



Contract Management under FIDIC 2017 Red Book

Day 2- S3

Variations



FIDIC Redbook 2017: Variations

1. Requirements &
Relevant Clause

2. Variations—
Definition

3. Variations—
Timing & Authority

4. Variation—
Initiation & Instruction

5. Variations—
Value Engineering

6. Variations—
Valuation & Adjustment



1. Variations: Requirements and & related clauses

- In construction project, usually need arises to change the initial requirements as construction proceeds:
 - Employer's requirement can change due to regulatory changes, or preference change;
 - Engineer may need to issue further information which involves changes to the initial requirements (e.g. confirmation to site conditions);
 - to correct an errors/mistake in the information, in the Contract.
- Engineer has power under Clause 13 to adapt the work to be done under the Contract to deal with such matters.
- Engineer is authorised to instruct Variations under the Contract.
- Engineer is not empowered to instruct a modification of the Contract (which may be made only by the Parties to the Contract).



1. Clause 13 & related clauses

- Clause 13.1 deals with the Engineer's right to vary
- Clause 13.2 deals with the Contractor's right to propose a Variation = Value Engineering.
- Clause 13.3 deals with the procedure for:
 - instructing a Variation or
 - approving a Variation either as
 - Value Engineering, or
 - under a Contractor's proposal requested by the Engineer.



2. Definition

- FIDIC Contracts define “**Variation**” as

*“any change **to the Works**, which is instructed or **approved** as a variation under Clause 13 [Variations and Adjustments].” [RB 1999]*

*“any change **to the Works**, which is instructed as a variation under Clause 13 [Variations and Adjustments].” [FIDIC 2017]*

- Do FIDIC Contracts define the term “**Variation Order**”?



2. Definition

- According to Clause 13 [RB 2017], a Variation may involve, any of the following six changes :
 - changes in quantities (**but such changes not necessarily constitute a Variation**)
 - changes to the quality and other characteristics;
 - changes to the levels, positions, and/or dimensions etc.;
 - omissions unless work is to be carried out by others [**without the agreement of the Parties**];
 - additional work necessary for the Permanent Works; or
 - changes to the sequence or timing of the execution of the Works.

Change to the sequence or timing empowers the Engineer to instruct the Contractor to accelerate his/her works to complete within the Time for Completion (which is in line with SC 8.7 para 1).

Questions: (1) Can the Engineer instruct to reduce the Time for Completion?

(2) Could the Employer have made some other provisions in the Contract that would encourage the Contractor to reduce the Time for Completion?



3. Timing and authority to initiate Variations

- Who has authority to initiate a Variation?
 - The Engineer.
- Under Sub-Clause 3.2 [FIDIC 2017] or Sub-Clause 3.1 [FIDIC 1999]:
 - the Engineer shall have no authority to amend the Contract;
 - the Engineer may be required to obtain the approval of the Employer before exercising a specified authority, as stated in the Particular Conditions.
- However, if the Employer's approval is required before the Engineer issues an instruction and the Engineer does issue such an instruction, the Employer is deemed to have given his approval.



3. Timing and authority to initiate Variations

- Unless & until the Engineer instructs a Variation (or approves a Variation suggested by the Contractor) the Contractor is to continue working according to the original design.
- Once the Contractor has received a Variation instruction, he is to execute and is to be bound by that Variation and shall execute the Variation with due expedition and without delay.
- The Contractor is not entitled to wait until the cost and time implications of the Variation are agreed with the Engineer/Employer.
- But under RB 2017, the Contractor is not bound by a Variation if:
 - if the work was Unforeseeable having regard to the scope and nature of the Works;
 - The Contractor cannot readily obtain the Goods required for the Variation; or
 - if it will adversely affect the Contractor's ability to comply with the health/safety (SC 4.8) and environmental (SC 4.18) obligations.



3. Timing and authority to initiate Variations

- When can a Variation be initiated?
 - “... at any time prior to issuing the Taking-Over Certificate for the Works”
- Note that The time limit is not when any other Taking-Over Certificate is issued or deemed to have been issued, for example for a Section or
- a Part– the Employer will still have the right to initiate Variations in respect of the works of that Section/Part until the overall Taking-Over Certificate is issued for the Works.
- But note that if the Employer or Engineer requests the Contractor to do work during the Defects Notification Period that is not his responsibility it is to be treated as a Variation under Sub-Clause 13.3.1 (see SC 11.2).



