Analysis of Compensation for Delay and Settlement of Disputes Clauses in CPWD Contract Guidelines

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ABSTRACT

The construction industry is an industry where multiple parties are involved in the completion of a project. Risks in the construction industry include both threats to and opportunities in a project. The majority of construction works in India are modeled on General Conditions of Contract (GCC) formulated by the Central Public Works Department (CPWD). Public Works Contracts have many limitations and are prone to disputes. This paper analyses clause 2, 5, and 25 of CPWD GCC 2020. They are clauses on compensation for the delay, time and extension for the delay, and settlement of disputes and arbitration. This paper aims to study the remedy for delay and disruption according to clauses in CPWD GCC and to make recommendations for optimal and effective contract management from the data collected through the survey. A questionnaire is prepared on these 3 clauses and the responses are analyzed and recommendations are made based on the responses collected.

Keywords: Central Public Works Department, Contracts, Contract guideline

1 Introduction

The construction industry in India is booming with huge ongoing project opportunities and it is the third-largest contributor to economic growth. Contracts are an important part of the process of any construction project. Contracts are the medium within which project risks are allocated and dealt with. CPWD GCC 2020 is considered for this research purpose as it is a widely accepted contract guideline. The majority of construction works are carried out through contracts and most of the public works in India are modeled on General Conditions of Contract (GCC) formulated by the Central Public Works Department (CPWD) [1]. The primary functions of CPWD are the construction and maintenance of building structures, non-building structures, and various other structures. CPWD has expanded its activities rapidly through the years and has been a prominent participant in the national development process.

2 Theoretical Investigation

Ibbs *et al.*, (1987) conducted a comprehensive empirical study for 36 capital construction projects, clauses bearing most heavily on project performance are identified and contract administration concepts such as risk allocation, respective views of owners and contractors, and incentive provisions are factually and thoroughly discussed. Yousefi *et al.*, (2010 proposed a negotiation methodology which is developed at the strategic level of decision making in which the graph model for conflict resolution is employed in assisting decision-makers, such as project managers, to achieve the best strategic decision, given the competing interests and attitudes of the decision-makers. Yusuwan *et al.*, (2013) identified the commonly disputed issues related to the Extension of Time claim; particularly in private funding projects. It was found that the top three disputed issues in EoT

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claims are concurrent delay, eligibility of a time extension claim, and noncompliance to contractual requirements. Gardezi *et al*., (2014) conducted a study to identify the delays that result in time extension factors for project completion. A questionnaire was developed and distributed among professionals working in the construction industry and the study revealed that domestic issues of the country are the major factors resulting in the delayed completion of the projects.

Shrestha *et al*., (2014) collected the data regarding practices in delay claim analysis from professionals within the construction industry. The survey emphasized defining qualities of a delay claim, the processes, and the requirements for resolving a claim. The survey indicated the predominant decision-makers in the process as the owner, construction manager, and attorneys. Khekale *et al*., (2016) concluded that construction disputes are a cause of concern in every construction project and the solution to this problem is to avoid and manage them for the smooth running of the construction process. The evolution of dispute resolution processes has led to the development of a range of alternative dispute resolution opportunities. Iyer (2016) scientifically analyzed the need for disputes. The study revealed that the causes for delay claims can be grouped into domains and the probable decisions to the disputes can be traced through the probing questions considered by decision-makers. Moza *et al*., (2018) attempted to evaluate the relationship between contract conditions and different) claims encountered in construction disputes. Classification and categorization of claims were done and the frequency of claims, the quantum of the amount claimed, and the amount awarded was determined for each type which was then related to the conditions of the contract guiding them. Demirel *et al*., (2019) found that variations in infrastructure projects could not be dealt with only through formal contract rules, but additional social mechanisms between the public commissioners and contracted companies were needed. Also, it was found that managers with good communication and coordination skills play an important role in dealing with variations. Kabre *et al*., (2019) studied the standard contract form in India and found that standard contract form in India needs to incorporate a protocol for construction delay. Instead of depending upon Engineer-in-charge for extension of time, it is advisable to adopt scientific methods for delay analysis. The results from these methods will be more accurate and acceptable by various parties involved and by the courts if there are any legal issues related to delay arise. Ren *et al*., (2010) demonstrated the impact of various negotiation approaches on the conduct and outcome of construction claims negotiations. The peculiarities of this domain are highlighted and the approach adopted in the development of a multi-agent system for construction claims negotiation is described.

