

**SOUTH AFRICAN ROAD FEDERATION**  
**SYMPOSIUM ON THE PREPARATION OF CONTRACT DOCUMENTATION**  
**AND ADMINISTRATION OF CIVIL ENGINEERING CONTRACTS**  
**CHAPTER 1: THE CONDITIONS OF CONTRACT**

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**THE CONDITION OF CONTRACT**

## **1. HISTORICAL BACKGROUND**

Man has been building structures since the earliest times. Shelter for him and his family was probably the first type of construction.

The Pyramids are a splendid example of the ancient craft of structural engineering. Recent studies suggest that a form of cement was used to construct the Pyramids. The pictures of thousands of slaves pushing huge stone blocks vast distances across the Egyptian desert and up steep inclines is probably a little exaggerated.

The one thing they certainly didn't have was a set of Conditions of Contract. All that happened was that the Pharaoh issued a decree and it was done. Maybe they had a point.

Then came other civilizations such as the Persians, the Greeks and the Chinese. The Romans built their great aqueducts, roads, structures and the like. Once again, no Conditions of Contract existed. The Emperor spoke and it happened. In many instances and in fact, in almost all instances the construction was done for military reasons and by military engineers.

So it continued until about 1750 when John Smeaton, a great British engineer first used the title Civil Engineer. This was to distinguish the non-military from the military engineers. He joined with a group of friends to form a movement called the Smeaton Society which led to the founding of the British Institution of Civil Engineers (ICE). The first structure built by a Civil Engineer was Smeaton's Lighthouse on the Eddystone Rocks in the English Channel completed in 1759.

Soon followed the great Thomas Telford and John McAdam (after whom the macadamised road is named). Telford was the first President of the British Institution of Civil Engineers in 1820. He is to my knowledge the only Civil Engineer buried in Westminster Abbey (considered a supreme honour in Great Britain).

The Industrial Revolution in Britain saw many civil and mechanical engineers emerge. One of those was Isambard Kingdom Brunel, the Chief Engineer for the Great Western Railway.

Some of his iron bridges still stand today as does the Great Western Railway, which is now part of British rail.

He also built the first iron steamship (the Great Britain) and fitted screw propellers to ocean going vessels. A story is told about him that Florence Nightingale wanted a hospital for the Crimea in the 1850's. Brunel was approached in February 1854 and asked to see what he could do. He designed, fabricated, shipped and erected a full military hospital in the Crimea in four months. I wonder whether we, with all our current procurement procedures, could equal this today.

The essential and interesting point about these men is that they were entrepreneurial engineers. They were given a free hand to design, construct, and even operate the projects in their care. They did not function with the constrictions of modern day procurement procedures, Conditions of Contract, Specifications and committees. The only contract they had was an agreement with the financiers and sponsors of the project at hand. They used their innate skills and got on with the job. Certainly, they had their failures but then so do we.

Today's world is different and more complex. Therefore the various and, I think fairly obvious reasons for a more structured approach to the construction process.

The objective of this series of lectures is to outline to you how the structure of contract documentation is designed to meet the needs of modern construction and the various conflicting interests that are involved in the process. The Conditions of Contract form an integral part of the documentation.

## **2. INTRODUCTION**

The intention within the scope of this segment of the course is to provide a broad overview of the Conditions of Contract.

We will be looking at the basic requirements of a set of contract conditions, how they are structured and how they are applied.