4. Initiation and instruction of Variations

- Under Pink Book but not FIDIC 2017, instructions under Sub-Clause 3.3 are to be in writing but if it is given orally, they can be confirmed in writing by the Contractor within 48 hours after receipt of the instruction and unless the Engineer contests this confirmation within the next 48 hours, the instruction is deemed to have been given.
- Under FIDIC 2017, every instruction must be given in writing, in accordance with Sub-Clause 1.3 [*Notices and Other Communications*].
- Under FIDIC 2017, if the Engineer does not state that the instruction represents a Variation, but if the Contractor intends to claim additional payment and/or time, the Contractor must give a Notice to the Engineer with a reason, or may submit a Notice of claim under Sub-Clause 20.1.



4. Initiation and instruction of Variations

- **Request for proposal** (SC 13.3.2).
 - The Engineer **may request** a proposal – under FIDIC 2017 by giving an instruction, or requesting that the Contractor submits a proposal.
 - The Contractor shall respond as soon as practicable, or shall respond why he cannot proceed.
 - The response shall include:
 - A description of the proposed work and a programme for its execution.
 - A proposal for modifications to the Time for Completion and the programme pursuant to Sub-Clause 8.3.
 - A proposal for valuation of the Variation.



4. Initiation and instruction of Variations

- Questions regarding a proposal.
 - How does timing of the proposed Variation impact a decision to instruct a Variation or request a proposal?
 - Keep in mind the Contractor must not delay any work whilst awaiting a response.
 - Is a proposal automatically considered to be a fixed price and time offer?
 - Not under RB – Sub-Clause 12.3 [*Measurement and Evaluation*] applies unless as otherwise stated in the Contract.



4. Initiation and instruction of Variations

- Questions regarding a proposal.
 - Can the Contractor claim for his Costs associated with the preparation of the proposal?
 - FIDIC 1999 is silent on this point – but the “FIDIC Contracts Guide” suggests that they cannot be claimed – unless the Contractor was required to do some design work in order to prepare the proposal.
 - FIDIC 2017 expressly states that the Contractor shall be entitled to payment of such cost subject to Sub-Clause 20.2 (SC 13.3.2 past para).



4. Initiation and instruction of Variations

- Once the Engineer has received the Contractor's proposal
 - The Engineer must reply as soon as practicable either approving, disapproving or with comments. FIDIC 2017 requires a formal communication under SC1.3.
 - In the meantime, the Contractor is to continue working as if there had been no request for a proposal (a request is not an instruction).
 - However, even if the proposal process has been started, the Engineer may nevertheless initiate an instruction prior to receiving or completing discussions on the proposal.



5. Value Engineering

- Under Sub-Clause 13.2, the Contractor has the right but not an obligation to make his own proposals, at his own cost, if he believes he knows how to:
 - accelerate completion,
 - reduce the construction or operating costs of the Works,
 - improve efficiency or value of the completed Works, or
 - otherwise benefit the Employer.



5. Value Engineering

- The Contractor may not claim his Costs for preparing his proposal under Sub-Clause 13.2, but is remunerated by a split savings formula if his proposal is approved.
- The split savings are based on the difference between the “reduction in contract value”, and the “reduction (if any) in the value to the Employer of the varied works.”
- Under RB 1999, the Contractor receives 50% of the difference.
- Under FIDIC 2017, the sharing of benefits is less specific. The Engineer must “consider” the sharing (if any) of such benefits.



5. Value Engineering

- A Variation instruction following approval of a Contractor's value engineering proposal, may involve changes of design.
- If so, the design work is to be done by the Contractor.
- Therefore, the Employer and the Engineer need to carefully consider how this shared liability for design is to function.
 - Is this sharing of liability the best solution?
 - Does the Employer take the Contractor's design, have it approved by the Engineer and re-issued as an instruction i.e. does the original designer assume responsibility?
 - Or does the Contractor take responsibility for his part of the design



5. Value Engineering

- If so, what unintended consequences are there with respect to the original designer's overall responsibility?
- The insurance provisions of the Contract will most likely require revision in the latter case.
- However in the 2017 RB, the Contractor is already required to provide professional indemnity insurance for any works it designs. No such provision existed in the Pink Book.