3 Methodology

3.1 Research Study

The first step of the research includes a summary of a comprehensive literature review to support the survey methodology. Literature reviews on issues of clauses especially clauses; especially that of delay and disputes have been reviewed. The second step of the research focuses on the preparation of the questionnaire which is used to collect the required data to achieve the research objectives, the third step is the pilot study, the fourth step is data collection and the fifth step of the research is the data analysis.

3.2 Research Population

The survey questions, developed after an extensive literature review, were related to the material and information needed to analyze a claim within the construction industry. Follow-up phone calls were made. Figure 1 shows the job position of questionnaire participants. The questionnaire was sent to 55 professionals

and 22 of them responded. 27.3% of the participants are government establishment officials, 22.7% of the participants are general contractors, 18.2% are public contractors, 18.2% are from design and supervision consultancies, 9.1% are sub-contractors and 4.5% are from public sector undertakings.

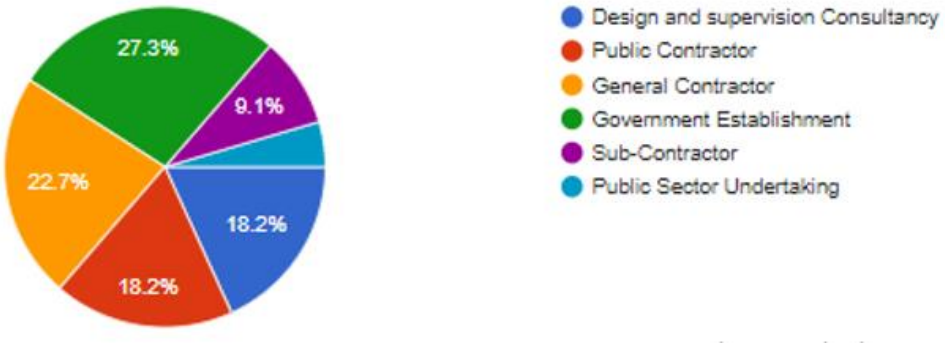

Figure 1: Job Position of Questionnaire Participants

3.3 Questionnaire Outline

The questionnaire was developed to get the opinion and understanding from the experienced respondents regarding the problems related to delay and disruption clauses. The questionnaire is classified into 6 sections as biographical information, compensation for the delay, time and extension for delay, and settlement of disputes.

3.4 Pilot Study

A pilot study is one of the important stages in a research project and is conducted to identify potential problem areas and deficiencies in the research instruments. A pilot study was conducted by interviewing two experienced professionals from the area of contract management and obtained feedback regarding the items in the survey and based on their comments and suggestions, the items were refined so that the language could be more understandable and relevant to the project practice.

4 Delay and Dispute Clauses of CPWD GCC

4.1 General

Central Public Works Department is the principal engineering organization of the Government of India and is an attached office of the Ministry of Housing and Urban Affairs. The book of "General Conditions of Contract" of CPWD applies to both types of tenders i.e.," Percentage rate tenders and Item rate tenders".

4.2 Compensation for Delay

Compensation means anything given to make amends for losses, recompose, etc. Compensation for delay is the 2nd clause of CPWD and is for compensation and not for the penalty. This clause emphasizes the need on the part of the contractor to scrupulously adhere to the schedule to compel the contractor to adhere to this schedule. It deals with liquidated compensation to be imposed if the contractor fails to maintain the required progress. The Compensation for delay of work with a maximum rate of 1% (one percent) per month of delay to be computed on per day basis based on the quantum of damage suffered due to stated delay on the part of the Contractor (CPWD). In CPWD, the amount is specified in the clause itself. In CPWD, a 'ceiling' to the total amount of compensation for delay is fixed as it shall not exceed 10 % of the accepted Tendered Value of work.

4.3 Time and Extension for Delay

Extension of time can be granted to the contractor under this clause. This clause does not prevent the contractor to raise a claim for damages. It is mentioned that the contractor shall immediately give notice thereof in writing to the Engineer-in-Charge if a delay occurs.