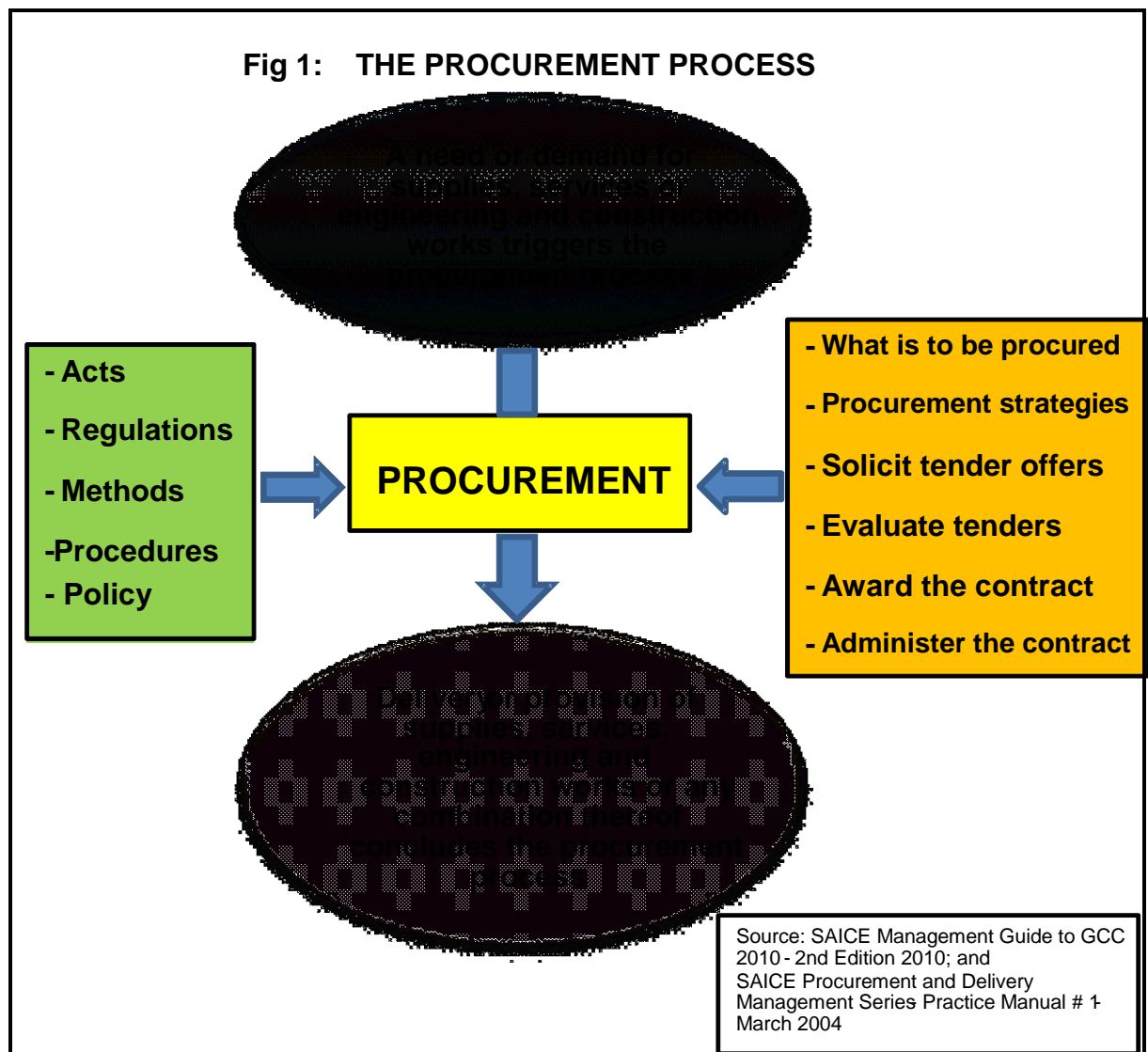
The contract conditions are a legal document and are subjected to the over-riding provisions of the general law of contract. It is important to recognize this limitation when dealing with Conditions of Contract.

Experience has taught me that there are many shades of grey in the contract conditions and in many cases engineering options become deeply interwoven with the legal aspects (e.g. unforeseen conditions). Don't attempt to give a legal opinion on the conditions. You are, in all probability, not competent to do so.

Once people start to read the small print a contract is probably in trouble. Try to avoid this if at all possible. There are those (both Engineers and Contractors) who try to use the Conditions of Contract to their own advantage and in the end engineering gets a bad name and really only the lawyers grow rich.

