GUIDANCE NOTE 1.5.2

Cost Control: Price Variation Clauses
PV1 and PV2 (PW-CF1 to PW-CF5 only)

Office of Government Procurement

Cost Control: Price Variation Clauses

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Foreword

This document is one of a number of guidance notes aimed at facilitating the implementation of the measures in the Capital Works Management Framework (CWMF), introduced to achieve better value for money on publicly funded works projects.

The purpose of this document is restricted to giving practical advice on the use of the price variation clauses PV1 and PV2 in forms of public works contracts PW-CF1 to PW-CF5 (as applicable).

Note: This Guidance Note has been amended to incorporate amendments made to the price variation clauses PV1 and PV2 in forms of public works contract PW-CF1 – PW-CF5 that were published on 07/01/2022.

Part 1 Risk Management: Price Variation

1.1 Introduction

This Guidance Note is specific to the use of the price variation clauses PV1 and PV2 ('PV clause') in forms of public works contract PW-CF1 to PW-CF5.

It is applicable to forms of those contracts with a publication date that is prior to 7 January 2022; or of 7th January 2022.

1.2 Price Variation Clauses, PV1 and PV2

For forms of public works contract PW-CF1, PW-CF2, PW-CF3 or PW-CF4, there are two alternative types of the price variation clause, PV1 and PV2, available to use with the contract. The Employer must select, in the Schedule, Part 1M, which of the two alternative PV clauses is to apply in the contract. Where the Employer does not select a PV clause to apply, the default is that PV1 applies in the contract. In the case of Contract PW-CF5 (Minor Works), PV1 only applies.

PV1 and PV2 use different approaches to arrive at the amount of an adjustment to be made to the Contract Sum, as described briefly below, and in further detail in Sections 2 and 3 of this Guidance Note. The change in Law provision is the same under either PV clause, and is described at Section 1.10 of this GN.

PV1, is termed a proven cost method**,** under which the Contract Sum shall be adjusted for fluctuations in the cost of resources only in respect of the following:

(i) worker's wages and expenses;
(ii) material prices; or,
(iii) as made by Law.

Subject always to meeting the requirements of the PV1 clause, the permitted adjustment to the Contract Sum that shall be made for :

(i) fluctuations in costs of worker's wages and expenses: is the increase or decrease made to workers rates or remuneration under a sectoral employment order that becomes payable after the Base Date and where the workers have received at least the increase;
(ii) fluctuations in material prices: is the increase or decrease in the average price of material relative to dates specified in the clause that exceed the thresholds specified in the clause[1];
(iii) or, where certain changes in Law are made after the Designated Date: the permitted adjustment is the increase or decrease in the Contractor's cost of performing its obligations under the Contract.

Under PV1, the Contractor is required to fully detail and vouch any fluctuations in costs relevant to the clause as soon as is practicable in order to prove an entitlement to an adjustment to the Contract Sum under the clause. The Employer should verify such claims. Adjustments to the Contract Sum are subject to, and paid under, sub-clause 11 of the contract. The operation of PV1 is described in Section 2 of this Guidance Note.

[1] As applicable to the publication date of the public works contract

PV2 is termed a formula fluctuations method, under which formulae are used to calculate adjustments permitted to the Contract Sum. Unlike PV1, the Contractor is not required to detail and vouch fluctuations in costs to prove entitlement to an adjustment. Instead, and subject always to meeting the requirements of the PV2 clause, to calculate the amount of an adjustment permitted to the Contract Sum, fluctuations in price indices published by the Central Statistics Office ("CSO"), that, where applicable, exceed thresholds specified in the clause, are applied to amounts for material, fuel, non-reusable temporary works and labour, due in a payment certificate. Adjustments, to the Contract Sum are subject to, and paid under, clause 11 of the contract.

Using the formulae in PV2, the Contract Sum shall be adjusted for :

- (i) fluctuations that occur in wholesale price indices[2] for materials and fuel relative to the Designated Date/Tender Inflation Indexation Date and/or Base Date (as appropriate), that exceed the threshold specified in the clause;
- (ii) fluctuations that occur in the price of non-re-usable temporary works, as measured by the consumer price index, relative to the Base Date that exceeds the threshold in the clause;
- (iii) fluctuations that occur in the price of labour, as measured by consumer price index relative to the Base Date;
- (iv) or when certain changes in Law are made after the Designated Date is the amount of an increase or decrease in the Contractor's cost of performing its obligations under the Contract (subject to meeting the requirements of the clause).

The operation of PV2 is described further in Section 3 of this Guidance Note.

1.3 Post-tender negotiation rules

Post-tender negotiations are contrary to the terms of the EU Public Procurement Directives and the EU courts have specifically stated that negotiation on price under an open or restricted procedure is ruled out. This includes negotiating the buyout of any price variation provision in the contract (i.e. to define the cost of the recovery of labour and material increases that occur after the Designated and Base Dates).

[2] published by the Central Statistics Office

1.4 Cost risks borne by the Contractor

Under the public works contract, the Contractor accepts the risk of

- Increases in the cost of labour and materials (the inflation risk) *other than* those adjustments permitted under the PV clause. In general terms, the adjustments permitted to the Contract Sum are as follows:
    a) Labour: the Contract Sum shall only be adjusted in respect of labour *after* the expiry of the fixed price period (see Section 1.5 below). During the fixed price period there shall be no adjustments made for labour.
    b) Materials: the Contract Sum shall only be adjusted (both during and after the expiry of the fixed price period) in accordance with the relevant PV clause, where fluctuations in material prices exceed applicable thresholds in the PV clause, and are made only in respect of that portion in excess of the threshold. Where fluctuations in material prices do not exceed the thresholds in the clause, there shall be no adjustment made.
    c) Fuel[3]: There shall be no adjustments made for fuel under PV1. Under PV2, the Contract Sum shall only be adjusted (both during and after the expiry of the fixed price period) where fluctuations in the wholesale price indices for fuel exceed applicable thresholds in the PV2 clause, and are made only in respect of that portion in excess of the threshold. Where fluctuations in wholesale price indices for fuel do not exceed the thresholds in the clause, there shall be no adjustment made.
- Increases in cost due to changes in Law *other than* certain specified changes permitted in the PV clause (the change in Law risk, see section 1.10 below); and
- Increases in cost due to currency exchange rate variations (the currency risk, see section 1.9 below).

[3] Under PV1, adjustments are not permitted for the cost of fuel.

Risk Management: Price Variation

1.5 The fixed price period

The commencement and duration of the fixed price period differs depending on the publication date of the public works contract.

A. Contracts published *prior* to 7th January 2022

The commencement and duration of the fixed-price period depends on the price variation clause that applies in the contract as set out below.

PV Clause	Duration of Fixed-price Period	Commencement Date
PV1	**30 months**	The Contract Date
PV2	**36 months**[4]	The Designated Date[5]

B. Contracts published *on* 7th January 2022

Irrespective of the price variation clause that applies in the contract, the fixed price period commences on the Tender Inflation Indexation Date[6] and the duration of the fixed price period is **24 months**.

Notes

1. The Contract Date is the date the Employer issued the Letter of Acceptance.
2. The Designated Date is 10 days before the latest date for receipt of tenders.
3. The Tender Inflation Indexation Date is that date stated in the Schedule Part 3E and is the date used for calculation of the Applicable Factor[7]
4. For PV2 only, the Recovery Date is the Tender Inflation Indexation Date or Designated Date (as appropriate to the date of publication of the contract used) corrected to account for any delay to the commencement of the works resulting from actions or omissions of the Contractor.

1.6 Adjustments permitted during the fixed price period

During the fixed price period, the Contract Sum shall only be adjusted in respect of:

(a) certain changes in Law that occur after the Designated Date;
(b) materials, where fluctuations exceed the applicable threshold in accordance with the relevant PV clause; and
(c) in the case of PV2 only, fuel where fluctuations exceed the applicable thresholds in the clause.

