

CONTRACT ADMINISTRATION / PROJECT MANAGEMENT

by

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ARTICLE NO. 3

The title of the paper 'Contract Administration and Project Management' relates to two very important functions connected with any sizeable Construction Project. Although these terms are inter-related, they have distinctive meanings and it is my intention to try to analyse and interpret these and also to discuss the duties and responsibilities involved.

When considering the term 'Contract Administration' it is important to understand clearly the meaning of the term 'Contract' within the context of a Construction Project, who the parties to the contract are, and the persons responsible for Administering the Contract.

Usually any contract between two parties, constitutes a straight forward agreement between them. What complicates matters somewhat when considering the contract on a Civil Engineering Project is, that the contract is Administered by a third party, who is called 'the Engineer' or 'the Consultant'.

The term Contract Administration applies to the phase of a Civil Engineering Project wherein the actual construction takes place. This to my mind must be considered the most important phase, because this is where the bulk of the owners money is actually spent. Cost escalation over estimates has become a common feature

on Construction Projects, and to my mind the best safeguard against unreasonable cost escalation or delays, is effective administration of the Contract, and this is why it is important that all parties (including the owner), should be familiar with the division of responsibilities involved, during this phase.

The Administration of the Contract is based on important document called the 'General Conditions of Contract', which is part of the overall contract document. In Sri Lanka there are several standard General Conditions of Contract documents available, published by the Institution of Engineers, the C.I.T.P., and others. These all appear to be based on the original document published by F.I.D.I.C. (i.e. the International Federation of Consulting Engineers), popularly called the F.I.D.I.C. 'RED BOOK'.

I find that the definition of the term 'Contract' is common to all three documents mentioned above, and is defined to include the following therein - "The General Conditions of Contract, Specifications, Drawings, Priced Bill of Quantities, Schedule of Rates and Prices, if any, Tender, Memorandum of understanding, Letter of Acceptance, and Contract Agreement, if completed." I feel the last phrase "the Contract Agreement if completed" is significant.

For in practice, once tenders have been called, and a Contractor selected, it may not be possible to issue a letter of acceptance and to finalise the Contract Agreement immediately. There is provisions in such instances, for preliminary work to commence by issuing what is called a 'Letter of Intent' to the selected contractor. For purposes of Contract Administration which is our subject today, - the contract can therefore be considered to commence with the 'Letter of Intent' being issued.

However, it cannot be stressed too much, that the provisions for commencing preliminary work on a Letter of Intent, does not relieve the parties to the Contract of the responsibility of signing the 'Agreement' as early as possible. In Sri Lanka there have been instances where work on projects is allowed to continue well into a project, without the contract having been signed. This can lead to much waste through Additions, Alterations and Variations during the contract, if the Contract documentation has not been completed, and invariably results in gross escalation of costs, which can affect the owner's budgeting of expenses. On public sector projects this can result in waste of public funds. Further, such variations, can also affect the contractor's programming of work and overall management of the project, and should be avoided.

LETTER OF INTENT -

A Letter of Intent, when used to commence work should state as precisely - as possible the limits within which it will apply on the contract. The F.I.D.I.C. Document titled 'Tendering Procedure' describes this very clearly as follows :

"Where it is not immediately possible to issue a formal Letter of Acceptance to the successful Tenderer, the Issue of a Letter of Intent to enter into a Contract may in some circumstances serve a useful purpose.

A Letter of Intent issued as prelude to entering a formal contract should contain :

A statement that it is intended to accept the Tender.

Instructions to proceed (or not to proceed) with certain work (eg. mobilisation, ordering of materials, letting of sub-contractors, etc.)

The Basis of payment for work authorised and a limit to the financial liability which may be incurred before formal acceptance of the Tender.

A statement that if the Tender is subsequently not accepted, or the Letter of Intent withdrawn, the costs legitimately incurred by the Contractor will be paid by the Employer.

A statement that when the Tender is formally accepted by a Letter of Acceptance, the provisions of the Letter of Intents will become void.