### 3. THE CONTRACT

A call for tenders is normally no more than a request for interested parties (or alternatively preselected parties) to submit offers to undertake prescribed works in accordance with the terms and conditions contained in the offer documents (the Tender Documents). Each tender received is an offer which the Employer calling for tenders may accept or reject at will. Once the Employer accepts the offer, a CONTRACT exists and all the conditions and terms and obligations described in the offer documents come into force. Figure 1 summarises in broad outline the typical **procurement process** that is followed.



The Construction Industry Development Board (CIDB), which was established in 2000, has the objective of promoting and establishing uniform standards for the construction industry and Regulation 24(b) of the Construction Industry Regulations states that every Employer of a state institution must solicit tenders in accordance with the Standard for Uniformity in Construction Procurement<sup>1</sup>. These current course notes take the latest regulations and requirements into account.

#### **4. TYPES OF CONTRACT CONDITIONS**

Several forms of contract were evolved in the United Kingdom in the 1920's and 1930's. The first Conditions of Contract (ICE) issued by the Institution of Civil Engineers in London appeared in 1945. There have been numerous subsequent revisions of this document but the basic structure is unchanged.

This document is an important milestone. The SAICE (Blue Book) (1990, 2004 and 2010) conditions as well as the FIDIC (International Federation of Consulting Engineers) conditions are modelled on this ICE format.

Various authorities in South Africa had, in the past, devised Conditions of Contract which they regarded as appropriate to their own needs. These conditions often varied widely in their scope and particularly in the definition of the powers of the Engineer (if there is one) and the Contractor. This will be discussed in more detail later.

##### **a) SAICE Conditions**

Used widely for private work and by many municipalities and local authorities. Initially modelled in the British ICE conditions first published in 1945 and amended several times. Various editions of the SAICE General Conditions of Contract were released in 1990, 2004, 2010 and more recently in 2015. These editions are commonly referred to as GCC 1990, GCC 2004, GCC 2010, and GCC 2015 respectively. The current GCC 2015 is a total redraft of earlier versions with many changes of context and format. The SAICE has also published a 'Management Guide to the General Conditions of Contract 2015' and paragraph 4 in Chapter 1 thereof identifies the main objective of GCC 2015 to be *"...to set out fair, equitable, efficient, economic and transparent contract administrative procedures, and the allocation of risks. This is based on the uniformity requirements stipulated in the Government's Green Paper on Public Procurement and the equity requirements set out in the essential and desirable criteria developed by the Inter-ministerial Task Team for Construction Industry Development. GCC 2015 complies fully with all the Construction Industry Development Board (CIDB) requirements for a form of contract."*

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<sup>1</sup> Published in the government Gazette which can be downloaded from the website: [www.cidb.org.za](http://www.cidb.org.za)

The Management Guide referred to above also provides in the following excerpt an insight into the reasons for the current amendments to the SAICE Conditions of Contract:

*“Legislation does not often impact on construction law and contract conditions. However, when a lack of discipline resulted in a confusion of conditions of contract and prevented new entrants from competing freely for contracts, legislation was required. More and more Government Departments started to disband their departmental construction units and opt for contract construction. The GCC was copied and/or varied to serve as in-house conditions of contract. These in-house conditions of contract soon became a concoction of complex, ambiguous and ill-defined terms that required contractors to agree to unacceptable risks and resulted in increased construction costs and claims.*

*This situation called for the simplification of contract documents to make them more comprehensible. It was necessary to limit the number of conditions of contract to be used and to prohibit the use of ‘in-house’ conditions of contract and substantial variations to the standard conditions of contract. The CIDB therefore ruled that only four conditions of contract, which covered an adequate wide range of pricing and contracting strategies for construction works, should be used. GCC 2015 complies with this ruling.*