There shall be *no* adjustments for changes in the cost of labour during the fixed price period.

[4] PV2 incorporates an assumed 6-month tender assessment period
[5] or the Recovery Date, as applicable, in the case of PV2 only.
[6] or the Recovery Date, as applicable, in the case of PV2 only
[7] only applies for PW-CF1 to PW-CF5 with a publication date of 07/02/2022.

Risk Management: Price Variation

1.7 Adjustments permitted after the Fixed Price Period

After the expiry of the fixed price period (i.e. from Base Date onwards), the Contract Sum shall only be adjusted in respect of :

(a) certain changes in Law that occur after the Designated Date;
(b) changes in the cost of labour, in accordance with the relevant PV clause;
(c) materials, where fluctuations exceed the applicable threshold in accordance with the relevant PV clause; and
(d) in the case of PV2 only, fuel where fluctuations exceed applicable threshold in the clause.

1.8 Managing lead-in times.

Following the evaluation of tenders, Contracting Authorities should endeavour to complete the award of the contract as soon as is practicable and within the tender validity period. Where the tender validity period expires, Tenderers are entitled to give notice that they intend to withdraw their offer.

Where the publication date of the public works contract to be awarded is dated prior to 7th January 2022, any delay in awarding the contract

- in the case of PV1, will result in delay to the commencement of the 30 month fixed price period; or
- in the case of PV2, will result in the reduction of the duration of the portion of the 36 month fixed price period that falls within the contract period (i.e. that portion of the fixed price period that occurs after Contract Date)[8].

Where the publication of the public works contract to be awarded is dated 7th January 2022, the Employer calculates the Applicable Factor immediately prior to the award of the contract, to account for increases in the 'All Materials' wholesale price sub-index that occur between the Designated Date and immediately prior to the Contract Date.

1.9 Exchange rate risk borne by Contractor

The Contractor bears the risk of changes in the exchange rates.

The request for tenders states that all prices must be given in euro, and that the risk of currency fluctuations must be borne by the Contractor. Tenders submitted in a currency other than euro shall not be accepted.

No compensation is payable for changes in the cost of materials, fuel or other prices due to variation in the currency exchange rate.

[8] PV2 assumes a 6 month tender award period and consequently a (36 - 6) = 30 month fixed price period

Risk Management: Price Variation

1.10 Change in law

Under the contract, the Contractor bears the risk of any cost increase (or decrease) arising out of a change in Law during the lifetime of the project *except for* those permitted under the contract.

The Employer bears the risk of an increase or decrease in the Contractor's cost of performing its obligations under the Contract as a result of a change in Law made after the Designated Date that:

a) changes (whether alteration, addition or removal) VAT, customs or excise duty; requirement for a licence to import any commodity or Pay-Related Social Insurance; and

b) has not been identified in the Works Requirements; and

c) has not resulted in an adjustment in the Contract Sum under another part of the clause or contract.

1.11 Payment of adjustments to Contract Sum under PV1 or PV2

Under sub-clause 11 of the contract, the instalment of the Contract Sum that the Contractor shall be entitled to be paid on an interim basis includes any amount to be paid according to clause PV1 or PV2 (as applicable). Under sub-clause 11.1.4, the Employer's Representative ('ER'), sets out in the form of a certificate, the amount of the interim payment that, in the ER's opinion, is to be made by the Employer to the Contractor, including any amount to be paid under clause PV1 or PV2 (as and where applicable), together with calculations and reasons for the opinion.

Where either party to the contract is dissatisfied with the amount for price variation in the certificate issued under sub-clause 11.1.4, the party should give notice of this under the usual dispute mechanisms in the contract.

1.12 Interim Certificates at the end of the Fixed Price Period

To avoid unnecessary administrative inconvenience, where the duration of the contract is longer than the fixed price period, in order to close off the Contractor's risk transfer period (provided there is money due or to become due to the Contractor at that point under a contract), an interim certificate should be issued at the end of the month prior to the Base Date.

This is particularly useful where the adjustment to the Contract Sum to take account of price variation is based on a formula (PV2) rather than on proven costs (PV1). If this is not done, and a certificate is subsequently submitted to cover a period that spans the fixed-price period and the variable price period, the items on the certificate to which variation applies must be identified and treated separately.

Part 2

Calculating Price Variation: PV1, the Proven Cost Method

2.1 PV1 overview

Under PV1, the Contract Sum is adjusted for fluctuations in costs of resources only in respect of increases or decreases that

(i) occur in worker's wages and expenses;

(ii) occur in material prices;

(iii) or, are made by Law.

The amount that the Contract Sum is permitted to be increased or decreased differs according to the publication date of the contract as summarised below:

A. Contracts with a publication date *prior to* 7th January 2022

Fluctuations in costs of resources	Amount of increase or decrease permitted	Adjustment permitted from:
(i) that occur in worker's wages and expenses:	an increase or a decrease made to the rates of remuneration payable to workers under a relevant sectoral employment order payable after the Base Date, and where workers have received at least the increased remuneration (PV 1.1.2)	**Base Date**
(ii) that occur in material prices:	an increase or decrease in the average market price of material ('Price') that results from either or both of the following calculations where applicable: (PV1.1.3)	
	a) where the Price of a material at Purchase Date is greater than the higher of (i) **50%** of its Price at the Designated Date; or (ii) **50%** of its Price at the beginning the month in which it was purchased; then the excess percentage over 50% is added to the Price at Designated Date.	**Designated Date**
	b) where the Price of a material at Purchase Date has increased or decreased by more than 10% of its Price at the Base Date, then the excess percentage over 10 % is applied to the Price at the Base Date.	**Base Date**
(iii) or, where made by Law:	an increase or decrease in the Contractor's cost of performing its obligations under the contract (PV1.1.4)	**Designated Date**

B. Contracts with a publication date *of* 7th January 2022

Fluctuations in costs of resources	Amount of increase or decrease permitted	Adjustment permitted from:
(i) that occur in worker's wages and expenses:	an increase or a decrease made to the rates of remuneration payable to workers under a relevant sectoral employment order payable after the Base Date; workers have received at least the increased remuneration (PV 1.1.2)	**Base Date**
(ii) that occur in material prices:	an increase or decrease in the average market price ('Price') of material that results from either or both of these calculations (PV1.1.3)[9]:	
	(a) where the Price of the material at Purchase Date has increased or decreased by more than **15%** of its Price at the TII[10] Date; (PV1.1.3 "the First Adjustment")	**Tender Inflation Indexation Date**
	then the excess percentage over 15% is added to the Price at Designated Date.	
	(b) where the Price of the material has increased or decreased by more than 10% at the Base Date; or any decrease (PV1.1.3 "the Second Adjustment")	**Base Date**
	then the excess percentage over 10 % is applied to the Price at the Base Date.	
(iii) or, where made by Law:	an increase or decrease in the Contractor's cost of performing its obligations under the contract (PV1.1.4).	**Designated Date**

[9] Only PV1.1.3 was amended in contracts with a publication date of 7th January 2022

[10] Tender Inflation Indexation Date

Part 2

Calculating Price Variation: PV1, the Proven Cost Method

2.2 Timing, PV 1.1.1

In addition to defining the date upon which the Base Date falls, PV1.1.1 also provides that where an increase or decrease comes into being after the Date for Substantial Completion, the increase or decrease shall not be taken into account. Therefore, only fluctuations in costs of resources that give rise to an increase or a decrease in the Contract Sum prior to the Date for Substantial Completion are taken into account.

2.3 Communications, PV1.2

PV1.2 places an obligation on the Contractor to

(i) maintain arrangements to become aware of any significant possibility of an increase or decrease to the Contract Sum that may arise in accordance with the PV1; and

(ii) immediately inform the ER of the possibility and to keep the ER informed of opportunities to minimise an increase.