A request to the Contractor to acknowledge receipt of the Letter of Intent and to confirm his acceptance of its conditions".

So you can see from this that the Letter of Intent applies within clearly defined limits.

CONSULTANCY AGREEMENT -

As I said earlier, the Administration of the Contract is the responsibility of the Engineer or the Consultant.

Now, the Engineer is a professional, nominated by the owner to act on his behalf. While he can be an employee of the owner, he is usually an independent Consultant commissioned by the owner, to perform the functions assigned to him, as described in the General Conditions of Contract.

If an independent Consultant is appointed by the owner, the terms of his engagement, the stages of payment of fees, etc., will be spelled out in a separate 'Consultancy Agreement' between him and the owner. On a building project this usually covers all aspects of his assignment including the planning, design, contract documentation, tender and supervision stages. It is the duty of the Consultant so appointed to take care to ascertain clearly the precise requirements of the client and to prepare in time all the detailed documentation necessary for calling for tenders, and preparing the final contract document. Contract Administration often becomes difficult and can result in confusion, if adequate attention has not been given to the preparation of the detailed documentation, in time.

PROJECT MANAGEMENT -

Project Management for our purposes may be defined quite simply as the overall management function required to achieve the project objective at reasonable cost, and in reasonable time, to the owner's satisfaction, using all necessary inputs in terms of both professional and contracting expertise. Where there are multi-disciplinary inputs of professional expertise needed at the design stage and in the preparation of detailed contract documentation, and where there are several contractors involved on the same project, the activities of all these will

need to be co-ordinated as part of the overall Project Management function. The person responsible for this overall Project Management function will normally be the Principal Consultant commissioned by the owner, and he must possess the knowledge, experience and aptitude needed for performing this vital function. Sometimes it may happen that a Consultant (or firm) who have specialised expertise in some aspect of design such as Architectural or Structural Design, may not have in-house expertise to carry out this function. It cannot be assumed that all qualified Architects or Engineers will necessarily be good Project Managers. While theoretical knowledge can be useful, it is my view that what is most required in a good Project Manager is wide practical experience and a proven capacity to 'get a job done'. A Project Manager in this context while having a good memory for detail, and being able to write effectively, should possess adequate knowledge and experience in all aspects of project work, including both design and construction, and should preferably have worked with both Consultants and Contractors. While looking after the interest of the owner or client, he will thereby have the ability to see and understand the practical difficulties of all parties, on the project.

On a large project, where the Owner wishes to pay specific attention to the overall Project Management/Project Co-ordination function, and where he does not have 'in-house' engineering staff, he may wish to employ an independent Consultant, separate from the Principal Consultant, as 'Project Manager' or 'Project Co-ordinator'. The latter will not however relieve the Principal Consultant of any of his responsibilities in terms of his Consultancy Agreement

with the owner, but will only help ensure that both the Contractor and Consultant 'perform' in terms of their respective contracts. He can be considered as one who functions as a 'trouble shooter' bringing to the notice of the owner any shortcomings observed, and where necessary advising on action to be taken to avoid possible delays. Eg. if completion of detailed contract documentation such as working drawings, working details etc., are being delayed resulting in complaints from the Contractors, he can request the Consultant to expedite such work. He can also carry out independent inspection of work and bring bad quality work to the notice of the Consultant/Owner and thereby help ensure quality. The Project Manager / Project Co-ordinator can participate in progress meetings and convene them when necessary, to help monitor progress on all aspects of the Project and keep the owner adequately informed. On a complex project he can participate with the Consultant in drawing up a 'Master Programme' to cover all activities of the respective specialist Consultants, and Contractors, and help monitor such activities to a specified time scale. He can also help avoid disputes resulting in delays.