4.4 Disputes and Arbitration

Disputes may arise between the Government, its authorized representative, and the contractor at any stage. At every stage, both parties shall consciously avoid actions or situations likely to result in disputes. CPWD states that when disputes occur the Engineer-in-Charge requests the Chief Engineer/ Additional Director General/Special Director General, who shall refer the disputes to the Dispute Redressal Committee (DRC) within 15 days along with a list of disputes. The DRC gives its decision to the concerned Additional Director General/Special Director-General for acceptance usually within a time limit of 30 days. In CPWD, the arbitral process has to adhere to a certain set of compliances provided in the GCC. If the amount claimed is Rs. 20 Crore or less, it shall be referred for adjudication through arbitration by a Tribunal having sole arbitrator. Where claimed value is more than Rs. 20 Crore, Tribunal shall consist of three Arbitrators, with contractor and Engineer-in- charge appointing one each. The two arbitrators then appoint a third arbitrator who acts as the presiding arbitrator. GCC also states that member(s) of the Arbitral Tribunal must be a Graduate.

5 Results and Discussions

5.1 Compensation for Delay

In the questionnaire survey, 72.7% of the respondents say that they use this clause in all the contracts whereas 27.3% responded that this clause is not usually used. Out of this 27.3%, 75% of them recommends that this clause should be included in all the contract documents.

Table 1: Risk Allocation

Participant category	Percentage
Contractor	40.9
Owner	9.1
Both	50

Proper risk allocations in construction contracts help to achieve management efficiency. Table 1 indicates that 40.9% of the respondents mentioned that in this clause the risk is more allocated to the contractor, 9.1% responded that risk is more for owners and 50% of them responded that risk allocation is there for both owner and contractor. 66.7% of the respondents recommend the improvisation of the clause whereas 33.3% do not prefer improving the clause.

Table 2: Compensation for Non-Achievement of Sectional Completion

Clause Enforced or Waived off	Percentage
Enforced	40
Waived off	30
May be	30

PWD GCC defines a clause for demanding compensation for non-achievement of sectional completion of work. Table 2 shows that 40% responded that this is enforced in the contracts and 30% responded that it is

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not. 30% of them responded that this may be enforced. Delay damages are those costs that increase as a sole result of a delaying event on a project. It can be direct or indirect costs. The compensation amount can be usually calculated by fixed percentage with an upper limit, fixed amount with an upper limit, and pre-defined formula. From table 3, 44.4% of the respondents have mentioned that the method used for calculating compensation calculation is the fixed percentage with an upper limit, 38.9% have opted for a fixed amount with an upper limit and 16.7% have opted for pre-defined formula. Concurrent Delay occurs in circumstances where a period of delay to the completion of a project is caused by two or more factors, one of which is the contractor's responsibility and one of which is the employer's responsibility. Concurrent delay is not referred to in the standard forms of construction contracts used in the UK, such as JCT and NEC. The new FIDIC rainbow suite of contracts does however include a sub-clause on concurrent delay, leaving it to the parties to set out rules and procedures to cover this situation in the Special Provisions. 84.8% of the respondents opt for adding specific clauses for compensation due to concurrent delay whereas 15.8% do not opt for this.

Table 3: Method for calculating the compensation amount

Method for calculating the compensation amount	Percentage
Fixed percentage with an upper limit	44.4
Fixed amount with an upper limit	38.9
Pre-defined formula	16.7

5.2 Time and Extension for Delay

It has been detected that delays in the construction field and the related claims initiating from these delays together are the fundamental fragments of the recent construction project [4]. 77.3% of the respondents say that they use this clause in all the contracts whereas 22.7% responded that this clause is not usually used. Out of this 22.7%, 87.5% of them recommends that this clause should be included in all the contract documents.

Table 4: Risk Allocation

Participant category	Percentage
Contractor	31.8
Owner	27.3
Both	40.9

Table 4 indicates that 31.8% of the respondents mentioned that in this clause the risk is more allocated to the contractor, 27.3% responded that risk is more for owners and 40.9% of them responded that risk allocation is there for both owners and contractor. 66.7% of the respondents recommend the improvisation of the clause whereas 33.3% do not prefer improving the clause. 77.8% of the respondents recommend the improvisation of the clause whereas 22.2% do not prefer improving the clause. Complaints of disruption and additional costs are routinely made in a construction project. Disruption is the loss of productivity, disturbance, hindrance, or interruption to a Contractor's normal working methods, resulting in lower efficiency. 70% of the respondents show concern that the contract guidelines are not specifying the methodology of delay and disruption cost analysis methods. Construction projects often suffer from delays due to a wide variety of reasons. The use of delay analysis methods is very important. The impacted as-planned analysis is a delay analysis method in which the insertion of delay events into a baseline is done to determine the hypothetical impact of such events. This method involves modifying the baseline or as-planned schedule to include new activities and logic to represent