Without prejudice to the Contractor's obligations under PV1.1.2, it is recommended that the ER and Contractor make arrangements to instigate periodic communications to carry out a regular review of the possibility of an adjustment arising under PV1. For instance, the ER may direct that the progress reports (required under sub-clause 4.10) provide details in relation to the possibility of an adjustment to the Contract Sum and opportunities to minimise the cost of an increase.

Notwithstanding the frequency of any such periodic communication arrangements, this does not relieve the Contractor of immediately notifying the ER of any possibility and to keep the ER informed of any opportunities to minimise an increase (i.e. where the possibility arises between the periodic communications).

2.4 Compensation Events, PV1.3

For the purpose of valuing Compensation Events, the rates in the Pricing Document and the valuation rules in sub-clause 10.6 shall not cease to be used because of fluctuations in material costs, but the following principles apply:

(i) where a Change Order omits material, then the rates in the Pricing Document are used to value the cost of the material omitted irrespective of any fluctuations in the price of the material;

(ii) where, under a Change Order, a material is substituted or added, the valuation of the Change Order shall include any increase in cost to the Contractor of the substitute or additional material due to price fluctuation after the Designated Date/TII Date[11] (as appropriate), provided however that the increase is likely to exceed the increase due to price fluctuation under PV1 that would have been the Contractor's risk for the original material.

An adjustment under PV1 shall not apply (i) where a Compensation Event is valued under sub-clause 10.6.4; or (ii) to any Delay Costs under sub-clause 10.7.

[11] as appropriate to the date of publication of the contract

2.5 Efficiency, PV 1.4

In addition to PV1.1.1 (b) (see above), PV1.4 provides that the Contract Sum will only increase where increased costs incurred by the Contractor occur despite its efficient progress and procurement and reasonable efforts to minimise increases.

Note:

1. Under sub-clause 9.1.3 of the contract, the Contractor is required to proceed regularly and diligently with the Works. PV1.4 provides the Contractor may not benefit from an increase in the Contract Sum, where increased costs would not have been incurred had the Contractor made efficient progress and procurement and reasonable efforts to minimise an increase, for example, where there is a delay to the Starting Date that is caused by the Contractor's inefficient progress.

2.6 Workers wages and expenses, PV 1.1.2

After the Base Date, , the Contract Sum shall be adjusted for fluctuations in the costs of resources in respect of an amount of an increase or decrease that occurs in workers' wages and expenses that:

- is made to the rates of remuneration payable to workers under the applicable sectoral employment order implemented under the Industrial Relations Acts 1946 to 2015; and
- becomes payable after the Base Date in accordance with the relevant sectoral employment order; and
- the workers in respect of whom an increase is being claimed have received in Ireland for the relevant work at least the increased remuneration.

Remuneration has the meaning set out in Section 13 of the Industrial Relations (Amendment) Act 2015.

Workers means

(a) any individuals employed by, or otherwise working for the Contractor or the Contractor's Personnel on or adjacent to the Site and fall within any categories of workers to whom a relevant sectoral employment order applies in accordance with its terms and

(b) any foreperson, charge hand or other person who supervises or administers while performing duties within (a) but in respect only of the remuneration according to sub-clause PV1.1.2(i) applicable to those duties and 50% of their total hours worked.

Expenses means PRSI payable by the Contractor as employer.

The clause provides that all other increases are excluded, even when based on a standard rate, and provides a non-exhaustive list of increases and persons that are excluded.

Note:

1. A sectoral employment order (SEO) is implemented by way of a Statutory Instrument made in accordance with the Industrial

Relations Act (Amendment) 2015. It sets the statutory minimum hourly rates of pay and other conditions (sick pay and entitlements) that employers are required to provide to categories of persons employed in certain sectors, including the construction sector, the mechanical engineering building services contracting sector and the electrical contracting sector. Information on sectoral employment orders can be found at https://www.workplacerelations.ie/.

2.7 Calculation of adjustment for worker's wages and expenses

Subject always to meeting the requirements of PV1, the amount of an increase (or decrease, where applicable) to the Contract Sum made under PV1.1.2 is arrived by calculating the increase made (or decrease, where applicable) to the rate of remuneration payable to workers under an SEO; applying it to the aggregate of worker hours payable after the Base Date in accordance with the relevant SEO; and, adding the increase (or decrease, where applicable) in the amount of PRSI payable by the Contractor as employer.

2.8 Material, PV1.1.3

PV1.1.3 provides the Contract Sum shall be adjusted by the amount of an increase or decrease in material prices that results from either or both of these calculations where applicable:

A. Contracts with a publication date *prior to* 7th January 2022:

a) so far as the Price of any material at the Purchase Date has increased by more than 50 percent of the Price at the first business day of the month in which the purchase occurred or the Price at the Designated Date (whichever is highest) then that excess percentage over 50 percent is applied to its Price at the Designated Date;

b) so far as the Price of any material at the Base Date has increased or decreased at the Purchase Date by more than 10 percent, then that excess percentage over 10 percent is applied to the Price at the Base Date.

B. Contracts with a publication date *of* 7th January 2022:

a) so far as the Price of a material at the Purchase Date is more than 15% above or below the Price for the same quantity of the same material at the Tender Inflation Indexation Date, then that excess percentage over 15 percent is applied to its Price at the Tender Inflation Indexation Date (the "First Adjustment"); or

b) so far as the Price of the material at the Purchase Date is more than 10% above or below the Price for the same quantity of the same material at the Base Date, then that excess percentage over 10 percent is applied to the Price at the Base Date (the "Second Adjustment")

provided that

(i) in the case of an increase arising from both the First Adjustment and the Second Adjustment, the Contract Sum shall only be adjusted by the amount of the higher of the two increases, but not the amount of both; and

(ii) in the case of a decrease arising from both the First Adjustment and the Second Adjustment, the Contract Sum shall only be adjusted by the amount of the lower of the two decreases, but not the amount of both.

And, irrespective of the publication date of the contract

“material” means only

(i) material invoiced to the project
(ii) for incorporation in the permanent Works [as fixtures or unfixed goods]
(iii) or for temporary works used on the Site
(iv) and not used on any previous project or usable on any subsequent one [for example, replaceable components in formwork]. [Tools or equipment are not ‘material’. There is no deduction of normal wastage from the allowable quantity of material, or of extra or surplus material taken over by the Employer].

“**Price**” means the average price at which the relevant volume of the relevant material is available in the market at the relevant time from a representative number of reputable manufacturers or suppliers; and

“**Purchase Date**” means the date when the particular material was invoiced to the project.

2.9 Law, PV 1.1.4

Refer to Section 1.10.

2.10 Detailing and vouching fluctuations, PV 1.5

PV 1.5 requires the Contractor to fully detail and vouch any fluctuations in costs relevant to the clause as soon as is practicable.

Where fluctuations in costs occur in respect of workers’ wages and expenses, the Contractor should fully detail (including but not limited to) for example, that the adjustment sought meets the requirements of the clause; and vouch the hours worked broken down by the relevant category of worker under the relevant SEO.

For fluctuations in costs that occur in respect of material prices, the Contractor should fully detail (including but not limited to) for example, that the adjustment sought meets the requirements of the clause, and vouch with invoices and other evidence of fluctuations in the average cost of the material (at the relevant times). In addition, the Contractor may need to provide other evidence which may include, but not be limited to:

(i) copies and details of any credit notes, discounts or rebates or similar, which would have the effect of reducing actual net price paid by the Contractor;

(ii) receipts for the actual net prices paid by the Contractor for material;

(iii) quotations and catalogues for material, current at the Tender Inflation Indexation Date and at the Base Date, usually from not more than three manufacturers or other suppliers;

(iv) receipts and other evidence of net prices received by the suppliers at the Tender Inflation Indexation Date and at the Base Date;

(v) evidence that the suppliers are reputable, such as references, extracts from accounts.

