

## GENERAL AID TO VALUATION OF VARIATIONS

### Worked examples and flow chart

The worked examples and flow chart have been provided as a general aid to understanding the method of valuation of Variations in terms of 9.3 and 9.4. They are not intended to have contractual significance.

The worked examples are not exhaustive but merely show the application of the provisions in the particular cases chosen as illustrations.

Note that a particular Variation may include some work which can be valued by prices and rates, and other work which may be sufficiently distinct to require valuation on the basis of Net Cost. If this is the case, then initially separate paths should be used, one based on prices and rates and one based on Net Cost, with the two amounts added together with Boxes B and D of the Flow Chart before proceeding further.

### Valuation of Variations – Worked examples

#### Example 1

- The Contract includes a Schedule of Prices containing prices and rates applicable to the circumstances and nature of the work, or it is reasonable for new prices or rates to be derived.
- Percentages and Working Day rates are as follows:
 

9.3.9	On-site Overheads	7.5%
9.3.10	Off-site Overheads and Profit	10%
9.3.11	Working Day rate	\$100/Working Day
- The Schedule of Prices provides separately for On-site Overheads and for Off-site Overheads and Profit.
- 9.3.11 As a result of the Variation there have been 5 Working Days extension of time to the Due Date for Completion of the Contract Works.
- 9.3.15 It has been agreed to take 5% of the aggregate value of additions and deductions as the reasonable Cost of processing Variations. ➤

**Refer to the flow chart**

**Box A:** Applies. Applicable prices and rates are available in, or can reasonably be derived from, the Schedule of Prices.

**Box B:** Base Value is determined from the prices and rates obtained or derived from the Schedule of Prices, as follows:

	Unit	Quantity	Rate \$	Deduct \$	Add \$	\$
Excavation	m <sup>3</sup>	10	15.00	150.00		
Concrete	m <sup>3</sup>	6	175.00	1,050.00		
Formwork	m <sup>2</sup>	20	50.00	1,000.00		
Reinforcing steel	kg	150	2.00	300.00		
Excavation	m <sup>3</sup>	15	15.00		225.00	
Concrete	m <sup>3</sup>	12	175.00		2,100.00	
Formwork	m <sup>2</sup>	35	50.00		1,750.00	
Reinforcing steel	kg	300	2.00		600.00	
				\$2,500.00	\$4,675.00	
			Total value of additions		4,675.00	
			Total value of deductions		(2,500.00)	
			<b>Base Value</b>			<b>\$2,175.00</b>
			Aggregate value of additions and deductions		7,175.00	

**Box E: Add percentage for On-site Overheads to Base Value**

(9.3.9)	7.5% x \$2,175.00	=	163.13
	Subtotal		\$2,338.13

**Box G: Add percentage for Off-site Overheads and Profit**

(9.3.10)	10% x \$2,338.13	=	233.81
	Subtotal		\$2,571.94

**Box I: The Variation results in 5 Working Days extension of time to the Due Date for Completion of the Contract Works**

**Box K: Working Day rate multiplied by 5 Working Days**

$$5 \text{ Working Days} \times \$100 = 500.00$$

(9.3.11)	<b>Total On-site and Off-site Overheads and Profit from Boxes E and G</b>		
	\$163.13 + \$233.81	=	396.94
	Difference \$500.00 – \$396.94	=	\$103.06
	As difference is positive, add		103.06
	Subtotal		\$2,675.00

**Box N: Add processing Costs**

$$\text{Aggregate value of additions and deductions from Box B} \quad \$7,175.00$$

$$\text{Processing Costs} \quad \text{Add } 5\% \times \$7,175.00 = 358.75$$

**Box O: Total value of Variation** **\$3,033.75**

**Example 2**

- The Contract includes a Schedule of Prices.
- Prices and rates in the Schedule of Prices are applicable to the circumstances and nature of part of the work included in the Variation, or it is reasonable for new prices or rates to be derived for this part.
- The Schedule of Prices provides separately for On-site Overheads and for Off-site Overheads and Profit.
- The balance of the work included in the Variation is to be determined on the basis of Net Cost.
- Percentages and Working Day rates are as follows:

9.3.9	On-site Overheads	8%
9.3.10	Off-site Overheads and Profit	12.5%
9.3.11	Working Day Rate	\$95/Working Day
9.3.11	As a result of the Variation there have been 5 Working Days extension of time to the Due Date for Completion of the Contract Works.	
9.3.15	No overall percentage for processing Costs has been agreed and these Costs are to be valued individually for each Variation.	

