

The Hong Kong Institute of Surveyors

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Common problems encountered with variations, valuations and re-rating under HK forms of contract.

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The Standard Form of Building Contract 1998

- Contents
 - Variations, valuation, re-rating (cl.11)
 - Quantities determined by the Drawings (cl.12)
 - Discrepancies and errors are corrected (cl.12)
 - Errors are deemed variations (cl.12)
 - Direct loss and expense (cl.11.6)
 - Variations clearly defined (cl.11.2)

The Standard Form of Building Contract 1998

- Rules for valuation of variations
- 3 main rules
 - *Prices in the Schedule of Rates shall determine the valuation of work of similar character or executed under similar conditions as work priced therein.*
 - *Where not of similar character or executed under similar conditions then based on such rates as far as may be reasonable ...*
 - *.....failing which a fair valuation shall be made.*

The HKSAR GCC for Civil Engineering Works

- Contents:
 - Remeasurement (GCC 59)
 - Variations, valuation, re-rating (GCC 60, 61)

Basic Principles of Measurement & Value

- Measure & value type contract (basic principle)
 - Estimated quantities:
 - Contractor paid for actual work done.
 - No risk on Contractor as to quantities.
- Two key provisions for adjusting for work done:
 - Clause 59 - adjusting estimated quantities.
 - Clause 60 & 61 - adjusting for variations.

Clause 59

Key provisions for establishing quantities

- 59(1) Bills of Quantities deemed to have been prepared in accordance with SMM.
- 59(2) Quantities in BQ are estimated and not to be taken as actual or correct quantities of the work executed.
- 59(3) Engineer shall correct any error or omission in BQ.
- 59(4)(a) Engineer shall determine by measurement the quantity of work executed in accordance with the Contract.

Examples of adjustments

1. Remeasurement *(all anticipated under the Contract)*

- Changes in quantity [59(4)(a)] = Remeasured
- Error in measurement [59(1)] = Corrected
- Work shown on Drawings but not included in BQ [59(3)] = Error corrected
- Discrepancy between work on Drawings and Specification = Clarified cl.5
adjusted cl.59

