

FIDIC users' guide  
A practical guide to the  
1999 Red and Yellow Books

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thomastelford

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## Preface to the second edition

This second edition of the *FIDIC Users' Guide* has been extended to include the Conditions of Contract for Plant and Design-Build, known as the 1999 Yellow Book. It also reviews the other FIDIC Contracts which have been published since the first edition was written, together with further discussion based on experience with the practical use of the 1999 Contracts.

During 2005 FIDIC published the *Multilateral Development Banks Harmonised Conditions of Contract for Construction*, commonly known as the MDB Edition. This Contract has been prepared in conjunction with The World Bank and a group of Multilateral Development Banks and is included in their procurement documents. The MDB Edition includes some significant changes to the Conditions of Contract for Construction and is reviewed in Part 4 of this book.

Since the publication of the first edition there has been an increased use of the 1999 FIDIC Contracts. The Plant and Design-Build Contract has become popular, particularly with Employers considering Contractor design for water-related and environmental projects. This Contract is very similar in layout and content to the Contract for Construction but differs in detail due to the different requirements for Contractor design rather than Employer design and the greater emphasis on electrical and mechanical plant. These differences are extremely important and require detailed study when deciding which Contract to use and when preparing and administering the Contract. Hence this second edition includes a detailed comparison between the Red and Yellow Books and a guide to the differences at each Sub-Clause of the Plant and Design-Build Contract.

Also, since the publication of the first edition, the European International Contractors (EIC) have published a very useful series of EIC Contractor's Guides to the different FIDIC Contracts. I must acknowledge the assistance I have received from these Guides, not just in understanding the Contractor's point of view, but also from their suggestions that potential disputes could be avoided by clarification of the meaning

of certain clauses. Further details of these Guides can be obtained from EIC at [www.eicontractors.de](http://www.eicontractors.de).

I am also most grateful to FIDIC for allowing the Clauses in the Conditions of Contract to be reproduced and for assistance from The FIDIC Contracts Guide. Copies of the Conditions of Contract and other FIDIC publications can be obtained from the FIDIC Bookshop, Box 311 CH-1215 Geneva 15, Switzerland (tel: +41 22 799 49 00; fax: +41 22 799 49 01; [fidic.pub@pobox.com](mailto:fidic.pub@pobox.com); <http://www.fidic.org/bookshop>).

## Preface to the first edition

In recent years the role of the Conditions of Contract in a construction project has undergone a radical change. The Conditions of Contract were originally a legal document, giving the rights and obligations of the Parties, and were only consulted when a claim or dispute became a serious problem. Resident Engineers and Contractor's Project Managers were probably aware that such documents existed, but most of them had never even seen the Conditions of Contract, much less used it as a reference to guide their actions on the site.

In more recent years, the increase in the size and complexity of projects and the increasing demand from Clients and Employers that projects should finish on time and within budget have increased the pressures for improved management techniques on construction sites. The current emphasis on improved procedures for the avoidance or resolution of claims and disputes has added to these pressures on the staff on site.

One of the consequences of the movement towards improving efficiency and reducing costs has been the increasing use of the Conditions of Contract as a manual of good project management procedures. This development has been evident in the successive revisions to the Federation Internationale des Ingenieurs-Conseils (FIDIC) Conditions of Contract for Works of Civil Engineering Construction, the traditional FIDIC 'Red Book', and experienced a major leap forward with the publication of the New Engineering Contract by The Institution of Civil Engineers in London. The New Engineering Contract not only incorporated procedures which virtually formed a manual of good project management techniques and encouraged a less adversarial approach to the relationship between Contractor and Employer but also was written in good English, in a style and format that could be readily understood by construction professionals.

The Conditions of Contract, which were published by FIDIC in 1999, mark a further step forward in the process of the incorporation of management procedures expressed in a practical style and format. Hence, it is now inconceivable that Resident Engineers, Contractor's

Managers and the other construction professionals who prepare documents and administer projects on site should not have the Conditions of Contract on their desks and refer to its requirements and procedures on almost a daily basis.

This book is a practical guide for the people who actually use FIDIC Conditions of Contract, based on the author's practical experience of construction projects, conducting training courses and the resolution of disputes. It is intended to assist the people who are preparing Contract documents as well as those who are administering the project on the Site or dealing with claims and disputes. The book includes a detailed review of the Conditions of Contract for Construction and comparisons with the other FIDIC Conditions which were published in 1999. The review must be read together with the wording of the actual Sub-Clause. The interrelation of the actions and notices by the Employer, Contractor and Engineer with the milestone events during the construction of the project are shown in a series of flow charts. There is also a comparison with previous FIDIC Conditions and a comparison of Clause numbers to assist those who are familiar with the traditional FIDIC Red Book. The book is not intended to be a legal analysis of the new FIDIC Conditions or a comparison of the correct interpretation of the conditions of contract in different jurisdictions. That task can be left for those who are better qualified to analyse and speculate on the correct legal interpretation of controversial Clauses.

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## *Chapter 21*

# Clause 12 (RB): Measurement and Evaluation

Clause 12 in the Red Book is written for a remeasurement contract in which the Accepted Contract Amount is based on estimated quantities but the Contractor is obliged to carry out all the work which is required by the Specification and Drawings and is paid for the actual quantities of work which he has executed. The Clause covers the procedures for the measurement and evaluation of the Works that have been executed, or have been omitted by a Variation.