**Refer to the flow chart**

**Box A:** Applies to part of work. Applicable prices and rates are available in, or can reasonably be derived from, the Schedule of Prices for this part of the work.  
 (9.3.5) (9.3.6)

**Box B:** Part of the Base Value is determined from the prices and rates obtained or derived from the Schedule of Prices, as follows:

	Unit	Quantity	Rate \$	Deduct \$	Add \$	\$
Excavation	m <sup>3</sup>	10	15.00	150.00		
Concrete	m <sup>3</sup>	6	175.00	1,050.00		
Formwork	m <sup>2</sup>	20	50.00	1,000.00		
Reinforcing steel	kg	150	2.00	300.00		
Excavation	m <sup>3</sup>	15	15.00		225.00	
Concrete	m <sup>3</sup>	12	175.00		2,100.00	
Formwork	m <sup>2</sup>	35	50.00		1,750.00	
Reinforcing steel	kg	300	2.00		600.00	
				\$2,500.00	\$4,675.00	
			Total value of additions		4,675.00	
			Total value of deductions		(2,500.00)	
<b>Part of Base Value determined from Schedule of Prices</b>						<b>\$2,175.00</b>

Valuation of Variations

**Box C: Determine balance of Base Value from Net Costs**

(9.3.7)

**Box D: Net Costs**

Materials	2,850.00
Plant	600.00
Labour	1,640.00
<b>Total Net Costs</b>	<b>\$5,090.00</b>

**Add boxes B and D to determine the Base Value**

for the two parts of the works.

<b>Base Value</b>	<b>\$7,265.00</b>
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**Box E: Add percentage for On-Site Overheads to Base Value**

(9.3.9)

8% x \$7,265.00 =	581.20
<b>Subtotal</b>	<b>\$7,846.20</b>

**Box G: Add percentage for Off-site Overheads and Profit**

(9.3.10)

12.5% x \$7,846.20 =	980.78
<b>Subtotal</b>	<b>\$8,826.98</b>

**Box I: The Variation results in 5 Working Days extension of time to the****Due Date for Completion of the Contract Works.****Box K: Add Working Day rate multiplied by 5 Working Days**

5 Working Days x \$95 =	475.00
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**Total On-site and Off-site Overheads and Profit from Boxes E and G**

