ambiguity, the contract may be subject to more than one reasonable interpretation and a court is often faced with the burden of choosing between the two. In such a situation, the document is interpreted in favor of the party that did not draft the document. The reasoning behind this principle is that the party that drafted the document had ample opportunity to avoid ambiguity and clearly express the intended meaning but failed to do so. Although not necessarily so in all cases, contracts are usually prepared by owners/Architect/Engineers, and subcontracts are usually prepared by the prime contractor.
- ❖ The document supersedes all previous discussions. The written document is presumed to constitute the entire agreement. Basically, the rule is that the document speaks for itself. Oral evidence is permitted to determine the intended meaning of the parties. This is a well known exception to the “parol evidence rule”. After hearing the expert testimony, the final interpretation of the contract will probably be decided based upon the respective credibility of each party’s expert testimony.
- ❖ Specific terms govern over general term. Sometimes there will be a conflict between two different provisions of a written agreement. The courts rule that the more specific terms should govern over the general terms. The reasoning behind this is that a narrowly drafted provision was customized to fit a specific situation and thus reflects more accurately the party’s intentions. On construction contracts, this is often applied by making handwritten or typewritten provisions prevail over conflicting provisions found in the pre-printed sections of the contract. Similarly, job-specific supplementary general conditions will prevail over the general conditions; and
- ❖ The document must be read in the context of the trade. If a word or phrase has a commonly accepted meaning in the construction industry, that meaning must be applied when reading and interpreting construction contracts.

❖ CONSTRUCTION CONTRACTS

A contract is an agreement usually between two parties, which is enforceable by law. In some instances, there may be a third party agreement in which the benefit of the contract goes to a third party (Hinze, 2001). Construction contracts are unique in that they do not list all potential problems that could occur but they put in place instruments and guidelines for handling any issue that may come up during the complete of a project. There are times in which the parties to the contract may not agree on specific interpretation or the documents they both signed leading to disputes, disputes end usually resolved in the court and it takes a lot of time, this has caused the construction industry to evolve a faster means of settling disputes as “time means money” (Abdul-Rahman et al., 2006). Arbitration is a faster means of dispute resolution in the construction industry, one of the major advantages is time, as most participants in the process are construction industry players who know how the industry operates. Even when construction disputes end up in litigation, professional from the construction industry are united as “experts witness” since most civil attorneys lack the specialized knowledge to the construction industry and its processes. The decision of Arbitration and litigation would often rely on the initial contract agreement, the general conditions and any specific condition to the contract. When litigations are pursued in court, the court will seek guidance in making the decisions; such guidance comes primarily from the court’s interpretation of statute law, the constitution and common law principles (Hinze, 2001). Essentially, when one party to a contract does not comply with the provisions of the agreement, then the contract is breached, though the extent of non-compliance may determine if the courts will regard non-compliance as a breach as evidenced by *Jacob and Youngs inc. V Kent (129 N.E. 889) 1921* (Hinze,27). *Jacob & Youngs* in constructed a residential building for George E. Kent in 1914 around June, Kent moved in and did not encounter any problems with the structure until march 1915 when the plumbing developed a problem, investigation then revealed that the contractor did not use the specified type of pipes. In court the contractor contended that the pipes he used were of the same quality, appearance and cost as the one specified. The court ruled in favour of the contractor concluding that the omission of the prescribed pipes used neither fraudulent nor willful. Much of the court’s decision was based on the high cost of replacing the pipes versus the actual difference in value between the two types of pipes which was determined to be nominal or nothing. The court decided that the contractor had not been breached (Hinze, 2001), even though the contractor did not used the specified pipes.

The above goes to show that, it is better that both parties understand each other and the Resident Project Representative should also be conscious of his responsibility on the site. Since neither party to the contract appointed the presiding judge, they cannot on their own. Decide in which direction the case will go. After everything, the claims consultant and lawyers will collect their fees, which both parties go back to site and continue spending money.