*To simplify GCC and make it more comprehensible, GCC 1990 and COLTO GCC (see below) were replaced by GCC 2004, which retained the language, style and ethos of the previous editions of GCC. In GCC 2010, clauses dealing with similar matters were grouped together for better comprehension, while new matters such as the Construction Regulations on Health and Safety, environmental impact, greater emphasis on programming of the works, a new performance guarantee, clarification of the acceleration of the works and updating dispute resolution with the latest thinking, were dealt with. GCC 2010 was an ideal document for dealing with civil, mechanical, electrical and building projects, or a combination of various types of projects, but after five years of application, it became clear that certain amendments were necessary. Amongst other things, GCC 2015 states that the Contractor’s time risk allowances must be indicated on the Programme of Works. It also permits the Contractor to suspend the Works if the Employer fails to make payment on a payment certificate; adds a Variable Performance Guarantee to the list of Securities; and allows for the selection of inflation indices that are appropriate to the type of Works to be carried out. Because of the disruptions caused by the wave of strikes and increasing electricity shortages of late, claims for excepted risks are now entitlements that the Contractor may claim as a Contractor’s claim. The amendments and use of simpler and more concise wording in the latest edition should ensure that GCC 2015 will remain relevant in the future and provide supportive contract administration and the equitable appropriation of risks.*

## **b) The FIDIC Conditions of Contract**

The most commonly used Conditions of Contract for international construction projects are published by the Federation Internationale des Ingenieurs-Conseil (FIDIC), the International Federation of

Consulting Engineers. The current version was published in 1999 and contains a suite of documents comprising:

- *The Conditions of Contract for Construction.* This Contract is for Building and Engineering Works designed by the Employer and is commonly known as the 'Red Book'.
- *The Conditions of Contract for Plant and Design-Build.* This Contract is for Electrical and Mechanical Plant and for Building and Engineering Works designed by the Contractor and is commonly known as the 'Yellow Book'.
- *The Conditions of Contract for EPC/Turnkey Projects.* This Contract is for Engineering, Procurement and Construction or Turnkey Projects where the Contractor takes total responsibility for the design and execution of the project, providing a completed project ready for occupation. This is commonly known as the 'Silver Book'.
- *The Short form of Contract.* This Contract is for Building or Engineering Works of relatively small capital value or time period or for relatively simple works where a much shorter form of contract is suitable and is commonly known as the 'Green Book'.

In 2008 FIDIC published:

- *The Conditions of Contract for Design, Build and Operate Projects.* This Contract is specifically structured to cater for a 'green-field' Design-Build-Operate scenario, with a 20 year operation period based on a single contract awarded to a single contracting entity (which will almost certainly be a consortium or a joint venture due to the scale of the project). This is commonly known as the 'Gold Book'.

Certain state authorities and parastatals such as SANRAL, Trans-Caledon Tunnel Authority (TCTA) and others have now adopted a FIDIC form of contract that may be appropriate for their projects.

In 2000 FIDIC published The FIDIC Contracts Guide, which gives detailed guidance on the use of the three principal 1999 Contracts (viz: the 'Red', 'Yellow' and 'Silver' books). The 2<sup>nd</sup> Edition of this guide was published in 2010 and the 3<sup>rd</sup> edition was published in 2014.

### **c) New Engineering Contract (NEC)**

This form of contract has been developed in the United Kingdom in recent years. It is a radical departure from all existing forms. Its primary aim is to remove the adversarial attitudes between Employer, Engineers and Contractors. The focus is on programming, dispute resolution, separation of technical and legal issues and rapid reaction to situations. It is now used extensively by Eskom and Sasol. Other major corporations are also moving in this direction. It is necessary to be aware of its emergence as its promoters claim it is applicable across the whole spectrum of contracting. Recently the NEC4 edition of this suite of contract conditions was published.

N.B. It should be noted that there are some challenges associated with the use of the NEC's family of contracts including:

- a culture change in project management approach,
- executive commitment,
- training requirements,
- discipline with rigorous timescales and response times,
- the operation of compensation event procedure,
- increased documentation and administration,
- the issuing and monitoring of notices and other documents; and
- the understanding of early warning processes.

#### **d) Joint Building Contracts Committee (JBCC)**

The JBCC Series 2000 Principal Building Agreement is designed for use on, and should be confined to, building works. The latest edition – JBCC Edition 6.1 was published in March 2014.