6. Valuing Variations and role of Engineer

- Unless the Engineer has approved a proposal from the Contractor under Sub-Clause 13.2 or in response to a request under Sub-Clause 13.3, the Engineer must determine the adjustment to the Contract Price and/or the EOT.
- FIDIC 2017 does not require Notice from the Contractor under Clause 20 if the Engineer acknowledges that the instruction is a Variation – but does otherwise.



6. Valuing Variations and role of Engineer

- **Rates**
- Disputes often arise over the setting of new rates.
- These disputes fall into one of two categories:
 - adjustment of existing rates due to major changes in quantities under Sub-Clause 12.3 (a) (i-iv), or
 - the fixing of star rates or new rates due to Variations or other changes under Sub-Clause 12.3 (b) (i-iii).



6. Valuing Variations

- **Rates**

- A key element in settling disputes over adjustments due to changes in quantities is separating out the value of any fixed portion of the rate corresponding to any necessary temporary works such as scaffolding, hoisting equipment, or other preliminaries.
- Disputes over this subject can be minimized by including sufficient details of temporary works and other preliminaries in the Bill of Quantities or by the Contractor providing a break-down of his rates at an early stage in the Works.



6. Valuing Variations

- Rates

- When valuing Variations, existing BOQ rates are to be used as far as possible (or in YB 2017 - the Schedule of Rates, if provided).
- If the existing rates are not applicable because the work is dissimilar from other items in the BoQ or the work is executed under different circumstances, new rates (or star rates) should be derived from existing rates.
- If this is not possible, new rates must be built up based on the [estimated] reasonable Cost of executing the work plus Profit.
- In both the Pink Book and the 2017 RB “Profit” is defined as 5% of reasonable Costs but can be modified in the Contract Data.



6. Valuing Variations

- Rates
 - Pending final agreement on new rates, the Engineer must fix provisional rates so that the Contractor can be paid (at least in part) without delay.



6. Valuing Variations

- Dayworks

- Engineer can instruct Variation to be executed on a Daywork basis (payment will be made according to rates and prices in the *Daywork Schedule*, based on daily records submitted by the Contractor).
- Unless the Engineer verifies the resources applied to Daywork, there may be a temptation for a Contractor to exaggerate resources. So emphasis put on the proof of materials used and on provision of daily records of other resources applied. The Engineer must ensure that: Daywork and resources are monitored daily.



6. Valuing Variations

- Time
 - The Engineer may issue a Variation instruction under Sub-Clause 13.3, which changes the sequence or timing of the execution of the Works, but he cannot change the Time for Completion (other than through an Extension of Time).
 - Under Clause 8.7 of FIDIC 2017, the Engineer can instruct acceleration to minimise the impact of Employer's delays and Contractor is to be paid under Sub-Clause 13.3.1. The Pink Book has a similar provision under Sub-Clause 8.6.



6. Valuing Variations

- Time

- Although the Contractor has the express right to an Extension of Time in relation to Variations, there is no such express right to recover time-related costs – these must be assessed at the time of agreeing the value of the Variation.
- This means that even if the Engineer does not ask for a proposal, the Contractor must assess the effect of the Variation on his programme and determine if he is likely to incur additional time-related Costs.



6. Variations and Adjustments

- Adjusted rates may be established for any items of the BoQ whose measured quantities exceed or fall below a specified percentage of the quantities stated in the original BoQ.
- Applicable only if all of the following criteria apply:
 - the measured quantity of the item is changed by more than 25% from the original BoQ quantity;
 - this change in quantity multiplied by the specified unit rate for this item exceeds 0.25 % of the Accepted Contract Amount;
 - the change in quantity directly changes the Cost per unit quantity of this item by more than 1 %; and
 - this item is not specified in the Contract as a fixed rate item.