❖ CAUSES OF UNNECESSARY COSTS

There are numerous causes of unwanted costs in site. Often times these costs come camouflaged as claims and others come in the form of cost overruns incurred due to extended stay on site beyond the planned time. These costs could be triggered by either party to the contract or their representatives. Vidogah and Ndekugri (1997) observed that construction “claims are becoming a way of life and indeed an indispensable part of modern contract systems and are considered by many project participants to be one of the most disruptive and unpleasant events in a project (Ho and Liu, 2004). One important point to note however is that, even where claims are concerned, it is vital to file them early and follow the laid down procedure to achieve success, in the case of *Del Guzzi construction co Inc. v Global Northwest Ltd Inc and Balboa Insurance Co. (719 P 2.d 120)* shows the need to follow the terms of a subcontract, although various reasons were given for denying Global’s claim, the failure to file the claim in a timely fashion was the most damaging to its case against the county (Hinze, 2001). Zanelidin (2006) stated that claims are common in construction projects and can happen as a result of several reasons that can contribute to delaying a project and/or increasing its cost.” It has already been ascertained however, there are other unforeseen cost that emanate not from delay situation. All unnecessary costs on site come cloaked as claims, so essentially the causes of claims will be addressed according to the party responsible for its occurrence.

❖ USE OF EXCULPATORY CLAUSES

Sometimes, some legal counsels or attorneys use exculpatory clauses to relieve their clients of any responsibility for anything including the negligence of their own personnel” (Fisk, 2000). These are some of the things the contractor or any third party has to look out for in any agreement. Though, most exculpatory clauses are intended to “prevent the contractor from knowingly exploiting any errors or omissions the contractor may have become aware of to the detriment of the owner (Fisk, 2000). They could also be used against the contractor to his detriment. Some courts view exculpatory clauses on the basis of what is equitable to both parties as well as the specific language of the clauses, but

some also apply the harsh terms of the clause like the case of *Kalisch-Jarcho, Inc. v City of New York Ct. App. N.Y* (march 29, 1983) the Kalisch-Jarcho, Inc accepted a contract from the City of New York with an Exculpatory Clause that it would not claim damages for delays, unfortunately, a delay of 28 months occurred in the process and he wrote claiming damages and was refused based on the agreement, Kalisch-Jarcho, Inc then took the matter before the courts where the trial judge relying on “what is equitable to all parties” awarded Kalisch-Jarcho, Inc \$ 1 million damages but the decision was reversed upon appeal (Fisk, 2000). The court found that the exculpatory clause protected the City from a claim of damages as there was no evidence that the delay had been intentional. This uncertainty of which direction the courts would look at makes it imperative for a proper risk management, identification and allocation or acceptance by a contractor of utmost importance before the agreement is signed. One exculpatory clause from another contract looks like this:

“The contractor shall give all notices required by law and shall comply with all laws, ordinances, rules and regulations pertaining to the conduct of the work. The contractor shall be liable for all violations of the law in connection with work provided by the contractor”

The import of the above clause is that the contractor shall be liable for the owner and designer’s negligence or faults if any contravenes the law, for building the project in accordance with the plans and specifications provided by the Architect. Naturally and contractually, it is the responsibility of the Designer to prepare plans and specifications that comply with all applicable laws but using the above exculpatory clause the responsibility is heaved on the contractor.

❖ CHANGES ORDER Vs NEW CONTRACT

Most construction contracts will stipulate that changes be initiated by written change order. If a change is directed orally, another interpretation may give the contractor some relief. Suppose the owner approaches the contractor and verbally orders certain work be performed and the contractor performs the work. And when the contractor requests payment, the owner refuses citing that all change orders must be in writing. The contractor then sues not asking claims for a change order, instead claiming that he entered into a verbal contract with the owner, citing the verbal directive as an offer and his performance of the work as acceptance, and then a contract had been entered and consummated on this ground. This will then be considered as a new and separate contract with the criteria of offer and acceptance having been satisfied. This much was seen in *Majestic Builders corp. v Mount Airy Baptist Church Housing Corp., Inc* (430 F. SUPP. 1376). Majestic was a general contractor on a housing scheme financed by Mt. Airy which had obtained a mortgage for the project. Owing to site conditions, the foundations had to be supported by caissons not included in the original contract. A formal change order was issued, however Mt Airy was not able to increase its mortgage to include the cost of the additional work, hence their refusal to pay for the added work. Majestic then sued, the court agreed with majestic and stated that the contractor (Majestic) was being asked to perform work that it had no obligation to perform under the original contract.