*[Note: the forms of contract for the design by Employer contracting strategy discussed in a) to d) above are the four forms recommended by the CIDB.<sup>2</sup>*

*Note: there are some challenges associated with the use of the NEC's family of contracts including a culture change, executive commitment, training requirements, discipline with rigorous timescales and response times, the operation of compensation event procedure, increased documentation and administration, the issuing and monitoring of notices and other documents; and the understanding of early warning processes.<sup>3</sup>*

Some other (historic) forms of contract are briefly discussed below.

#### **e) CSRA Conditions**

Committee for State Road Authorities – first published January 1986. This was modelled on the SAICE conditions but with some very important differences. The idea was to unify the various provincial and SA Road Board conditions. The Committee of Land Transport Officials (COLTO) developed conditions of contract which superseded CSRA. As is stated in a) above the COLTO conditions were replaced by GCC 2004.

#### **f) SATS Conditions**

In use for many years on all SATS (now TRANSNET) projects, although TRANSNET now is tending towards the New Engineering Contract.

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<sup>2</sup> SAICE/CIDB 'Procurement and Delivery Management Series – Practice Manual # 2 – para 7.1

<sup>3</sup> SAICE/CIDB 'Procurement and Delivery Management Series – Practice Manual # 2 – para 7.1



**g) ESKOM Conditions**

Eskom has introduced the use of the New Engineering Contract (NEC).

**h) Mining Houses**

Various mining houses have their own conditions of contract reflecting their own peculiar circumstances and generally burdening the contractor with a greater risk management requirement.

**i) Major Local Authorities**

Cities such as Cape Town, Durban and Johannesburg had developed their own conditions but are now bound to follow the 'Standard for Uniformity' formulated by the CIDB.

**j) State Departments**

Major Departments such as Public Works and Water Affairs had developed 'in-house' conditions of contract to suit the department's needs and which, in some instances, were more applicable to mechanical and electrical work and were not suitable for civil engineering without substantial modification. This has now also been largely remedied by the introduction of the 'Standard for Uniformity' and the ability to use the FIDIC suite of conditions of contract, which includes appropriate conditions for civil engineering works and for mechanical and electrical works.

**h) What Conditions of Contract should be used?**

**This raises the key issue that the Conditions of Contract must be appropriate to the type of work defined in the contract. It is no good using the conditions from a building contract for say a house or an office block and applying these to a civil engineering project embracing roads, services and the like. We will be confining ourselves to Conditions of Contract relating to civil engineering works only.**

- 5. There is much to be said for minimizing the numbers of Conditions of Contract in circulation, as is now advocated by the 'Standard for Uniformity'. The advantage of a common set of Conditions of Contract is that everyone becomes familiar with the general administration of such a contract and I have no-doubt that it will eventually lead to smoother administration and, in the long run, fewer disputes. REQUIREMENTS OF THE CONDITIONS OF CONTRACT**

The Conditions of Contract need to address a number of key issues regarding the powers and obligations of the various parties involved in the contract. The rights of each party need to be protected and this is also covered by the Conditions of Contract.

The key matters to be addressed are:

1. Who is involved?
2. What obligations does each party have?
3. What powers does each party have?
4. What is to be done?
5. How much time is allowed?
6. How much will the work cost?
7. How are disagreements handled?
8. How are changes and unforeseen conditions assessed?
9. How are the risks shared?

## **6. RIGHTS AND RESPONSIBILITIES**

In meeting the requirements of the contract, it is necessary to confer certain rights and powers as well as responsibilities on the various players in the contract. In many ways the allocation of these rights and responsibilities determines the degree of risk to be carried by the Employer and the Contractor. Note that contractually the Engineer carries no risk within the contract between the Employer and the Contractor except for the requirement that he carries out his professional duties correctly and in accordance with best practice. He has no contract with the Contractor but is normally in contract with the Employer for his professional services.

The powers and obligations are summarised below. Again, the list is not exhaustive.