2.11 Verification

The Employer's Representative should verify that any claim for an increase in the Contract Sum arising from an increase in the cost of resources is justified, and must also ensure that the Contract Sum is reduced to reflect any applicable decreases to the Contract Sum.

In verifying the information provided by the Contractor in respect of material prices, the ER may, but is not required to (and is not limited to):

(i) obtain prices from a number of suppliers for the same materials in the same quantities and in the same timeframes;

(ii) obtain from its consultants, records of prices for these materials, or, may use catalogues or list prices from other sources that help establish average market rates.

2.12 Certificates, Payments

The ER includes, in interim and final certificates under and subject to sub-clause 11, the amount of the payment that, in the ER's opinion should be made by the Employer to the Contractor, including amounts to be paid according to PV1, together with calculations and reasons for the opinion.

2.13 PV1 and the Applicable Factor

Adjustments to the Contract Sum made under PV1 are ***not*** subject to the application of the Applicable Factor. This is because the rates in the Pricing Document are not used in the calculation of any adjustment made under PV1.

2.14 Worked Examples of Adjustment for Materials Prices for contracts dated prior to 7th January 2022

A. <u>Adjustments during the fixed price period for materials</u>

For the purposes of worked examples #A1 and #A2 the Price (as defined in PV1) of 1,000 concrete blocks is set out in each example.

Calculating Price Variation: PV1, the Proven Cost Method

Worked Example #A1 – Adjustment for an increase in Price

Price @ Designated Date	€1,000
Price @ First day in month of Purchase	€800
Select the higher of the two Prices above	€1,000
Price @ Purchase Date	€1,600
Is Price @ Purchase Date > Price @ Designated Date + 50%	**Yes**: 1,600 > 1,500 (1,000 + 500)
Calculate % increase in Price @ Purchase Date	(€1,600 - €1,000/€1,000) * 100 = 60%
Calculate excess percentage	60% - 50% = 10%
Apply the excess percentage to Price @ Designated Date	10% * €1,000
The adjustment to be applied to Contract Sum, per 1,000 blocks purchased at the Purchase Date is an **increase** of :	€100

Worked Example #A2 – no adjustment for an increase in Price

Price @ Designated Date	€1,000
Price @ First day in month of Purchase	€1,600
Select the higher of the two Prices	€1,600
Price @ Purchase Date	€1,800
Is Price @ Purchase Date > Price @ Designated Date + 50%	**No**: 1,800 < 2,400 (1,600 + 800)
As Price @ Purchase Date is not greater than the higher of the price at Designated Date or first day in month of purchase +50%, an adjustment does not apply.	

B. Adjustments after the fixed price period for materials

After the Base Date, the second calculation in PV1.1.3 also applies, where the Price of material at the Purchase Date has increased or decreased by more than 10% of its Price at the Base Date. The adjustment to the Contract Sum is that amount of an increase or decrease in the Price of material that results from either or both of the calculations in the clause. For the purpose of this worked example, these are referred to as "calculation A" and "calculation B".

For the purposes of the worked examples #B1, B2 and B3, the Price of concrete blocks per 1,000 units is set out in each example:

Worked Example # B1 – adjustment arising from an increase in Price relative to the Base Date only

	Calculation A	Calculation B
Price @ Designated Date	€1,000	
Price @ Base Date:		€1,600
Price @ the first day in Month of Purchase:	€1,800	€1,800
Price @ Purchase Date	€2,000	€2,000
Calculation A only Select highest of Price @ Designated Date or the first day in the Month of Purchase:	€1,800	
Calculation A only Is Price @ Purchase Date > Price at first day in month of purchase +50% *€1,800 (for calculation A).	**No,** as 2,000 < 2,600+(1,800 + 800) Adjustment does not apply	
Calculation B only Is Price P @ Purchase Date > Price @ Base Date + 10%		**Yes,** as 2,000 > 1,760 + (1,600 + 160)
Calculation B only Calculate the percentage change		= ((2,000 - 1,600)/1,600) * 100% = 25%
Apply the percentage in excess of 10% to Price @ Base Date		= 15% * €1,600
An increase arises only from calculation B, in this case €240 per 1,000 blocks for that quantity of blocks purchased at the Purchase Date		= €240

Calculating Price Variation: PV1, the Proven Cost Method

Worked Example #B2 – an increase arising from an increase in Price relative to the Designated Date and the Base Date

	Calculation A	**Calculation B**
Price @ Designated Date	€1,000	
Price @ Base Date		€1,600
Price @ first day in Month of Purchase	€1,200	
Price @ Purchase Date	€2,000	€2,000
Calculation A: Select highest of Price @ Designated Date or the first day in the Month of Purchase:	€1,200	
Calculation A only: Is Price @ Purchase Date > Price@ first day in Month of Purchase +50%	**Yes,** as 2,000 > 1,800 (1,200 + 600)	
Calculation A only Calculate the percentage change =	((2,000 – 1,200)/1,200) * 100% = 66.6%	
Calculation A only Apply the percentage in excess 50% to Price @ Designated Date:	16.6% * €1,000 = €166	
Calculation B only Calculate the percentage change		((2,000-1,600)/1,600) * 100% = 25%
Calculation B only Apply the percentage in excess of 10% to Price B		15% *€1600 =€240
Amount of adjustment	**€166**	**€240**
As an increase arises from *both* calculation A and calculation B, therefore the Contract Sum is adjusted by the aggregate of both, in this case €406 per 1,000 blocks for that quantity of blocks purchased at the Purchase Date.		

Calculating Price Variation: PV1, the Proven Cost Method

Worked Example #B3 a decrease arising from an increase in Price relative to the Designated Date and a decrease in Price relative to the Base Date

	Calculation A	Calculation B
Price @ Designated Date	€1000	
Price @ Base Date		€2,500
Price @ first day in the Month of Purchase	€1,200	
Price @ Purchase Date	€2,000	€2,000
Calculation A only Select highest of Price @ Designated Date or @ first day in the month of Purchase	€1,200	
Calculation A only Is Price @ Purchase Date > Price@ first day in the month of Purchase + 50%	**Yes** as 2,000 > 1,800 (1,200 + 600)	
Calculation A only Calculate the percentage increase in Price	((2,000 – 1,200)/1,200) * 100% = 66.6%	
Calculation A Apply the percentage in excess 50% to Price @ Designated Date :	16.6% * €1,000 = €166	
Calculation B only Calculate the percentage decrease in Price		((2,000 - 2,500)/2,500) * 100% = - 20%
Calculation B only Apply the percentage in excess of 10% to Price @ Base Date		-10% * €2500
	€166	**- €250**
As an increase arises from the calculation A and a decrease arises from calculation B, the amounts arising from *both* adjustments are combined to arrive the overall adjustment, being €166 - €250 = - €84 per 1,000 blocks for the quantity of blocks purchased at the Purchase Date		

Part 2

Calculating Price Variation: PV1, the Proven Cost Method

2.15 Worked Examples of Adjustment for Materials Prices for contracts dated 7th January 2022

A. Adjustments during the fixed price period for materials

For the purposes of worked examples #A1 and #A2 the notional Price (as defined in PV1) of 1000 concrete blocks is set in each example. During the fixed price period, only the First Adjustment is permitted.