❖ TORTS/NEGLIGENCE

Torts are disputes that relate to matters not addressed by statutory law or contract obligation (Hinze, 2001). They are usually wrongs committed against others that do not involve contracts, these wrongs or breach of duties may result from injury or damages incurred by one party as a result of the action or inaction of another party who had a duty to prevent the injury or damage. A tort can result from a specific action or can be caused by a failure to act. In most cases torts are offense against a person that does not involve a crime or the violation of a law. Torts can arise from damage or injury caused by failure to act with proper standard of care, standard of care is broadly interpreted as conduct that is expected of someone acting in a give capacity (Hinze, 2001). For all professionals in the construction industry, the standard of car is essentially the conduct that can reasonably be expected of other professionals in a similar situation, meaning that a designer cannot be blamed should a tsunami bring down a building which he designed or similar occurrences beyond human control. The issue of negligence also arises in many tort cases and the definition of tort is often applied to negligence suits (Hinze, 2001). Negligence arises when a legally protected interest is overtly invaded or violated in some way. The responsibility of designers for example was amplified in the case of *Rosos Litho Supply Corp., et al v Richard T. Hansen* (462 NE.2d 566). Facts of the case, Hansen an Architect was to design an addition to a structure for Rosos, who is a general contractor. The sequence of the work was such that after the fill was completed, then the structural frame would then be constructed and after the roof was in place before the concrete slab would be constructed. The fill was exposed to elements of weather for 3 months and snow was shovelled into some parts of the fill, the contract required that soil test be carried out before the slab was constructed but this was overlooked by the Architect, Hansen. After completion, the concrete slab began to crack and displacement occurred; Hansen was sued by Rosos on the grounds that Hansen did not exercise a standard of care in regard to the fill. Hansen on the other hand argued that as a professional he did not guarantee perfect plans or satisfactory results. The court ruled that the negligence of Architects was recoverable since they “hold

themselves out and offer services to the public as experts in their line of endeavour". They become liable for professional negligence when they fail to exercise the level of skill that is required. Hansen was liable for damages sustained in the concrete slab.

❖ NON-COMPLIANCE PROVISIONS OF THE CONTRACT

The client usually enters into a contract with the designer/architect to design after which a bid process results in the selection of a suitable contractor. The owner then enters into a contract directly with each prime contractor, who will then be responsible directly to the owner or the owner's designated representative for building the project in accordance with the plans, specifications and local laws (Fisk, 2000). But often times, designers and contractors alike overlook such provisions governing construction contract and these results in litigations, disputes and claims. And as has already been established, in the business of construction, time means money. The case of John F. Miller company Inc. v George Fichera construction (388 N.E.2d 1201) gives some indication of the strength of contract provisions. The case involved some plumbing work that did not comply with state plumbing codes that was subcontracted to miller. When it was time for miller to perform his work, he refused to install the plumbing work as originally designed citing the non compliance with state codes thereby delaying the construction work and so Fichera sought damages observing that Miller should have pointed out the non-compliance before bidding. However miller contended that it was the he was not obliged to perform work not conforming to state codes. The Architect refused to approve the substitute design provided by miller until he submitted shop drawings. Miller felt that the issue of shop drawings was the responsibility of the Architect. However during litigation proceedings, the court based its judgment on the wordings of the contract. It ruled against miller stating that miller could have satisfied the code by making a few simple changes. It also observed that even if miller submitted a superior design, "he had no right to ignore the general conditions or specifications of the contract". In other words "a party to a contract is not above complying with the contract no matter how just his or her cause may seem (Hinze, 2001).