It must, however, be clearly understood that an independent Project Manager or Project Co-ordinator if employed by the owner cannot be expected to relieve the Principal Project Consultant or any of the Specialist Consultants, of their respective duties and responsibilities. He is there mainly to help ensure that the 'overall project is managed properly and work completed on time, without avoidable cost escalations. One or more clauses may be added to the General Conditions of Contract document to define the duties

of the Project Manager, depending on the assignment. These can also be spelled out in a separate exchange letters between the Owner, and Project Manager, and between the Owner and the Consultants respectively, in which the functions of the Project Manager are specified, as described above. Fees can be negotiable and based on a percentage of project cost (upto $\frac{1}{2}\%$) or paid on a monthly basis, or can be a combination of both these.

In order to take a wise decision whether to employ a Project Manager or Project Co-ordinator separate from the Project Consultant the Owner too will need to be aware of the functional requirements and the complex interplay of duties and responsibilities on a construction project, or he should seek independent advice from a Specialist Consultant, before deciding on the type of overall Project Management required to achieve his project objectives. The latter could also help in the client's selection of the Project Consultant depending on the nature and complexity of the Project. The appointment of an independent Project Manager/Co-ordinator should normally be with the agreement of the Project Consultant. Innovations are being introduced, and established practices are being modified, to help ensure that the important Project Management function is not neglected, and the owner's interests adequately safeguarded in this respect.

CONSTRUCTION MANAGEMENT -

We have so far referred to the overall Project Management function as the assignment of the Principal Consultant. However, there is another area of Project Management connected with any construction

project which is the function of the contractor. For the purposes of my paper I will refer to it as Construction Management, to prevent confusion between this and the Project Management function, assigned to the Consultant.

Construction management by the Contractor involves both supervision of work and also involves mobilising all the necessary resources in terms of men, materials, equipment and also finance and organising these (inputs) to a specified time scale, to meet the Project requirements at site. If work at site is to go smoothly according to programme and if the contractor is to be assured of profits, all inputs in terms of men, materials and must be available on schedule, and cash flow requirements looked after. All work of sub-contractors and specialist contractors too need to be co-ordinated. All these are part of the Construction Management function of the Contractor. It is becoming increasingly popular for contractors both here and abroad to use the services of Specialist Project Management Consultants to perform the Construction Management function, for which they are responsible.

• One of the requirements of Construction management as referred to in the G.C. of G. is that the contractor should appoint at site, a responsible Resident Agent to be in charge of site management. The appointment of the R.A. should always be approved of by the Consultant, who will see whether his qualification and experience are adequate for the needs of the project. Other important duties and responsibilities of the Contractor as part of his Construction Management functions, are spelled out in detail, in the General Condition of Contract Document.

CONSTRUCTION SUPERVISION -

One of the major problems associated with the construction phase, is the division of responsibility between Consultant and Contractor on supervision of construction. It is clear from reading the General Conditions of Contract, that the main responsibility for day today site supervision, and ensuring quality is that of the Contractor. However, the subtleties involved in the division of responsibility, have been succinctly expressed by a Consulting Engineer in an article titled "For what we are responsible" in FIDIC Magazine - He states there as follows :-

"It is most important to note that the Engineer's duties in respect of inspection of the work do not include detailed day-to-day supervision. They are essentially limited to such selective sampling procedures as the Engineer, in his sole discretion or by prior arrangement with the employer, considers necessary to enable him to ascertain whether the contractor is carrying out the work in general conformity with the design concept of the project.

It must be clearly understood and appreciated by the employer that only work which has been seen during examination of representative samples by the Engineer can be said to have been appraised, and comments upon the balance of the work are assumptions only, based on extrapolation by the engineer of such assessments, as he has been able to make. The proper performance of the contract is not the engineer's responsibility nor that of his site representative, nor that of the site supervisory staff, and the engineer's Contract Administra-

tion and inspection services are not carried out for the contractor's benefit. The Contractor alone is responsible for the proper construction of the project and for the accuracy and quality control of his work, in terms of the contract between himself and the employer".

So from this it would appear that although the Consultant would carry out periodic and random checks it is the Contractor's responsibility to ensure quality of work, according to the specifications laid down. I would go further to say that in the event of any major defect or failure at site, unless it can be proved by studying the Design, Drawings, Specifications etc., that the failure has been caused by faulty design of the Consultant, the Contractor must take responsibility, for quality of work.