The Red Book is clear that the quantities in the Bill of Quantities are only estimates. Hence any changes due to remeasurement are not Variations, but are part of the original obligations of both Parties. If the Employer, for his own internal accounting purposes, requires the additional Cost due to changes in quantities to be confirmed by a Variation order then this is just an administrative procedure and does not indicate that the change is a Variation.

If the Contract is based on a lump sum, or is on a cost-plus or other basis, then Clause 12 must be omitted from the General Conditions and alternative arrangements included in the Particular Conditions. Sub-Clause 14.1 of the FIDIC Guidance for the Preparation of Particular Conditions includes recommendations for Contracts on a cost-plus or lump sum basis. If a Red Book Contract includes some lump sum items then these must be paid from a Schedule of Payments as Sub-Clause 14.4.

Definitions at Sub-Clause 1.1 relevant to this Clause include:

- 1.1.1.7 (RB) Schedules
- 1.1.1.10 (RB) Bill of Quantities
- 1.1.4.2 Contract Price
- 1.1.5.2 Goods
- 1.1.5.3 Materials
- 1.1.5.4 Permanent Works
- 1.1.5.8 Works
- 1.1.6.9 Variation.

*Clause 12 (RB): Measurement and Evaluation*

12.1 (RB) Works to be Measured

The Works shall be measured, and valued for payment, in accordance with this Clause.

Whenever the Engineer requires any part of the Works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:

- (a) promptly either attend or send another qualified representative to assist the Engineer in making the measurement; and
- (b) supply any particulars requested by the Engineer.

If the Contractor fails to attend or send a representative, the measurement made by (or on behalf of) the Engineer shall be accepted as accurate.

Except as otherwise stated in the Contract, wherever any Permanent Works are to be measured from records, these shall be prepared by the Engineer. The Contractor shall, as and when requested, attend to examine and agree the records with the Engineer, and shall sign the same when agreed. If the Contractor does not attend, the records shall be accepted as accurate.

If the Contractor examines and disagrees the records, and/or does not sign them as agreed, then the Contractor shall give notice to the Engineer of the respects in which the records are asserted to be inaccurate. After receiving this notice, the Engineer shall review the records and either confirm or vary them. If the Contractor does not so give notice to the Engineer within 14 days after being requested to examine the records, they shall be accepted as accurate.

The procedures for measurement of the Works are given at Sub-Clause 12.1 as follows.

- The Engineer decides that he requires a part of the Works to be measured and notifies the Contractor.
- The Contractor attends and assists the Engineer in making the measurement.
- Alternatively, the Contractor fails to attend and the Engineer's measurements are accepted as accurate.

If a part of the Works is to be measured from records of its construction then the details should be specified in the Tender documents. A similar procedure applies in that the Engineer prepares the records and the Contractor examines and agrees or disagrees with the records.

If the Engineer requires the Contractor to carry out the work for either measurement or the preparation of records then this should be stated in the Specification. In practice the Contractor often does play a greater part in this work than is required by the Contract. The Contractor is more likely to have the staff and equipment available and some Contractors

prefer to make the measurements themselves, rather than assist the Engineer. The Engineer will then check and confirm the Contractor's measurement.

The Contract does not stipulate any fixed periods or timing for the measurement and this is a matter for the Engineer. The timing of measurement notifications will depend on the progress of the Works and the completion of convenient parts or items in the Bill of Quantities, although any work which is to be buried or covered up must be measured before it is buried or covered. The Contractor will have notified the Engineer under Sub-Clause 7.3 before the Work is buried or covered up.

The measurement must be completed in time for the Contractor to prepare and submit his Statement at Completion, as Sub-Clause 14.10, but does not have to be related to interim payments. The provision for interim payments, at Sub-Clause 14.3, is based on 'the estimated value of the Works executed' and not on a final valuation. The estimated value may be based on an interim or approximate measurement and will be adjusted when the final measurement figures have been agreed.

#### 12.2 (RB) Method of Measurement

Except as otherwise stated in the Contract and notwithstanding local practice:

- (a) measurement shall be made of the net actual quantity of each item of the Permanent Works; and
- (b) the method of measurement shall be in accordance with the Bill of Quantities or other applicable Schedules.

The procedure for the actual measurement of the different work items can be standardised for different projects and for consistency within a project by the use of a published standard method of measurement. The FIDIC Conditions of Contract do not require the use of a standard method of measurement but Sub-Clause 12.2 states that the method of measurement will be in accordance with the Bill of Quantities 'or other applicable Schedules'. If a standard method of measurement, such as the Civil Engineering Standard Method of Measurement published by The Institution of Civil Engineers, is to be used then this requirement should be stated in the Particular Conditions.

Alternatively, the Bill of Quantities should include a detailed explanation of the method of measurement which will be used. For example, the phrase 'net actual quantity' needs to be explained. It will not mean the actual quantity which has been executed by the Contractor. Particularly for work below ground level, the Contractor may have provided additional concrete, or carried out additional excavation, to suit his

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