❖ INJURIES ON CONSTRUCTION SITES

In the Illinois case of Miller v Dewitt (37Ill. 2d 273, 226 N.E 2d 630) where a steel roof had to be shored up while construction took place beneath it, the roof fell and injured a worker. In this case the court stated "as a general rule it had been said that the general duty to 'supervise the work' merely creates the duty to see that the building when constructed meets the plans and specifications contracted for" thus the court said under ordinary circumstances the Architect would not be regarded as a person in charge of work. But in the Dewitt case, the court added that despite the argument of the Architect that the shoring was "a method or technique of construction over which they had no control, we believe that under the term of the contract the Architect had the right to interfere and even stop the work if the contractor began to shore in unsafe and hazardous manner. In many cases the courts "seem to support the proposition that an architect/Engineer who has knowledge of a safety problem has a duty to the workers to prevent harm to them. Without the knowledge of a safety hazard, it appears that Architect /Engineers have no such duty to them (Fisk, (2000). All these end up causing unnecessary costs to the contractor and the owner.

Job related injuries are often the source of large court settlements, in Barry L. Husfloen et al v M.T.A Construction Inc et al (794 P.2d 859) Bill's Plumbing, the general contractor and owner of the site, awarded a subcontract to MTA to build the foundation for the project. MTA then subcontracted with Pumpcrete for placing concrete in forms around the job site. On the morning of February 18 1987, Barry L. Husfloen arrived the site and parked the concrete-pumping boom truck in a driveway directly underneath overhead power lines, after successfully placing the concrete and performing cleaning operations on the truck, Barry L. Husfloen mistakenly extended the boom vertically and made contact with the power lines and a 7,200 volts current energized the truck and caused injuries to Barry L. Husfloen. He then brought a suit against MTA and Bill's plumbing alleging they allowed him to perform work under unsafe conditions; they failed to get the power lines disconnected and failed to assist in folding up the boom on the truck. The courts agreed with Barry L. Husfloen and found that MTA and Bill's plumbing had a duty to comply with the safety regulations. Note that another party is not immune from suit simply because someone else elects to work in an unsafe manner.

❖ IMPROPER SUBCONTRACTING AGREEMENT

The terms of a subcontract form the legal document by which the relationship between the general contract and subcontractor is defined (Hinze, 2001), therefore inferences should not be made about the validity of matters that do not conform to the specific terms of the subcontract, though some terms may be waived as evidenced by past actions, this should not be the assumptions in most cases. The following cases should bear testimony to the importance of adhering to the terms of the subcontract. The terms of the subcontract should be properly understood by both parties involved in the contract. They should understand their various duties and obligations within the scope of what is required to be done. The case of Collins v Vlesko and Post (362 p.2d 325), where Vlesko and Post was awarded a general contract by the state of Oregon in the U.S to construct a state correctional facility

and Vlesko and Post awarded the plumbing and heating as a subcontract work to Collins who completed his work in August 1958 before the work was accepted in January 1959, another contractor damaged the steam pipe installed by Collins. Vlesko and Post brought this to Collins knowledge, Collins then went ahead to repair the damaged portion and requested payment for additional payment pointing out that the repair work was not within the scope of the original subcontract. But Vlesko and Post refused and Collins filed a suit claiming there was an implied promise to pay, but the courts saw things differently because the Oregon Supreme Court ruled in favour of Vlesko and Post. In its ruling the court stated that the work performed by Collins was work required to fulfill the obligations of the original contract, enforcing a subcontract provision where Collins had agreed to “be bound with the contractor by all the terms of the contract...” thus the repair work did not constitute a change to the original subcontract. The court also enforced the provision stating that “no extra work will be recognised or paid for unless pursuant to a written instruction from the contractor” and Collins on his part could not provide any evidence that the contractor promised to pay for the work and that urging him to repair the damage automatically implied they would pay for it. Finally, the work had not been accepted from Collins hence, it was assumed that he had not finished his work.

❖ CONFLICT DUE TO DRAWING AND SPECIFICATIONS

It should be brought out here that neglecting the specifications can lead to serious problem (Fisk, 2000). Therefore, the drawing should say one thing and the specification says otherwise, the specification should govern unless where it is noted in the specification that the drawing should govern. Thus, it is the specifications that set the controlling criteria. Normally, it is easy to determine the relative importance of one document over another, as most specifications specify the relative order of importance of the different parts of the contract documents in the general conditions of the construction contract. But in the absence of such provisions, the courts have repeatedly held that the provisions of the specifications will take precedence over the drawings in case of a conflict between the two. A good example is the Appeal of Florida Builders Inc. (ASBCA No. 9013, 69/2BCA8014) (1969). Therefore if the specifications are the most important single documents, the inspector can hardly perform in a competent manner without being thoroughly familiar with both the specifications and the construction drawings.