### **6.1. POWERS OF THE PARTIES IN THE CONTRACT**

#### **6.1.1. Powers of the Employer**

The Employer can or may:

- Appoint and dismiss the Engineer
- Define the limit of the Engineer's power
- Appoint the Contractor
- Draw up the Contract Agreement
- Apply penalties (under GCC 2010/15) for late completion by the Contractor
- Claim for delay damages (under FIDIC) for late completion by the Contractor
- Take over completed work
- Assign the Contract (with Contractor's agreement)
- Draw up the Contract Agreement
- Insure the Works
- Carry out the urgent repairs
- Determine the contract
- Go to arbitration or litigation

### **6.1.2.The Powers of the Contractor**

The Contractor can or may: -

- Appoint his representative
- Seek additional payment for extra work
- Plan the construction to suit his method of working
- Request additional time
- Assign the Contract (with Employer's agreement)
- Insure the Works
- Determine the contract (for Employer default)
- Go to arbitration or litigation

### **6.1.3.The Powers of the Engineer**

The Engineer can or may: -

- Issue instructions and drawings regarding the work
- Explain ambiguities in the documents
- Approve or reject all or part of the works
- Approve the Contractor's representative appointment
- Order additional or varied work (subject to this power not being restricted)
- Suspend the works (subject to this power not being restricted)
- Grant extensions of time (subject to this power not being restricted)
- Value the varied or extra work
- Measure the quantities of work done
- Certify payments to the Contractor
- Decide disputes in the first instance
- Issue Certificates of Completion (GCC 2010/15)
- Issue Taking-over Certificates (FIDIC 1999)

## **6.2.OBLIGATIONS OF THE PARTIES IN THE CONTRACT**

### **6.2.1.Obligations of the Employer**

The Employer is required to: -

- Make the Site available for inspection during the pre-tender stage
- Enter into a contract with the Contractor
- Not to assign the contract without agreement of Contractor
- Approve the performance bond or surety
- Accept responsibility for excepted risks

- Insure the works in certain circumstances
- Indemnify Contractor against certain risks
- Make the Site available
- Provide right of access to the Site
- Pay the Contractor on the Engineer's certificate within the specified time
- Pay interest to the Contractor for payments not made within the specified time

### **6.2.2.Obligations of the Engineer**

The Engineer is required to: -

- Observe (monitor) the works and test all materials
- Issue drawings and instructions timeously
- Record all facts and circumstances of adverse conditions
- Approve the programme of works (but not in FIDIC [8.3])
- Monitor rate of progress
- Certify completing of the Works
- Order variations in writing
- Value variations and fix new rates
- Value claims from Contractor
- Measure the quantities of work done
- Assure payments to any sub-contractor as necessary
- Certify monthly payments to Contractor timeously
- Certify the release of retention money
- Ensure all defects are remedied
- Issue Certificate(s) of Practical Completion, Certificate of Completion and Final Approval Certificate (GCC 2010/15)
- Issue Taking-over Certificate (FIDIC)
- Value the works at determination of contract
- Resolve disputes in the first instance (GCC 2015 - Engineer's ruling)
- Resolve disputes in the first instance (FIDIC - Engineer's determination)

### **6.2.3.Obligation of the Contractor**

The Contractor is required to: -

- Enter into a contract with the Employer
- Construct and complete the Works and remedy defects
- Provide all labour, construction equipment and materials necessary
- Give notice of changed or adverse conditions
- Carry out work to Engineer's satisfaction and comply with instructions

- Provide a programme
- Provide adequate Superintendence of the construction of the Works
- Set out the Works
- Watch and care for the Works
- Insure the Works, the public and workmen
- Indemnify the Employer – royalties, fees, traffic, streams etc.
- Provide facilities for other contractors
- Clear the site on completion
- Care for his employees
- Test materials and workmanship (QA)
- Allow Engineer access for testing and inspection
- Commence and complete the Works within time
- Maintain the Works and search for defects
- Accept variations
- Submit monthly statement of claims for payment
- Assist Engineer with measurement
- Carry out urgent repairs