2. Variations *(not anticipated)*

- Work not shown in any document = Variation cl.60

Correction of errors

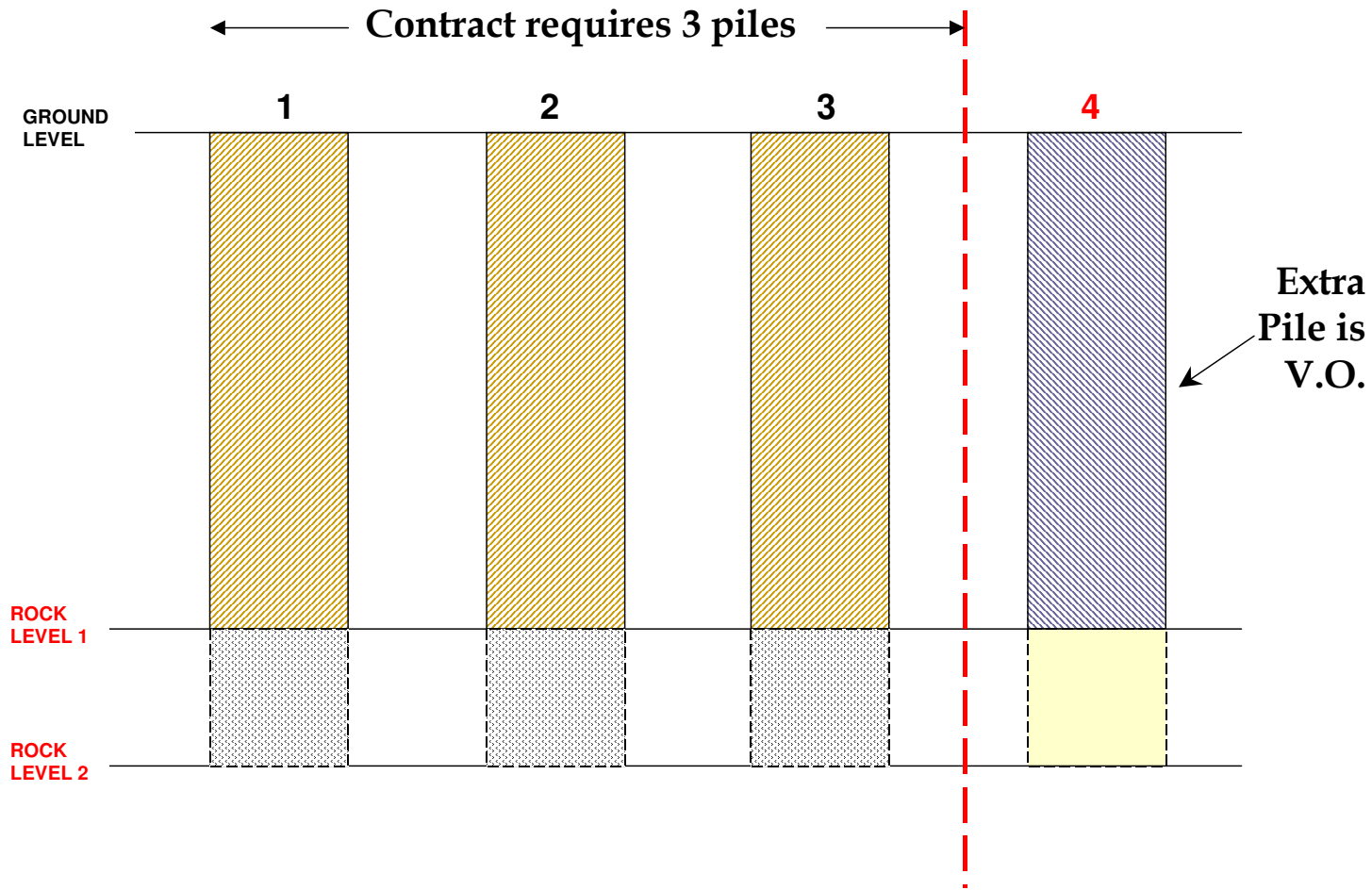
Remeasurement

- Work shown on Drawings but not included in BQ [59(3)].
- Not to be confused with a variation which will similarly be excluded from the BQ.
- Variation gives rise to EOT and Cost whereas a correction does not.

Difference between Remeasurement and a Variation

- Remeasurement = Work expected to change
- Variation = Unexpected changes
- HK form obliges Engineer to separate the two due to the division of risk under cl. 59 and cl. 60.
- Both provide for reimbursement for actual work done and EOT if work delayed.
- Disturbance can be recovered under cl. 63 for a variation but not for a change in quantity. Contractor assumes cost risk if the “estimate” proves to be incorrect.

Example of the distinction



Variations (GCC Clause 60)

- Not clearly defined in the Contract but regarded as something additional to that anticipated at Tender e.g. necessary or desirable change in design.
- Works cannot be varied without such an express provision.

Variations (GCC Clause 60)

- *"60(1) The Engineer shall order any variation to any part of the Works that is necessary for the completion of the Works and shall have the power to order any variation that for any other reason shall in his opinion be desirable for or to achieve the satisfactory completion and functioning of the Works."*
- *Necessary* variations must be ordered (mandatory).
- *Desirable* variations, arguably optional (a power).
- No variations can be issued after completion.

The formal requirements

- *"No variation shall be made by the Contractor without an order in Writing by the Engineer" 60(2).*
- This prevents the Contractor from varying the work. Not to determine if the work is a variation.
- The test of a variation is whether or not the work is included within the Contract (i.e. not shown in any of the Contract documents).

Rating and Re-rating

- Applies in two main circumstances:
 - Measured work
 - Where substantial changes in quantity render the existing rate unreasonable cl. 59(4)(b).
 - Variations
 - For new works - cl. 61(1)(a) to (c). (3 rules of valuation)
 - Where the nature or extent of variations renders rates unreasonable – cl. 61(1) *proviso*.

Rating and Re-rating

- Note that whether adjusting/correcting for estimated quantities or valuing variations, each requires the Engineer to adhere strictly to the rates in the Contract but both are subject to a test of “unreasonableness” whether as a general rule or as a proviso.
- As a rather vague notion this gives rise to a number of arguments i.e. under what conditions are rates rendered unreasonable / inapplicable.