Worked Example #A1- adjustment for an increase in Price

Price @ Designated Date	€1,000
Price @ Purchase Date	€1,600
Calculate percentage increase in Price @ Purchase Date	= ((1,600-1,000)/1,000) * 100 = 60%
Calculate excess percentage	60% - 15% = 45%
Apply excess percentage to Price @ Designated Date	= 45% * €1,000
The adjustment to be applied to Contract Sum, per 1,000 blocks purchased at the Purchase Date is an **increase** of:	€450

Worked Example #A2 – adjustment for a decrease in Price

Price@ Designated Date	€1,000
Price @ Purchase Date	€600
Calculate percentage decrease in Price	(600 – 1,000)/1,000) * 100 = - 40%
Calculate excess percentage	- 40% +15% = -25%
Apply excess percentage to Price @ Designated Date	- 25% * €1,000
The adjustment to be applied to Contract Sum, per 1,000 blocks purchased at the Purchase Date is a **decrease** of:	€250

B. **Adjustments after the Base Date for materials**

After the Base Date, the First Adjustment continues to be available in conjunction with the Second Adjustment the calculation for the latter compares the Price of material at the Purchase Date to the Price of material at the Base Date.

For the purposes of the worked examples #B1, #B2 and #B3, the Price of concrete blocks per 1,000 units is set out in each example:

Worked Example # B1- adjustment arising from the greater of an increase in Price under both adjustments

	1st Adjustment	2nd Adjustment
Price @ Tender Inflation Indexation Date	€1,000	n/a
Price @ Base Date	n/a	€1,600
Price @ Purchase Date	€1,800	€1,800
Calculate % increase in Price @ Purchase Date	80%	12.5%
Calculate excess % greater than threshold of 15%	80% - 15% = 65%	12.5% - 10% = 2.5%
Apply the excess percentage to Price T or B (as appropriate):	65% * €1,000 = €650	2.5% * €1600 = €40
As an increase arises from *both* the First Adjustment and the Second Adjustment, the Contract Sum is adjusted by the amount of the *higher* of the two increases, in this case €650 per 1,000 blocks for that quantity of blocks purchased at the Purchase Date, calculated under the First Adjustment.		

Worked Example #B2 – an adjustment arising from the lesser of decreases in Price under both adjustments

	1st Adjustment	2nd Adjustment
Price @ Tender Inflation Indexation Date	€1,000	n/a
Price @ Base Date	n/a	€800
Price @ Purchase Date	€600	€600
Calculate % reduction in Price @ Purchase Date	- 40%	- 25%
Calculate excess % less than threshold of 15%	- 40% + 15% = - 25%	- 25% + 10% = - 15%
Apply the excess percentage to the Price @ Tender Inflation Indexation Date and @ Base Date, as appropriate to the calculations:	- 25% * €1,000 = - €250	- 15%* €1,000 = - €150
As a decrease arises from *both* the First Adjustment and the Second Adjustment, therefore the Contract Sum is adjusted by the amount of the lower of the two decreases, in this case - €150 per 1,000 blocks for that quantity of blocks purchased at the Purchase Date, calculated under the Second Adjustment.		

<u>Worked Example #B3 -– adjustment arising from an increase and a decrease in Price under both adjustments</u>

	1st Adjustment	2nd Adjustment
Price @ Tender Inflation Indexation Date	€1,000	
Price @ Base Date		€1,800
Price @ Purchase Date	€1,600	€1,600
Calculate % change in Price @ Purchase Date	60%	- 11.1%
Calculate excess % relative to thresholds	60% - 15% = 45%	- 11.1% +10% = - 1.1%
Apply the excess percentage to the Price @ Tender Inflation Indexation Date and Base Date, as appropriate to the adjustment:	45% * €1,000 = €450	- 1.1% * €1,800 = - €19.80
As an increase arises from the First Adjustment and a decrease arises from the Second Adjustment, the amounts arising from *both* adjustments are combined to arrive the overall adjustment, being €450 - €19.80 = €430.20 per 1,000 blocks for the quantity of blocks purchased at the Purchase Date		

Part 3 Calculating Price Variation : PV2 Formula Fluctuations Method

3.1 PV2 overview

This section describes how to implement adjustments to the Contract Sum under PV2. The adjustments to the Contract Sum permitted under PV2 are summarised in the table below:

A. Contracts with a publication date *prior to* 7th January 2022:

Adjustable proportion of the Contract Sum	Adjusted for permitted fluctuations in	Adjustment permitted from
Labour	the CPI[12] index	**Base Date**
Materials & Fuel	the WPI[13] index, that is greater than	
	(a) 50% at (i) at the beginning of the month; and (ii) at the Designated Date; or	**Designated Date**
	(b) +10%; or any decrease	**Base Date**
Non-reusable temporary works	the CPI Index that is (a) greater than + 10%; or (b) any decrease.	**Base Date**

B. Contracts with a publication date *of* 7th January 2022:

Adjustable proportion of the Contract Sum	Adjusted for permitted fluctuations in	Adjustment permitted from
Labour	the CPI index	**Base Date**
Materials & Fuel	the WPI index, that is greater than	
	(a) **+/-15%** of the index at the TII Date;	**Designated Date**
	(b) **10%** of the index at the Base Date; or any decrease	**Base Date**
Non-reusable temporary works	the CPI Index, that is (a) greater than + 10%; or (b) any decrease.	**Base Date**

[12] the Consumer Price Index
[13] The relevant Wholesale Price sub-index

Part 3	Calculating Price Variation : PV2 Formula Fluctuations Method

3.2 Formulae

For the purpose of calculating adjustments under PV2, the Employer assigns nominal proportions (expressed as percentages) of the Contract Sum to the following components:

- Labour
- Materials
- Fuel
- Non-reusable temporary works
- Non-adjustable overheads (not subject to adjustment)
- Plant[14] (not subject to adjustment)

The nominal proportions of the Contract Sum assigned to labour, materials, fuel and non-reusable temporary works **are subject** to adjustment for price fluctuations under the contract. The remaining components **are not subject** to adjustment for price fluctuations at any time.

Note:

1. The nominal proportions and weightings stated by the Employer in Appendix 7 and Appendix 8 to PV2 are not intended to be exact representations of the constituents of the work, and are used solely for calculating adjustments for permissible fluctuations in price indices ('price fluctuations') under the clause.

Formulae are used to calculate the amount of the adjustment payable or recoverable (as appropriate) for price fluctuations. The formulae use various price indices, published by the Central Statistics Office in their monthly *statistical release*, to measure price fluctuations for the adjustable proportions of the Contract Sum. The relevant price index is used to establish the base figure for an adjustable element of the Contract Sum, against which subsequent fluctuations are measured.

To arrive at the amount of the adjustment for each adjustable proportion, the formulae apply a common approach, being:

Step (1)		Step (2)		Step (3)		Step (4)
Calculate the sum subject to adjustment	x	Calculate the change in applicable Indexation Figure	+/-	Applicable Threshold Amount (as appropriate)	=	Arrive at Adjustment Amount

Where

(i) the *sum subject to adjustment* represents the amount of the Contract Sum that is subject to adjustment for relevant price fluctuations. The sum is calculated using the nominal proportion of the Contract Sum, and in the case of fuel and materials only, also includes nominal weightings

[14] Used in PW-CF2 and PW-CF4 only

assigned to sub-categories of fuel and materials to calculate the sum subject to adjustment;

(ii) the *change in applicable indexation figure* represents the fluctuation in in the relevant price index for the adjustable proportion;

(iii)the *applicable threshold amount* (where applicable) represents that amount that is not subject to recovery by either the Contractor (in the case of an increase in the relevant price index) or the Employer (in the case of a decrease in the relevant price index) i.e. it is that amount for which each party bears the risk of an increase or a decrease.

(iv)the *adjustment amount* is the resultant amount that is either added (in the case of an increase), or deducted (in the case of a decrease) in respect of the relevant certificate.