❖ DESIGNER CAUSED CLAIMS / CONTRACT AMBIGUITY

Often the problem starts in the design office” with tighter time constraints placed on designers by owners, the tendency for designers to omit items in plans or make wrong specifications becomes high (Fisk, 2000). However if there is ample time to review the drawings especially by the contractor before award, potential problems can be identified before construction start but this is seldom the case, creating a foundation for future disputes and claims. A majority of contractual claims and disputes arise out of poorly drafted or ambiguous Contract document (Fisk, 2000). The party drafting the contract agreement must ensure that the intent of the agreement can be easily understood. Therefore it’s either the designer shows the intent in the drawings and specifications or in a properly worded agreement. The position of the court, if issues of ambiguity are brought before it is that, it generally rules in favor of the party that did not draft the documents. This was illustrated in the case of Knier v. Azores construction Co. and Everett S.M Brunzell Corp. (368 P.2d 673). In this case Azores and Brunzell awarded a contract to Knier in which the painting specifications read “all interiors to have touch up work where patching or other damages occurs”, Knier complied but was denied payment. But in court Knier defended his position by saying he followed the painting specification and argued that Touching-Up is quite different from re-painting. The Supreme Court of the State of Nevada agreed with Knier. The client provision was general and did not specifically mention the painting requirements, but the painting specification were quite specific, Knier complied with the contract.

❖ SOVEREIGN IMMUNITY

Sometimes contractors do not study the laws governing those with whom they enter into contract. In some states in the U.S, Sovereign Immunity operates, this simply means that a government entity cannot be sued without its consent (Hinze, 2001), though, some states do not operate under this law since the courts in these states have opined that when government entities enter into a contract it means that it is their intent to be bound by the terms of the contract which they have entered into. Sovereign Immunity caused losses to contractors in the following cases *County Brevard v M.E.I* (703 S.2d 10490) where Sovereign Immunity was granted because the contract was not in writing, and in *Southern RoadBuilders v Lee County* (495 S.2d 189), Sovereign Immunity was granted to a state agency because the contractor failed to show or prove that the state agency had breached the contract. In all these, time is spent and lost including the cost of hiring claims consultants.

❖ ACCELERATION

When a contract is delayed and it is the intent of the party who is responsible for the delay to bring the contract back on schedule, acceleration is undertaken. Majority of all claims involve at least some elements of delay even if the primary issue is one of the other categories (Fisk, 2000) If the

owner was the cause of the delay and still wants the work to proceed as scheduled, he bears the costs of the acceleration and is referred to as Actual Acceleration. On the other hand if the delay occurred as a result of the contractor's own fault, and he accelerates the work because he was refused extension of time. However, it is often better to avoid anything that would end up in litigations or arbitration as the courts could render a narrow interpretation to the contract and someone is bound to loose, if not the client then the contractor. Clients should always try to listen and asses all contractors' complaints before telling them off. The contractors too should give the client time to respond before taking a legal action. The case of Continental Heller Corporation v US Government (GSBCA, No.6812) is a good example. Constructive acceleration was claimed in spite of the fact that a time extension was granted. Heller Corp was contracted on a project and due to extreme weather conditions, they applied for extension of time which was supposed to be granted, given the fact that other sources confirmed the weather problem, when no response came, Heller assumed a refusal by the government and accelerated the work and wrote for claims. The government then approved the extension of time Heller had requested 16 months earlier and refused to pay the claims. The contractor appealed to the Board of Contracts Appeal claiming the delay in issuing a response to the request constituted constructive acceleration. The board agreed that the refusal to grant earlier time extension forced the contractor to deviate from the originally planned excavation method, they ruled in favour of Heller.