COMMENCEMENT OF WORK -

At commencement of work it is often a practice in Sri Lanka for the owner to give a 'mobilisation advance' to the selected Contractor, say upto 20%. However, it needs to be stressed that before doing so, care should be taken to complete negotiations and to conclude agreement as far as possible on matters relating to rates, programme, target date for completion, detailed project estimates, schedule of prices etc. Once the owner is committed - it is far more difficult to negotiate, and so this is in the interest of both parties. Once agreement is reached, the Consultant can instruct the Contractor to commence preliminary work, and while the contractor busies himself with preliminaries at site. The Consultant should strive to put together the detailed contract document including the 'form of agreement' to be signed by

both parties.

PERFORMANCE BOND -

While the mobilisation advance is paid on a Bank Guarantee, it is in the interest of the Client to request from the Contractor, a Performance Bond, which will safeguard the Client and help ensure proper performance on the project by the Contractor, as the Client is then entitled to claim from the Bank the sum stated on the Bond, (eg. 10% of the project estimate), in the event of non-performance or default by the contractor. It is also possible that a Contractor can use the advance for other purposes than on the project, and this will help safeguard the owner against such possibilities.

PROGRAMMING -

An important aspect of Contract Administration and Project Management is the monitoring of progress of work against an agreed programme, upto completion. It is therefore very important at the outset, for the contractor to submit a detailed programme of work upto completion (including bar charts, network analyse etc.) which should be checked by the Consultant and agreed upon. Such a detailed programme serves little purpose unless it is adequately monitored, and corrective measures taken if delays are observed or foreseen.

Such delays observed and their causes, should all be recorded. Since - liquidated damages payable are assessed on the basis of non-allowable delays, these should be separated from allowable delays, such as for exceptionally bad weather, civil commotion, non-availability of essential materials etc. If this is not done, major disputes can arise later on, when

quantifying liquidated damages, etc.

SITE MEETINGS/PROGRESS CONTROL -

Regular Site meetings and Progress Control meetings are important aspects of both Contract Administration and Project Management. All important observations and decisions taken particularly those relating to delays, additions and alterations, quality of work, measurements, complaints etc., should all be recorded clearly, on a site log book. A duplicate or triplicate book could be used so that, while the book is maintained at site, copies can be kept by the Consultant and the Owner too. Many disputes ending up in Arbitration are difficult to resolve, because such records are not maintained and often going back in time, to find out the true position is well high impossible. Also it is clearly indicative of bad Contract Administration, if such records are not maintained, right from the commencement of the project. While it is the duty of the Consultant to ensure this, as part of his Project Management/Contract Administration function, it is also in the interest of the Contractor to see that all details of variation order etc. are properly recorded against possible claims later on.

BILLS AND PAYMENTS -

One of the important responsibilities of the Consultant during the Contract Administration phase is the approval of measurements and bills submitted periodically by the Contractor. The basis for such approval are the rates given in the B O Q, and the actual quantities of work done as jointly measured and checked by representatives of the Contractor and Consultant.

Bills should be submitted regularly

by the Contractor at specified intervals and the information contained in these, and all support documents such as measurement sheets, claims for fluctuation of materials etc., should be submitted in a format approved by the Consultant to facilitate checking by the Consultant, who should employ a competent and reliable Quantity Surveyor for the purpose. If the Contractor fails to carry out the advice of the Consultant on how this should be done, he has only himself to blame, if the Consultant fails to check and approve bills on time.

In the General Conditions of Contract (CITP) clause (60.7) it is stated that the owner should pay contractor within 28 days of approval by the Engineer. Contractors have objected to this, stating that the time period should be related to the date of submission of bill. However, there are two sides to this, for it will depend on whether the bill and support documents have been presented correctly. What must be stated is, that the Consultant should strive to check and certify the bills by issuing a payment certificate to the Owner as early as possible, and the Client too should not delay settlement of bills, certified. A Contractor can hardly organise his work and avoid cash flow problems if he is not paid promptly.