The formulae differ in approach depending on the proportion to be adjusted, and the varying approaches are summarised below:

MATERIALS						
Sum subject to adjustment	**x**	**Change in Index**	**-**	**Threshold Amount**	**=**	**Amount**
A. For contracts with a publication date *prior to* 7th January 2022 (Exceptional Increase only, applicable after the Designated Date/Recovery Date)						
W x Y x Z x P	x	WPI[15]	-	50% of W x Y x Z x P)	=	K
B. Contracts with a publication date *of* 7th January 2022 (Exceptional Increase and Exceptional Decreases, after the Tender Inflation Indexation Date/Recovery Date)						
W x Y x Z x P	x	WPI	+/-	15% of W x Y x Z x P	=	K
C. Irrespective of the publication date of the contract, after the Base Date						
W x Y x Z x P	x	WPI	-	(A) 10% of W x Y x Z x P where change in index >0; or (B) No threshold for negative decreases	=	M

[15] Table 3

FUEL						
Sum subject to adjustment	**x**	**Change in Index**	**-**	**Applicable Threshold Amount**	**=**	**Amount**
A. Contracts with a publication date prior to 7th January 2022 **(Exceptional Increase only available after Designated Date/Recovery Date)**						
W x Y x EV	x	WPI[16]	-	50% of W x Y x EV	=	L.
B. Contracts with a publication date of 7th January 2022 **(Exceptional Increase and Exceptional Decrease available after Tender Inflation Indexation Date/Recovery Date)**						
W x Y x EV	x	WPI	+/-	15% of W x Y x EV	=	L.
C. Irrespective of the publication date of the contract, after the Base Date only						
W x Y x EV	x	WPI	-	(A) No threshold applies for a decrease in index figure (B) Up to 10% of W x Y x EV sum for increase in index figure	=	N

NON-REUSABLE TEMPORARY WORKS PERCENTAGE, AFTER BASE DATE ONLY Irrespective of the publication date of the contract						
Sum subject to adjustment	**x**	**Change in Index**	**-**	**Applicable Threshold Amount**	**=**	**Amount**
W x Z x P	x	CPI	-	10% of Y x Z x P where change in index figure >0; No threshold for negative decreases	=	K

LABOUR, AFTER BASE DATE ONLY Irrespective of the publication date of the contract						
Sum subject to adjustment	**x**	**Change in Index**	**-**	• **Applicable Threshold Amount**	**=**	**Adjustment**
Y x EV	x	CPI	n/a	• No threshold applies	=	L

[16] Table 5

Where, in the above formula above, for the purpose of calculating the sum subject to adjustment:

- **Z** is the Contract Sum (less VAT and any Excluded Amounts, see Section 3.7) and is used in each formula, except for the Fuel and Labour related formulae; Z must be determined for each adjustment by deducting the aggregate of any Excluded Amounts (and price adjustments) from the Contract Sum; or.
- **EV** is the Effective Value, which is the net amount due in any interim or final certificate (before retention) and excluding any price adjustments and Excluded Amounts. EV must be determined for each adjustment by deducting the aggregate of any Excluded Amounts (and price adjustments) from the amount due in a certificate;
- **Y** is the nominal proportion of the Contract Sum stated in Appendix 7. The value of Y is fixed for the particular adjustable element.
- **W** is the nominal weighting allocated to a material or fuel category stated in Appendix 8. The value of W is fixed for a particular sub-category for fuel or material.
- **P** is used in the formulae for material and non-reusable temporary works only. (See 3.3 below).

Note:

1. The formulae are not intended to produce exact calculations of the actual costs incurred by the Contractor, but rather to produce a reasonable figure that is easily calculated, objectively verifiable, and based on prior agreement, with a mutually accepted level of risk.
2. Fluctuations in the price of **overheads** and **plant** elements are not subject to adjustment at any time.

3.3 Works Elements

In the Pricing Document, the Employer assigns constituents of the works ('works elements') as deemed appropriate to

(a) appropriate material categories in Appendix 8; or
(b) as non-reusable temporary works.

In the case of an Employer design contract (i.e. PW-CF1 or PW-CF3) where the Pricing Document is a Bill of Quantities, the Employer should allocate individual items in the Bill of Quantities to a material category, or as non-reusable temporary works, as deemed appropriate.

In order to calculate P in the formulae for the adjustment of materials and non-reusable temporary works

- the aggregate in the Contract Sum of amounts for work elements assigned to each category used is calculated ("A");
- the net amount due in a certificate for each category used (as may be applicable) is calculated ("B");
- the net amount due in a certificate for each category is divided by the aggregate amount for category in the Contract Sum; (i.e. P=A/B, for a particular certificate)

Note:

1. The assignment of work items or works elements to categories in the Pricing Document is solely for the purpose of calculating any adjustment to apply in a certificate and, in no way, denotes a preference for the type of material/temporary works to be used;
2. A work element may not be used for the calculation of more than one category;
3. Over the duration of a contract, the aggregate of the individual values of P used to adjust a category may not exceed the value of one (1). When the value of P has reached one, the limit of the adjustment for that category has been reached, and no further adjustment may take place in respect of that category.

3.4 CSO indices, Absence of a relevant index, Changes to a relevant index

Tables 3 and 5 of the CSO's Wholesale Price Index correlate to the categories of materials and fuels provided in Appendix 8.

Appendix 2 and 3 of PV2 provide that in the absence of any relevant index or agreement, the Consumer Price Index is used in its place.

Sub-clause PV 2.7 provides that where, prior to the issue of the Final Certificate, any index figure used to calculate an adjustment is subsequently revised by the CSO then any such adjustment is recalculated using the revised index figure and the appropriate adjustment is made on the next certificate.

3.5 Data required for invitation to tender

In a traditional contract, where an Employer elects to use PV2, the Form of Tender and Schedule issued as part of the tender documents must include the two appendices to PV2, Appendix 7 and Appendix 8, appropriately filled in.

In **Appendix 7,** *Proportions of Labour, Materials, Fuel, and Non-Adjustable Overheads*, the Employer allocates *nominal proportions* (as a percentages) of the Contract Sum to five (in the case of building works) or six (in the case of civil engineering) elements of the works as follows:

(i) Labour
(ii) Materials
(iii) Fuel
(iv) Non-reusable temporary works
(v) Non-adjustable Overheads; and
(vi) Plant[17]

The total of the nominal percentages of the Contract Sum used in Appendix 7 must equal 100%.

In **Appendix 8,** *Indices and Weightings for Materials and Fuel*, in addition to the *nominal percentages* assigned in Appendix 7, the Employer allocates *nominal weightings* to categories of fuel and material[18] to broadly reflect the

[17] Plant is used only for civil engineering and is not subject to adjustment at any time

[18] The material and fuel categories in Appendix 8 match those of the sub-indices provided in Tables 3[18] and 5[18] of the Wholesale Price Index (WPI) published monthly by the CSO.

types of each element that may be used in the Works. The total of the nominal weightings used for materials and fuel categories must equal one (1) in both cases (i.e. to reflect the full allocation of the material and fuel proportion to categories). Where a project requires only some of these categories, this is acceptable and is achieved by allocating weightings only to those categories required, and ensuring that all categories add up to one.

During the tender period, Tenderers may be invited to comment on the Employer's nominal percentages and weightings in accordance with the Instructions to Tenderers. Any revisions to the nominal percentages and weightings that the Employer wishes to make should be circulated not later than the time stated in the Particulars under section 2.2 of Instructions to Tenderers.

For Contractor design contracts (i.e. PW-CF2 or PW-CF4), Employers may consider whether

a) to specify the nominal percentages and weightings for all Tenderers to use; or
b) to permit Tenderers to specify in their tender nominal proportions and weightings related to their design.

For instance, where a reference design is provided, the Employer may consider proposing the nominal proportions, nominal weightings and work elements and may provide an opportunity for Tenderers to comment on the nominal proportions, weightings and allocation of works elements. Any revisions to the nominal percentages and weightings should be issued to all Tenderers in advance of the submission date for the tender.