❖ NEGLECT OF INFORMATION PROVIDED BY CLIENT

Some contractors eager to get work at all cost especially during recession period ignore certain rules. They fail to read their contract provisions properly before signing only to discover later that they have entered into a contract that could chase them out of business. Even if you go to litigation, the courts in their decisions must and would rely on the provisions of the specific contract. This is because the courts would assume that (Ramus, 1980) "both parties to a contract, employer and contractor, are bound by the terms of the contract, having been freely agreed to by them when they signed the contract", this was the case in Argeros and Co Inc. V Commonwealth of Pennsylvania (447 A.2d 1065). Argeros entered into a contract to paint bridges for the client, though Argeros undertook his own independent examination of the bridge and accepted the contract, meanwhile, the client had stated in the bid documents that "the quantity estimates were approximate and that the client assumed not responsibility for them. The bid document indicated that one bridge consisted of approximately 180 tons of steel, but Argeros discovered the bridge weighed close to 260 tons. When Argeros made the finding he informed the client who asked him to continue that his complain had be taken note of, but when it was time for payment the client refused to make payment and the matter went to litigation and the courts held that Argeros had stated that in its contract it had prepared its bid on the basis of an independent examination of the bridges and had not relied on the information provided by the state (Hinze, 2001).

❖ DIFFERING SITE CONDITIONS (H-233)

Construction delays generally adversely affect the construction progress. Most disputes arise out of delays that are at least partially the fault of the owner (Hinze, 2001). Such delays can be due to suspension of work, slow owners response to contractor's questions, slow processing of shop drawings and other submittals, failure to provide timely access to the construction site, differing site conditions, change orders and other actions of the owner. Though most contracts provide for additional contract time when owner-caused delays occur. However, when these delays occur they result in additional costs for the contractor the reason being that there are other items of work that may be affected by the delay even though they are not directly related to the item or section of work where the delay occurred. Hinze (2001) had mentioned that "equipment may remain idle during a delay, resulting in added costs to the contractor. Prices of some materials might have risen during the extended time period. The sequence of work may also have to be changed. The above effect was observed in Rice V United States (317 U.S 61). In this case Rice the contractor encountered rock in excess of that stated in the contract documents causing the work to be delayed into the winter. He however filed for claims and was refused and the matter went into litigation. The courts denied the contractor the "impact costs of the delays, causing a waste of money in payments to lawyers and claims consultants. However the Rice doctrine has been eroded over the years through a variety of court decisions and modifications of contract provisions that provide compensation for ripple effect or "impact costs".

❖ MINIMIZING UNNECESSARY COSTS AND MITIGATING LOSSES

Construction contract are generally unique in their own very sense, "they are described by a unique set of drawings and specifications and are generally performed by a contractor and numerous subcontractors, many of whom have not worked together previously. The unique aspect of each project and the unique constitution of each construction team are common reason for disagreements to occur"

(Hinze, 2001). Since each project is unique, not all of its aspects can be anticipated by the designer, this results in omissions and in some cases contradictions within the contract documents. Whatever the source of disagreement, “disputes in the construction industry are common (Hinze, 2001), because conflicts are commonplace on construction projects. Since disputes are a common occurrence, it is good practice that the parties to the contract set out adequate procedures for handling them when they eventually come up, and this can be accomplished by incorporating a Claims Clause in the contract. This has the singular advantage of making sure the contractor does not go straight to the courts as soon as a claims situation occurs, and the owner will have the opportunity to know and assess claims in order to avoid the long journey of litigation. Claim Clauses typically require the contractor to notify the owner of any work item that are in disputes and state that this notification must precede the performance of the disputed work. “Failure to give proper notification is generally construed as a waiver of entitlements to added compensation on disputed items of work. A typical provision follows:

If the contractor deems additional compensation is warranted for work or materials not covered in the contract or not ordered by the owner as “Extra Work”, according to section... the contractor shall, prior to beginning work on which the claim will be based, notify the owner in writing of the intent to make claim and the basis for such claim for additional compensation. If the basis for the claim does not become apparent until the contractor has proceeded with the work and it is not feasible to stop the work, the contractor shall immediately notify the owner that work is continuing and that written notification of the intent to make a claim will be submitted within 10 calendar days. Failure of the contractor to give required notification and to provide the owner with proper facilities and assistance in keeping strict account of actual costs will constitute a waiver of claims for additional compensation in connection with the work already performed. Notification of a claim and the fact that the Engineer has kept account of the cost involved, shall not be construed as proving or substantiating the claim’s validity. All claims by the contractor for additional compensation shall be submitted in writing within 120 days after completion of the work on which the claim is based.