10% of all monies are usually held back as retention until the final bill, when 50% of this is released thus retaining 5% upto the end of the 'defect liability period'. This will be released once all defects observed have been remedied and certified by the Engineer. Clause 48 of the General Conditions of Contract provides for the 'Certificate of completion' to be issued in stages, and in such instances

the Retention Money too can be refunded in stages provided this has been agreed upon.

PROFESSIONAL INTEGRITY -

As I stated earlier, the bulk of the owner's money on the project is spent during the construction phase. It is therefore of paramount importance that the Consultant responsible for checking and certifying bills, approving quality etc. as part of his Contract Administration function, should have a high sense of professional integrity. The importance of this was stressed at a Seminar sponsored by the Association of Consulting Engineers at which a number of speakers from FIDIC and from the World Bank, participated. One of the speakers quoting from a FIDIC document stated as follows, in his paper - "The independent Consulting Engineer cannot be directly or indirectly concerned or have financial interest in any commercial, manufacturing or contracting activities, such as would influence his exercise of independent professional judgement, in matters upon which he advises".

As the Consultant needs to safeguard the owner's interests, and as the owner is often a layman who relies entirely on the Consultant, this aspect cannot be stressed too much. The Owner too has a responsibility to co-operate by acting on the advice, of the Consultant, if the Consultant is to be effective.

NATIONAL CONSTRUCTION INDUSTRY AUDIT -

I would suggest that the feasibility of setting up a National Construction Industry Audit Organisation be looked into, to check on possible waste of public funds, through malpractices and neglect. This

proposed organisation look into complaints from Consultants, Contractors, Officials, or the Public, relating to such things as unfair selection of Contractors and Consultants, undue pressure or influence on parties too a contract, payment of illegal commission and so on.

As you may all know, the Construction Industry embraces a large sector of the National Economy. Whether in the field of education, health, tourism, transport, Housing or Irrigation large sums of public monies are spent on Construction. Malpractices in the Construction Industry are observed the world over. However, one reads of instances where important persons and even Consultants have been found guilty of such malpractices in the Construction Industry, even in developed countries, after due investigation of complaints. In Sri Lanka too effective machinery should be introduced for such investigations with emphasis on prevention, eg. a Tribunal of Inquiry after a project is over may at best identify the guilty party, but it may be too late to prevent damage or losses to the public.

Therefore the feasibility of setting up an on-going effective Audit Organisation to act on complains, may be studied. Perhaps a body like ICTAD could study measures available in other countries and make recommendations suited to our needs. A multidisciplinary Committee may be appointed for this purpose. Contract Administration or Project Management, will be ineffective and often meaningless if undue pressures and influences are allowed to play a part. Therefore it is relevant that we should pay attention to this important aspect too when considering the needs of the Construction Industry, which is the subject of this

Seminar. Such steps will I feel, help bring about greater social stability too, which is a dire need today.

CONCLUSION -

If Contract Administration and Project Management are to be successful, is achieving their prime objective which is to ensure that a project is satisfactorily concluded within a specified period, without unreasonable escalation in costs, there must be a spirit of co-operation shown by all the parties involved. A Consultant while looking after the Clients' interests must use his independent professional judgement to be fair to the Contractor and to understand his problems and to provide him with all the information required to proceed uninterrupted. The Contractor too must extend his

co-operation to the Consultant by being willing to use all his resources to 'perform' in terms of his Contract, and to produce results. The Client must be willing to act on the advice of the Consultant and have the financial resources necessary to pay the Contractor, on time. If there are unreasonable delays and gross escalation in cost, these are usually indicative of ineffective Contract Administration and Project Management. If the division of duties and responsibilities of each party as spelled out above, are understood and professional and Contractors capable of performing adequately, their respective functions are selected, they will provide a good foundation for the Owner to build upon, and to ensure that his interests are adequately safeguarded, and his objectives achieved.