Alternatively, the Employer may consider whether to permit Tenderers to propose individual nominal proportions, weightings and work elements in their Tenders. In addition, the Employer may consider providing ranges for the nominal percentages and/or weightings, within which the values proposed by Tenderers must fall. The MEAT evaluation may be designed to incorporate evaluation of the proposed nominal percentages and weighted material categories, or a selection of the highest-ranking material categories, by providing notional index values (and assumed P values) to apply for evaluation purposes only.

Note

1. Only the nominal proportions of the Contract Sum for Labour, Materials, Fuel and non-reusable temporary works are subject to adjustment under PV2. The nominal proportions of Non-adjustable overheads and Plant (where the latter is used) elements are <u>not</u> subject to adjustment at any time. In the case of Non-adjustable overheads, for example, ten per cent (10%) should be allocated to overhead costs that are not subject to price adjustment under PV2.
2. The nominal proportions and weightings used are not intended to be an exact representation of the actual use of the components etc. on the project; they are used to calculate the amount of the Contract Sum that may be adjusted for price fluctuations and are irrespective of the actual proportions, constituents or weightings of the work carried out.

3. The Employer must always provide Appendix 7 and Appendix 8 even where the Contract is due to be completed before the end of the fixed price period. This allows for exceptional increases or decreases to be calculated and also deals with the situation where a delay occurs commencing the works (not on account of the Contractor), which may mean that the contractual date for completion falls after the fixed price period, even though that may not have been the Employer's original intention.

3.6 Failure to complete on time, PV2.5

The Contractor is not entitled to an adjustment to the Contract Sum for any adjustments that occur after the Date for Substantial Completion (or approved extension to that date). Adjustments after that date are to be calculated using the index value pertaining at the Date for Substantial Completion (or at the approved extension to that date).

This means that, under PV2, the Contractor cannot claim for price increases that occur after the Date for Substantial Completion, and so may not benefit from not completing on time

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3.7 Excluded amounts

Excluded Amounts (in addition to any price adjustments made under the PV2 clause) are deducted from either

(i) the Contract Sum to arrive at Z, or
(ii) the amount payable in any Interim or Final Certificate, to arrive at EV;

Clause PV2.6 defines Excluded Amounts as:

- Delay cost under sub-clause 10.7
- Adjustments or parts of adjustments of the Contract Sum valued under sub-clause 10.6.4
- Amounts for unfixed materials or goods for which the Contractor is entitled to payment under sub-clause 11.2
- Amounts based on actual costs or current prices
- Credits allowed for old materials arising from the Works
- Amounts for work executed under an agreement containing specific price arrangements
- Costs incurred for making good defects under clause 8

(In addition to sub-clause PV2.5) amounts by which any cost incurred by the Contractor has been increased by a default of the Contractor.

3.8 Adjustments permitted during Fixed Price period

Clause PV 2.8.4 provides that the after the Designated Date/Tender Inflations Indexation Date (or Recovery Date, as appropriate), the Contract Sum may be adjusted for an Exceptional Increase in a material or fuel category. The formulae for calculating an Exceptional Increase or Exceptional Decreases in respect of any Material Category or Fuel are contained in Appendix 4 to PV2, Part 1 and Part 2 respectively.

A. For contracts with a publication date *prior to* 7th January 2022

An exceptional increase arises where the CSO monthly index applicable to a material or fuel category in a Certificate is greater than:

1. 50% above the relevant index for that material or fuel at the Designated or Recovery Date; *and*

2. 50% above the relevant index for the same material or fuel in the month preceding the certificate.

If **both** these conditions hold, the adjustment is calculated for that excess percentage over 50% of the CSO monthly index for the same material or fuel category at the Designated Date.

B. For contracts with a publication date *of* 7th January 2022

Clause PV 2.8.4A or PV 2.8.4B provide that after the TII Date (or Recovery Date, as appropriate), the Contract Sum may be adjusted for an Exceptional Increase or an Exceptional Decrease, in respect of a material or fuel category.

An exceptional increase, or an exceptional decrease, arises where the relevant price index applicable to a material/fuel category in a Certificate has increased (in the case of an exceptional increase), or decreased (in the case of an exceptional decrease), by more than 15% of the relevant price index figure for that material/fuel category at the TII Date/Recovery Date (Inflation) (as appropriate).

Worked examples of the application of the above adjustments are contained in Section 4 and Section 5.

3.9 Adjustments permitted after the Fixed Price Period

From the Base Date, the Contract Sum may be adjusted (up or down) to reflect fluctuations:

- in the Consumer Price Index (in accordance with Appendix 6 to PV2) under PV2.8.6 for the labour proportion of the Contract Sum;.
- in the Consumer Price Index (in accordance with Appendix 5 to PV2) under PV2.8.4 for the non-reusable temporary works proportion of the Contract Sum;
- in the relevant WPI monthly indices (in accordance with Appendix 2 and 3 to PV2) under PV2.8.2 and PV2.8.3 respectively for the material and fuel proportions of the Contract Sum.

Note: After the Base Date, it is the greater of the increase, or the lesser of the decrease, calculated using the formulae for an Exceptional Increase/ Exceptional Decrease calculated in accordance with Appendix 4, or the formulae for adjustment of material and fuel categories in accordance with Appendix 2 under PV2.8.2.

For non-reusable temporary works, materials and fuel, two alterative formulae (Formula A or Formula B) are provided. Where the relative movement in the relevant indices is

(i) Negative (i.e. the most recent index figure has decreased relative to the index at the Base Date), Formula A is used to calculate the amount recoverable by the Employer in a Certificate (which is any negative amount resulting from the application of the payment); or

(ii) Positive (i.e. the most recent index figure has increased relative to the index at the Base Date); Formula B is used to calculate the amount payable by the Employer. Formula B deducts the Contractor's risk element (10% of the change in indices multiplied by the sum to be adjusted), provided however, that if, the amount calculated is negative solely as a result of the deduction of the 10% threshold, the adjustment shall be zero.

There is only one formula provided for the adjustment of the Labour element. Any increase is payable only to the extent that the workers in respect of whom an increase is being claimed have received in Ireland for the relevant work at least the increase standard wage rates.

Worked examples of each of the permitted adjustments are provided in Section 4 and Section 5.

3.10 PV2 and the Applicable Factor

This section only applies to contracts with a publication date of 7th January 2022.

It is recommended that the amount due in a certificate be calculated prior to the application of the Applicable Factor to the rates in the Pricing Document[19].

In a certificate under sub-clause 11.1.4, the Applicable Factor is applied to the total amount or an increase calculated under PV2 (where rates in the Pricing Document are used to calculate the amount due in the Certificate).

[19] Refer to GN 2.3.4 Tender Price Indexation – Calculation, Notification and Application

Part 4 Worked examples of PV2 for contracts prior to 7th January 2022

4.1 Introduction

This Section contains a number of worked examples to illustrate the application of the various price fluctuation formulae in PV2.

The examples cover the following situations:

Section	Reason for price variation
4.2	Exceptional Increase in a **material category** within the fixed-price period
4.3	Exceptional Increase in a **fuel category** within the fixed-price period
4.4	Increase in a **material category** after the fixed-price period
4.5	Increase in **non-reusable temporary works** after the fixed-price period
4.6	Increase in **labour** after the fixed-price period

The worked examples are based on a hypothetical works contract of 4 years duration with the following characteristics:

Designated Date	31 January 2019
Base Date	01 February 2022 (i.e. 36 months)
Contract Sum	€6,250,000

Note: All figures for indices used in this Section 4 are notional for illustrating the working of the formulae. They are not to be used for actual calculations.

The nominal proportions and weightings provided in Appendix 7 and 8 are shown in the tables below.