delay events. The collapsed as-built analysis method is the opposite of an impacted as-planned analysis. The as-planned vs. as-built analysis is a simple technique used to compare the baseline or as-planned schedule to the as-built schedule or a schedule update reflecting progress. The time impact analysis (TIA) is a comprehensive technique used to analyze each delay event individually in chronological order to calculate its impact. This methodology quantifies each delay based on the schedule immediately before and after the delay event took place. 53.3% of the respondents have selected TIA from which we can assume that it is the most widely used method for delay analysis (Figure 2). 40% of the respondents stated that they use impacted as a planned analysis method. 70.6% of the questionnaire respondents mention that Indian contract forms should incorporate delay analysis methodologies in their contract condition.

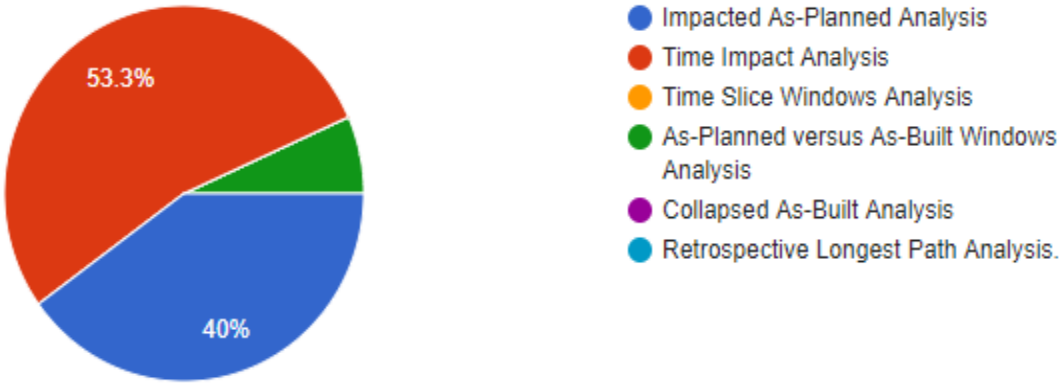

Figure 2: Delay Analysis Methods

Incorporating these methods in the contract guidelines will help the parties involved in the project to form the contract document with this and which in turn will give clear information to the parties involved about the method used and thus it can reduce confusions and disputes. Also, 77.8% of the respondents mention that disputes happen due to the ignorance of categorizing delays as excusable, non-excusable, compensable, and non-compensable. This also gives us an insight into the fact that the types of delays should be well explained in the guidelines so that it will be helpful while formatting the contract document. 83.3% of the respondents say that an explicit clause should be added to define the above-mentioned delays.

5.3 Settlement of Disputes and Arbitration

65% of the respondents say that they use this clause in all the contracts whereas 35% responded that this clause is not usually used. Most of the respondents support that this clause should be improved and should be made more specific so that more disputes can be reduced. According to the survey, 61.1% selected negotiation as the most widely used dispute resolution method, 16.7% have selected arbitration, 16.7% have selected litigation and the rest have selected adjudication. Negotiation takes place at every stage of conflict resolution [6].

6 Conclusions

From the survey results, it is found that clauses 2, 5, and 25 needs to be improved for better contract management and to reduce disputes in projects. Risk allocation in clauses should be made clearer and more risk should be allocated to the party which is capable of it which will help in the smooth run of the project. Clause for non-achievement of sectional completion of work should be implemented compulsorily in all the contracts. As a result, the study, mentioning the type of compensation calculation method, delay analysis method in the contract can erase many confusions and disputes that can arise in the future. Specific clauses for concurrent

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delays should be included in CPWD GCC. Compensation clauses should only be applicable outside the extra allowance given to the final date. Indian contract forms should incorporate the delay analysis-related clauses in its contract condition instead of conferring all powers to Engineer-in-Charge. The addition of an explicit clause defining and categorizing the excusable, non-excusable, compensable, and non-compensable delays is also essential.

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