\$581.20 + \$980.78 =	1,561.98
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Difference	-\$1,086.98
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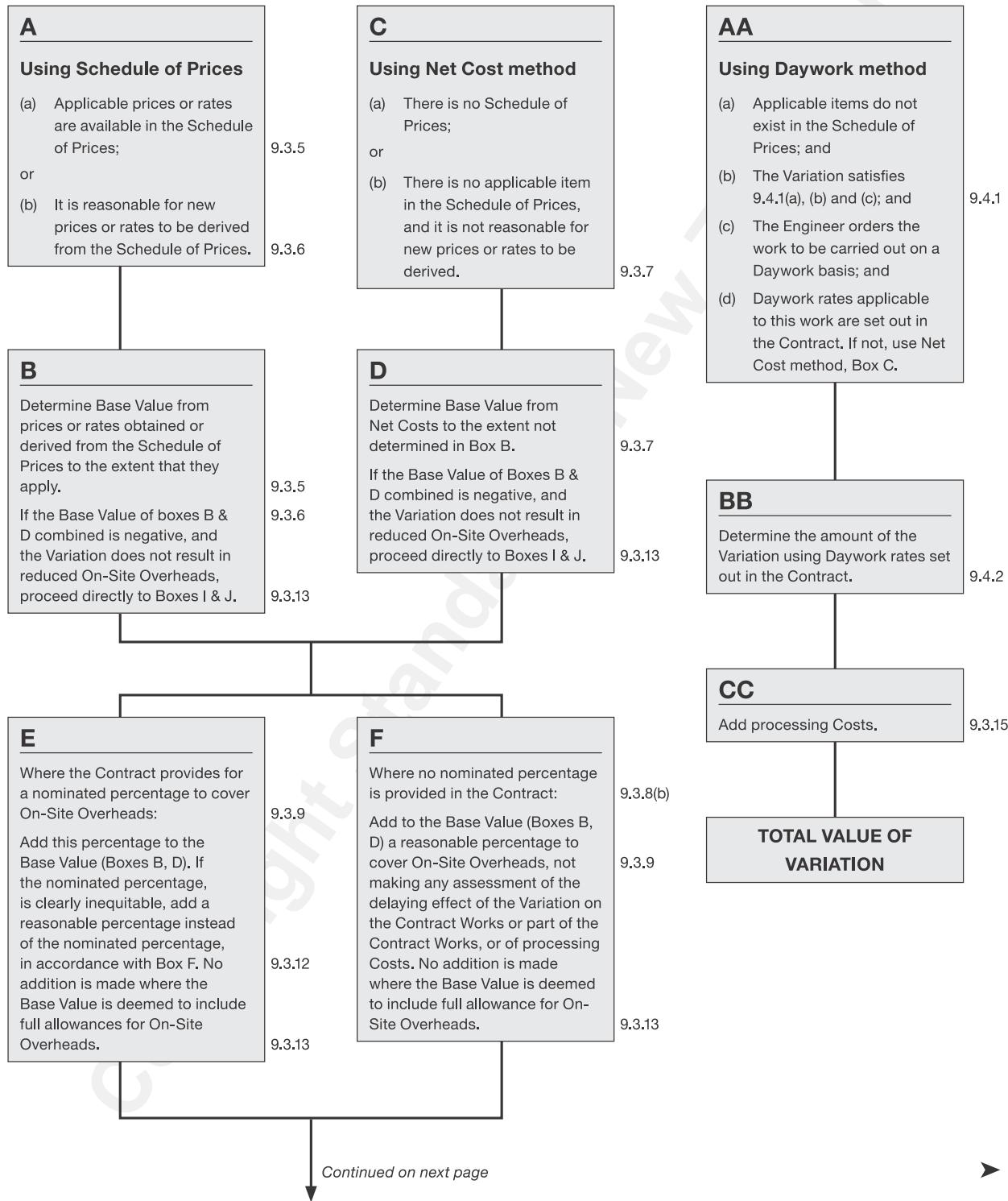
As difference is negative, add zero	0.00
<b>Subtotal</b>	<b>\$8,826.98</b>