Variations - Clause 61

- Three "rules" for valuation:
 1. **61(1)(b)** *Work that is the same or similar in character to and executed under same or similar **conditions** and **circumstances** to any work in the Contract shall be valued at the rate set out in the Contract. **[Rule 1]***
 2. **61(1)(c)** *Work not the same or similar in character etc shall be valued at a rate based on the rates in the Contract so far as may be reasonable... **[Rule 2]***
 3. *.....failing which at a rate to be agreed between the Engineer and Contractor. **[Rule 3]***

Variations - Clause 61

- To value, there are two initial steps to consider:
- Look at **character, conditions and circumstances**, if within realms of reasonableness then the rates apply either “as is” or “as a basis”.
- Imprecise but this is a suggested interpretation:
 1. **Character** = style or type of work described in BQ
 2. **Conditions** = same degree of difficulty
 3. **Circumstances** = same sequence, method or timing
- First two appear to be physical attributes. Third, more intangible.

Re-rating Variations - Clause 61

- **Rule 1:**
 - Work "same or similar" = value at BQ "rate".
- **Rule 2:**
 - Work not similar = based on any rates in Contract.
 - Suggestion is that the rate can be broken down and new elements imported within.
- **Rule 3:**
 - Where unreasonable to use the BQ rates = rate to be agreed between the parties.

Re-rating under Clause 61 - Variations

- **Rule 1 and 2** adhere strictly to the rates in the BQ. Rates must apply even to work where dissimilar, subject to “reasonableness.”
- **Rule 3** is a complete departure from the BQ rates as they are deemed "unreasonable". No indication as to how a rate should then be derived, except by agreement.

When a rate becomes unreasonable

- How to value work where Contract rates have been rendered unreasonable?
- Can the Engineer/Surveyor
 - Use a fair market value?
 - Use a schedule of rates (say ArchSD)?
 - Use rates from a similar contract?
 - Use cost plus?
 - Revert back to the Contract rates?
- Note that the new rate is subject to agreement. A dialogue is necessary. No power to impose a *fair valuation*

When a rate becomes unreasonable

- What renders a rate unreasonable such that a new valuation may apply? Which of the following might apply?
 - The work is so different in nature in all respects?
 - Existing BQ rates are high/low to start with?
 - Mistake in the rate?
 - Would bring about a windfall or huge loss?
 - Economies of scale?

When a rate becomes *unreasonable*

- Considered in: *Henry Boot v Alstom Combined Cycles* [2000] CA BLR247 and [1999] TCC BLR123.
- Changes must be physical and not financial.
- Based upon ICE 6th edition but with similar provisions to HKSAR GCC
- Case considered 59(4)(b), proviso to 61(1) and general test of reasonableness

Henry Boot

- Contractor offered to do temporary sheet piling work in two locations for £250,880. Price accepted.
- Mistake in offer, price referred to only one location. Hence, the second location was deemed an omission from the BQ.
- Work was then varied to increase the temporary work.
- Was the Engineer obliged to use the rate to value the varied work (even though the rate was a mistake)?
- Which valuation rule should apply?

Henry Boot

- Contractor said that the work should be based on the agreed rates [Rule 1 or 2].
- Employer said *a mistake renders rates unreasonable* and that one could then agree a fair rate [Rule 3].
- Arbitrator held: "*it is reasonable not to use a price where the price has been reached by mistake or error.*" Using the mistaken rate to value a variation would compound the error.
- The Contractor appealed. Court of First Instance - Judge Lloyd, QC.

Henry Boot

- Court of first instance held:
 - Court considered “unreasonable”. Took a strict view of “character and conditions”.
 - Court ignored any unreasonableness in the level of pricing i.e. whether the rates were high or low.
 - What is "reasonable" is to be decided purely by comparison of the nature of the original and varied work, not extraneous conditions.

Henry Boot

- The words "executed under similar conditions" do not refer to economic or financial conditions.
- Intrinsic profitability of the rate is irrelevant.
- Rate cannot be rendered unreasonable by the change. It was high before the variation occurred.
- Court influenced by 59(3) & 14 i.e. that Contractor was bound by its mistakes and that there was no provision to correct errors in C's pricing
- The matter went to the Court of Appeal where, by a majority of 2 to 1 the decision of the Court of First Instance was upheld.