“The second worst way to handle a dispute is to ignore it, and the worst way to handle it is to allow it go to litigation” Fisk (2000), therefore the owner must be open minded when the contractor presents any claims. However, we are talking about how to minimize these claims from occurring, the following ways are ways of preventing claims from occurring:

❖ PARTNERING

In contracting construction work, the new direction to ensure loyalty has been the evolution of Partnering as a strategy in securing the loyalty of subcontractors and suppliers. It is simply guided by the vision of shared goals and support for each other. Partnering also helps firms who specialize in specific aspects of construction work, granting them efficiency thereby helping them submit low bids at every tender process. The practice of subcontracting some of the work on a project is usually commonplace and is often required so that the necessary skills to complete the project can be obtained (Hinze, 2001) and when a firm has worked with and trusted the contracting firm the contractor has some freedom in deciding on materials and forms of construction even when erecting to the design of a professional designer, since materials are not always specified closely and substitutes are often acceptable (Stone, 1976), thereby helping reduce the time spent on searching for particular specified materials which can lead to delays. Zaneldin (2006) stated that claims are common in construction projects and can happen as a result of several reasons that can contribute to delaying a project and/or increasing its cost.

❖ RESIDENT PROJECT REPRESENTATIVE

You should pick the right person with the most suitable technical and cultural skills (Chong and Brown, 2000), the Resident Project Representative should be someone with adequate experience and technical knowledge so that he can adequately protect the owner and the designer from ‘smart’ contractors who are always looking out for mistakes in design or defects in plans or specifications and hastily carry out the work in that defective state with intent of making a claim. Fisk (2000) “the job of the Resident Project Representative is to minimize exposure of the owner and Architect/Engineer to risks of claims and losses.

❖ VALUE ENGINEERING

Value engineering is another way of making sure that the required resources necessary for the success of a construction project are available, Thomsen (1982) “Value engineering is not a science but a process”. The uniqueness of Value Engineering is that it does not stop at making sure that the required resources are going to be available, it goes a step further to determine if the specified materials would give the best value to the client at optimum cost. Value engineering helps to do away with materials that are unnecessarily expensive where others that can perform the same function at lower costs are available, though in doing this it tries not to compromise functionality and quality. The only inhibiting factor has been the lack of knowledge of its existence and benefits by many clients of the industry and sometimes surprisingly, professionals in the industry.

Another factor that is of importance is permission for its use by the client, as the process cannot be undertaken by the contractor without the consent of the client for contractors cannot completely change materials specified by the designer, Stone (1976) “their freedom to choose materials is only complete where they are building directly for the market”. The value engineering process involves the appointment of a Value Engineer to scrutinize the entire design element by element and produce a Value Management Proposal (VMP) which is submitted to the client for approval, it is upon the approval of the client that the contractor can effect whatever changes in materials that has been identified by the Value Engineer. The process is synonymous with Business process Re-engineering (BPR) which can be considered as a further plan-within-a-plan because of its close attention to materials and production details and processes. In the course of the value engineering process materials that may not be available among those specified by the designer are identified and substituted thereby creating a design that will not lack materials in the course of construction. The use of value engineering, Fewings (2005) “requires an open attitude and the development of an associated value management approach which in particular makes the early appointment of contractors in the development stage of the contract essential”, The best time for use of Value engineering is before design, hence project managers and contractors should help Architects choose the right systems and materials and build value into the project. Planning should start before award as delay occur in both Pre and during construction (Frimpong et al., 2003), “delays and cost overruns occur in both phases” (Thomsen, 1982). The real purpose of value engineering is to make a design more effective by locating waste and substituting cost-effective options” (Stone, 1976). Designers have looked to the potential of new materials to solve new problems and to solve old problems in new and better ways (Thomsen, 1982). “Isolated design phase- Architects generally have little or no experience with actually buying materials, equipment and labour. The traditional process exclude the people who know the most about construction cost and construction techniques(contractors) from the design phase, which is where costs and construction problems are built -in” leading to claims later.