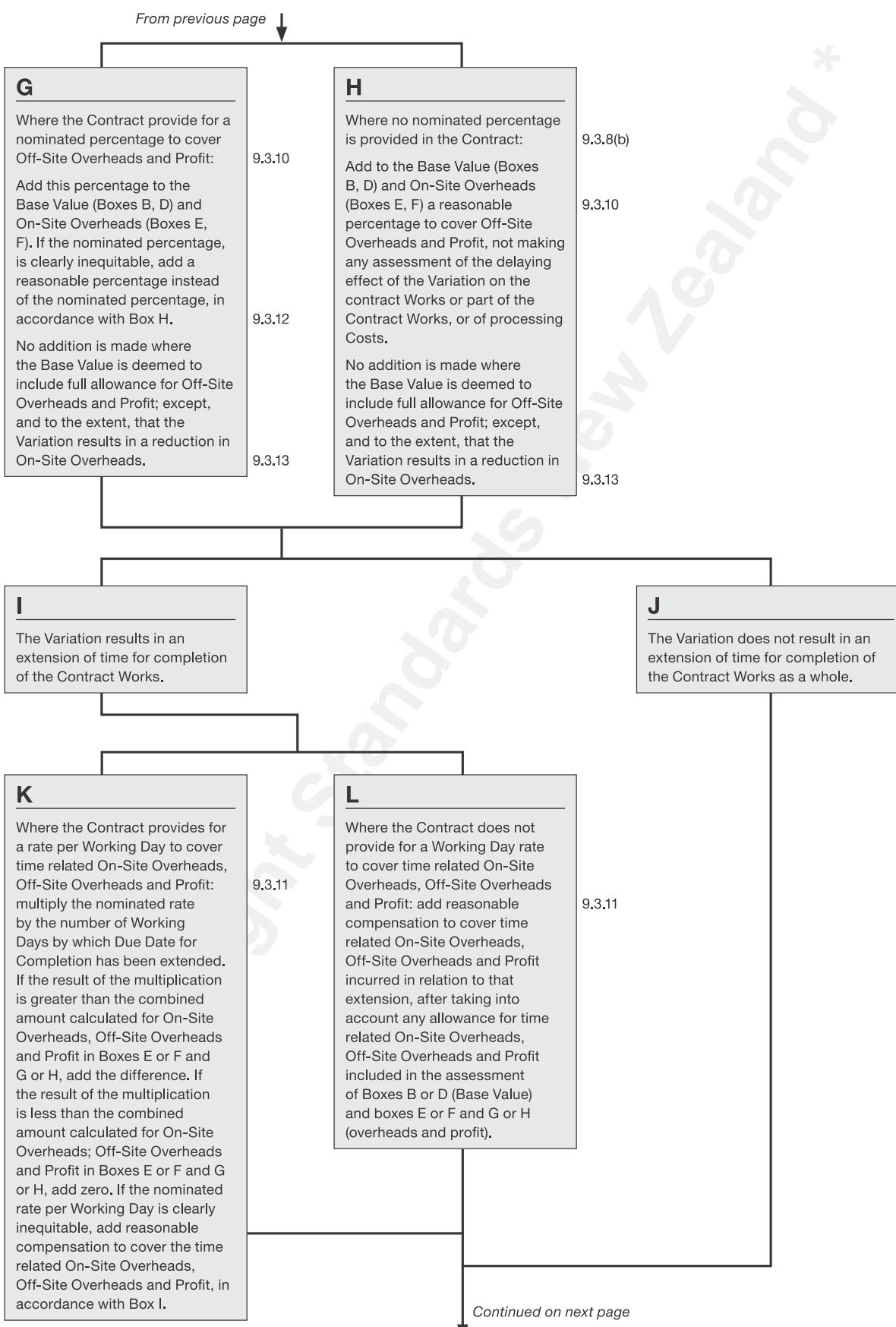
**Box N: Add processing Costs, for time spent by Contractor's staff****processing this Variation**

6 hours x \$60 =	360.00
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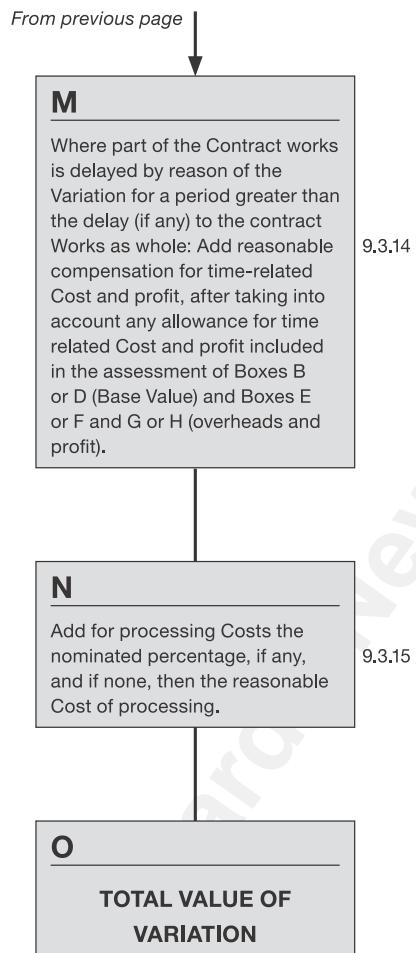
**Box O: Total value of Variation****\$9,186.98**

## Valuation of Variations – Flow chart





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Valuation of Variations