Henry Boot

- This was about a mistake in the rate. Could it also apply to a deliberately priced high or mistakenly priced low rate? Logically, yes [see 59(3) – no rectification of errors].
- Would this approach lead to extreme claims for a large profit or large loss? Yes.
- However, if the Engineer were able to unravel the rates in order to impose a degree of fairness it would undermine the certainty of the BQ. There would be endless argument as to what represented a bad bargain.

The consequences

- How would one value a variation based upon an unreasonably high or low rate?
- It is clear that the profit/loss level should not be touched but less clear is
 - whether the new rate should include the same level of profit as say a lump sum or
 - the same level of profit as a percentage.

Common misconception

- Henry Boot made it clear that the Contract Rates are “*sacrosanct and immutable*” but note:
 - Only the physical attributes of a change are relevant to when a rate is unreasonable. Whether the rate is high or low is irrelevant.
 - Note: It does not say that a rate cannot be unreasonable. Rule 3 still applies.

Other types of unreasonableness

- Substantial changes in quantity - 59(4)(b).
- Nature or extent of variations - 61(1).

59(4)(b) Proviso

- *"59(4)(b) Should the actual quantity of work executed in respect of any item be substantially greater or less than that stated in the Bills of Quantities and if in the opinion of the Engineer such increase or decrease of itself shall render the rate for such item unreasonable or inapplicable, the Engineer shall determine an appropriate increase or decrease of the rate for the item using the Bills of Quantities rate as the basis for such determination and shall notify the Contractor accordingly."*

Re-rating under Clause 59(4)(b)

- Two criteria required to trigger this clause:
- Increase or decrease
 - must be substantial
 - must "of itself" render the rate unreasonable
- "substantial" is not defined.
- "of itself" is taken to mean the physical attributes of the work as opposed to say financial aspects (other than economies of scale).

Example of re-rating

- Re-rating example 1
 - Assume a substantial increase in quantity of excavation.
 - More efficient type of excavator can be used. Productivity increases dramatically.
 - Does the change of itself render the rate unreasonable?
 - Very likely.

Example of re-rating (Cont'd)

- Re-rating example 2
 - Assume the same example but no change to the method of excavation. The Contract rate is very low. Contractor complains that the increase in quantity will compound its loss.
 - No re-rating possible - the increase in quantity "of itself" has not rendered the Contract rate unreasonable.

What elements can be re-rated?

- Those which are rendered unreasonable by the increase/decrease. Unaffected elements remain.
- Note that power of the Engineer is only to increase or decrease the existing rate. No power to abandon the rate and start afresh.
- Note that the Engineer is restricted only to using the “rate” for the work that has changed. No power to look at other rates either as a guide to valuation or those which may also be affected by the increase/decrease.

How to avoid re-rating problems?

- Disputes arise from errors in BQ. Get them right.
- Avoid low quantities for anything that may be liable to increase substantially.
- Avoid inserting “1 No” or “1m²” as a quantity in order to get a rate. You will get one i.e. high!
- Better to avoid altogether i.e. rate to be agreed (Rule 3).

Clause 61(1) proviso

- 61(1) *"Provided that if the nature or extent of any variation ordered in accordance with Clause 60 relative to the nature or extent of the Works or any part thereof shall be such that in the opinion of the Engineer any rate contained in the Contract for any item of work is by reason of such variation rendered unreasonable or inapplicable then a new rate shall be agreed between the Engineer and the Contractor for that item using the Contract rates as the basis for determination".*

The two provisos compared

- **59(4)(b) – Remeasurement**

[If the] increase or decrease of itself shall render the rate for such item unreasonable or inapplicable, the Engineer shall determine an appropriate increase or decrease of the rate for the item using the Bills of Quantities rate as the basis for such determination.

- **61(1) – Variations**

If the nature or extent of any variation ordered in accordance with Clause 60 relative to the nature or extent of the Works shall [render] any rate contained in the Contract for any item of work unreasonable or inapplicable then a new rate shall be agreed.

Clause 61(1) proviso (Cont'd)

- Appears, confusingly, similar to GCC Clause 59(4)(b) but is it? Can it be used to renegotiate the good or bad rates that might give the contractor a huge windfall or a large loss?
- Is it a mechanism to adjust the profit, or increase the loss, a contractor can make from carrying out a substantial variation?
- Probably not. It is generally concerned only for the effect that substantial variations might have on unvaried works in the BQ.
- Why might this be?