❖ OTHER METHODS OF MINIMIZING UNNECESSARY COSTS ON CONSTRUCTION SITES

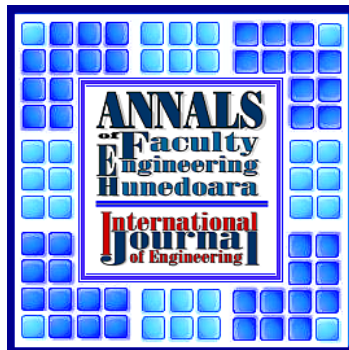
- ❖ Thorough engineering, with competent advance planning to minimize delays.
- ❖ Adequate subsurface exploration and interpretation of data as it affects both design and construction.
- ❖ Full disclosure of all information available to the owner and designer to the contractor.
- ❖ Permits and rights-of-way obtained in advance by the owner.
- ❖ Strong competent management by all parties.
- ❖ On-site decision-making ability to minimize delay in responding to contractor’s questions.
- ❖ Adequate procedures for handling disputes promptly, as the work progresses. Even in disputes, there is a chance for cost savings if the source of disputes is handled maturely by experienced parties through negotiations, a lot of time can be saved since in construction time means money. The second worst way to handle a claim is to ignore it; the worst way is to allow them go to litigation. The “impact cost” effect should be avoided.
- ❖ Adequate financial security of all parties. If the contractor is allowed to keep financing the work due to delay in progress payment, the owner should expect to pay higher cost due to increased cost of capital (interests).
- ❖ Contractor participation during design phase or for public agency contracts, contractor value engineering clauses in the contract with shared savings provision. The “traditional method of procurement excludes those who know the most about construction and construction methods; this is where problems are built into the design (Thomsen, 1982). The concept of value engineering has the potential benefits as a means of minimizing risks and cost overruns.
- ❖ Good labor contracts and conditions to improve productivity.

However, there are major risks beyond the owner and contractors’ ability to control or manage, these risks can only be managed or controlled through legislation or political processes. The Risks presented by regulatory agencies and inter-agency disputes that delay and increase a cost of projects is one example. It is our believe that if contractors, owners and their various representatives follow the recommendations above, unnecessary costs on site will reduce significantly.

❖ REFERENCES

- [1.] Fisk, E.R. (2000). Construction Project Administration 6th Edition, prentice hall, USA.
- [2.] Fewings, P. (2005). Construction Project Management: An Integrated Approach, England.
- [3.] Chong, Y.V., & Brown E.M. (2000). Managing Project Risk, Prentice Hall , Britain.
- [4.] Zaneldin, K.E. (2006). Construction Claims in United Arab Emirates: Types, Causes, and frequency. International journal of Project Management. 24 (5): 453-459.

- [5.] Ho, S.P., & Liu, L.Y. (2004). Analytical model for analyzing construction claims and opportunistic bidding. *Journal of Construction Engineering and Management*. 130(1):94-104.
- [6.] Vidogah, W., & Ndekugri, I. (1997). Improving management of claims: contractor's perspective. *Journal of Management in Engineering*; 13(5)37-44.
- [7.] Ramus, J.W. (1980). *Contract practice for Quantity Surveyors*; Heinemann, London.
- [8.] Stone P.A. (1976). *Building economy-Design, Production, and Organisation: a Synoptic View*; Pergamon, New York, 2nd edition.
- [9.] Abdul-Rahman, H., Berawi M.A., Mohamed O., Othman, M., & Yahya, I.A. (2006). Delay mitigation in the Malaysian construction industry; *Journal of Construction Engineering and Management*, 132(2): 125-133.
- [10.] Hinze, J. (2001). *Construction contracts, second edition*, McGraw-Hill, United States.
- [11.] Frimpong, Y., Oluwole, J., & Crawford, L. (2003). Causes of delays and cost overruns in construction of ground water projects in developing countries; Ghana as a case study, *International journal of Project Management*. 21, 321-326.
- [12.] Werna, E. (2009). Labour in the construction industry in developing countries- trends, challenges and actions, *Proceedings of the CIBw107, international symposium in developing economies: commonalities among diversities*.
- [13.] Thomsen, B.C. (1982). *Construction Management, construction management*, London www.CIDB.my



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