Clause 61(1) proviso (Cont'd)

- Unlike 59(4)(b) the concern is for the consequential effect of the work on all the rates in the contract, not just the rate. There appears to be no power within the three Rules of Clause 61 to otherwise factor in the disruptive effect of a variation upon other works.
- The proviso refers expressly to “variations”, not errors, omissions etc (Lloyd J. - *Henry Boot*). Logically, variations are unforeseen whereas errors, omissions and ambiguities are works within the scope of the Contract. The effect on other works should be known.

Clause 61(1) Proviso

- The proviso refers only to the nature or extent of “any variation” (single). Arguably it does not apply to say numerous smaller variations. This suggests that the intention is not to adjust the profitability of the work.

Examples of 59(4)(b) and 61(1) proviso

- **59(4)(b)**

Say rock excavation in BQ substantially increases in quantity and method of working changes. The rate for excavation can be increased/decreased to reflect the change (only the rate itself can be changed).

- **61(1) proviso**

Say rock excavation is a variation and makes drainage work (existing work in BQ) more difficult to carry out. This permits the drainage rates to be changed (other rates in the Contract).

GCC Clause 61(2)

- “In the event of the Engineer failing to reach agreement on any rate under the provisions of sub-clause (1) of this clause the Engineer shall fix such rate as shall in his opinion be reasonable and notify the Contractor accordingly”
- When does this provision arise? What is it for?
Who can activate it?

GCC Clause 61(2)

- Where does this apply, all Rules of Cl.61 or just Rule 3 (rate to be agreed)?
- Arguably the latter as Rule 1 and 2 are at the discretion of the Engineer/Surveyor.
- Either party may request a rate fixing but more usual to result from the Contractor.

GCC Clause 61(2)

- Purpose of rate fixing is unclear but it is linked to a 28 day time bar under GCC Clause 64(1). Time runs when the rate is fixed.
- Appears to be a requirement to identify a dispute prior to GCC Clause 86.
- Confusion arises as to when a rate is fixed or a request has been made.

GCC Clause 64(2)

- Clause 64(2) *If the contractor intends to claim any additional payment under the provisions of any Clause of the GCC it shall do within 28 days of the event occurring.*
- What is a claim for “additional payment”? Does it include variations, errors, omissions etc?
- Express entitlements are set out at various clauses:

GCC Clause 64(2)

- Clause 5 – Ambiguities
- Clause 42 – Testing of materials
- Clause 48 – Late possession
- Variations, measurement, errors etc are arguably not “additional” as there is an express requirement/obligation under Clauses 59, 60, 61 and 79 to measure, value and pay for such work.
- If correct then no notice required under Clause 64 for such works.

GCC Clause 63

- Is it possible to value disturbance as part of the valuation of variations as opposed to under cl.63?
- Opinion is divided on this.
- *...by reason of the progress of the Works or part thereof having been materially affected by.....*
- There seems to be a clear intention to separate disturbance claims from variations.
- Merging the two would undermine the notice provisions of cl.64.

GCC Clause 63

- Express provisions for additional payment and cl.63 itself refer to reimbursement on a Cost basis (excluding profit).
- How could a valuation under cl.63 be made on a Cost basis? It is a value based assessment which would also include profit.
- There appears to be a residual power within cl.61 to include a certain degree of disturbance i.e. where unrelated to the “progress of the works” but note the proviso to cl.61(1) covered above.

Duplicated overheads

- If a claim is made under GCC 63 for additional overheads, does it represent a double recovery with overheads contained within variations?
- No limit to variations ordered = no limit to overheads within the rate.
- Why should this change where there are delays?

Duplicated overheads

- Because Clause 63 applies where there has been expenditure which cannot be reimbursed under any other provision of the Contract.
- Case study – Project with many variations from inception. Delay arises mid-way due to variations. ER pays Cl.63 costs but deducts overheads from all variations – back to start.

Duplicated overheads

- Considered in one case. Arbitrator said due to notice clause 64 it is clear that clause 63 costs can only be claimed for future events and not retrospectively, hence no power of Engineer to go back and make deductions from all earlier variations.
- Not all overheads in rate are time-related.
- Not precedent but recognised that only specific variations actually causing delay can be considered a duplication.

Final thoughts

- The GCC is a risk-sharing document – it will always promote a degree of gambling.