(From Appendix 7) **Element of Contract Sum**	**Percentage of Contract Sum ("Y") allocated to Element for purpose of price variation**
Labour	30%
Materials	30%
Fuel	10%
Non-reusable temporary works	5%
Plant	15%
Non-adjustable overheads	10%
Total	**100%**

(From Appendix 8) **Categories in Materials Element ("Materials Categories")**	**Weighting of Material Categories ("W")**
Stone, sand and gravel	0.08
Cement	0.00

Ready mixed mortar and concrete	0.20
Concrete blocks and bricks	0.00
Other concrete products	0.14
Structural steel and reinforcing metal	0.04
Structural steel	0.28
Reinforcing metal	0.00
Rough timber	0.00
Other timber	0.06
Bituminous macadam and asphalt	0.00
Bituminous emulsions	0.00
Electrical fittings	0.10
All other materials	0.10
Total	**1.00**

(From Appendix 3) **Categories in Fuel Element (Fuel Categories)**	**Weighting assigned to Fuel Categories ("W")**
Electricity	0.50
Fuel Oil	0.00
Gas oil	0.50
Total	**1.00**

Note:

1. The fuel oil category is not required, a weighting of 0 therefore applies.

Part 4 Worked examples of PV2 for contracts prior to 7th January 2022

4.2 Worked Example of an Exceptional Increase for Material during the Fixed Price Period

In **August 2021**, an exceptional increase applies in respect of structural steel for works in the interim certificate relating to July 2021 – that is, within the FPP, as calculated below.

WPI Indices for structural steel material category	
January 2021 (the Index Figure at the Designated Date) (D1)	90
June 2021 (the Index Figure in the month preceding the month during which the middle day of the period during which the works occurred that correspond to the relevant Interim Certificate or the Final Certificate falls) (F1)	102
July 2021 (the Index Figure for the relevant Material Category applicable at the middle day of the period during which the works occurred that correspond to the relevant Interim Certificate or the Final Certificate falls) (F2)	190
An Exceptional Increase arises only when F2 is greater than or equal to D1 plus 50%, and is also greater than F1 plus 50%. As 190 ≥ 90 + 45 (90*50%); and 190 ≥ 102 + 51 (102 *50%), an Exceptional Increase applies under PV2.8.4	

- The Contract Sum is €6,250,000 and the total of Excluded Amount is €250,000.
- The net amount due in the certificate for work elements allocated to the structural steel material category is €131,250.
- The total amount in the Contract Sum for work elements allocated to the structural steel material category is €525,000.
- The formula for calculating the amount of an Exceptional Increase (M) is:

$$\mathbf{M = \{W \times Y \times Z \times P \times (F2 - F1)/F1\} - (50\% \times W \times Y \times Z \times P)}$$

1. Calculate the sum to be adjusted	***Calculation***
a) Calculate Z	= €6,250,000 - €250,000
The Contract Sum (excluding VAT) *less* any Excluded Amounts and price adjustments.	= €6,000,000
b) *Calculate P*	= €131,250/€525,000 = 0.25
c) Multiply W x Y x Z x P	= 0.28 * 30% * 6,000,000 * 0.25 = €126,000
3. Calculate the change in index	= (190 - 102)/102 = 0.863
4. Multiply the sum to be adjusted by the change in index	= 126,000 * 0.863 = €108,705.88
5. Calculate 50% * WYZP	= €126,000 * 0.50 = €63,000
6. Subtract Step 5 from Step 4	= €108,705.88 - €63,000
M, the amount of the exceptional increase payable in respect the structural steel material category in the Interim Certificate for July 2021 is:	**= €45,706.88**

Note:

1. The formula may also be written as follows:

$$M= \{W \times Y \times Z \times P \times \{((F2 – F1)/F1) – 50\%\}$$

4.3 Worked Example of an Exceptional Increase for Fuel during the Fixed Price Period

In August 2021, an exceptional increase applies in respect of gas oil for works in the interim certificate in July 2021 (within the FPP) as calculated below.

WPI Indices for Gas Oil category	
January 2021 (the Index Figure at the Designated Date) (D1)	90
June 2021 (F1,the Index Figure in the month preceding the month during which the middle day of the period during which the works occurred that correspond to the relevant Interim Certificate or the Final Certificate falls)	113
July 2021 (F2,the Index Figure for the relevant Material Category applicable at the middle day of the period during which the works occurred that correspond to the relevant Interim Certificate or the Final Certificate falls) **provided however** that if the Date for Substantial Completion of the Works or a relevant Section falls in or after this month there shall be no adjustment to the Contract Sum) for formula in Appendix 4	205
An Exceptional Increase arises only when F2 is greater than or equal to D1 plus 50% and also greater than F1 plus 50%. As 205 ≥ 90 + (90*50%); and 205 ≥ 113.2 + (113.2*50%), an Exceptional Increase is permitted under PV2.8.4 Part B.	

- The Effective Value for the Interim Valuation for the period up to 31st July 2021 is €1,000,000. This is the net value of work on the project in the period covered by the Interim Certificate before deducting retention and less any amounts for price adjustments and Excluded Amounts.)
- The formula for calculating an Exceptional Increase for a fuel category is:

$$N = W \times Y \times EV \times \{(F2 – F1)/F1\} – (50\% \times W \times Y \times EV)$$

The amount of the Exceptional Increase for gas oil in the Interim Certificate is calculated as follows:

1. Calculate the sum to be adjusted	***Calculation***
a) Given EV	= €1,000,000
b) Multiply W x Y x EV	= 0.5 x 10% x 1,000,000 = 50,000
2. Calculate the change in index	= (205 - 113)/113 = 0.814
3. Multiply the sum to be adjusted by the change in index	= 50,000 x 0.814 = 40,700
4. Calculate 50%*W x Y x EV	= 0.50 x 50,000 = 25,000
5. Subtract Step 4 from Step 3	= 40,700 - 25,000

N, the amount payable in respect of an Exceptional Increase for the gas oil category in the Interim Certificate:	**= €15,700**

Note:

1. The formula may also be written as follows:

$$N= \{W \times Y \times EV \times \{((F1 - T1)/T1) - 50\%\}$$

4.4 Worked Example of an increase in Material Category after FPP

In April 2022, an adjustment is made for an increase in the price of ready-mixed mortar and concrete in the Interim Certificate relating to March 2022 (i.e. after the Base Date). As the increase occurs after Base Date, the greater of an increase under PV 2.8.2 or PV 2.8.4 may apply.

The relevant WPI Indices are shown below:

WPI for ready-mixed mortar and concrete	
January 2019 (D1, the Index Figure corresponding to the relevant Material Category at the Designated Date or, if a Recovery Date has been agreed or determined, at the Recovery Date) for formula in Appendix 4.	100
February 2022 (B1, the Base Index Figure for the relevant Material Category) for formulae Appendix 3.	105.30
March 2022 (F1), the Index Figure corresponding to the relevant Material Category in the month preceding the month during which the middle day of the period during which the works occurred that correspond to the relevant Interim Certificate or the Final Certificate falls **provided however** that if the Date for Substantial Completion of the Works or a relevant Section falls in or after this month there shall be no adjustment to the Contract Sum) for formula in Appendix 4.	115
April 2022 (A1, the Adjustment Index Figure for the relevant Material Category) and (F2,the Index Figure for the relevant Material Category applicable at the middle day of the period during which the works occurred that correspond to the relevant Interim Certificate or the Final Certificate) for formulae in Appendix 3 and 4	126.36

Establish the applicable formulae to use in the adjustment calculation:

a) For PV 2.8.2, where the index change between April 2022 (126.36) (A1) and February 2022(105.3) (B1) is > 0, Formula B in Appendix 3 applies.

$$\frac{\{W \times Y \times Z \times P \times (A1 - B1)\}}{B1} - (10\% \times W \times Y \times Z \times P) = K$$

b) For PV2.8.4A, an Exceptional Increase arises only when F2 (126.36) is greater than or equal to D1 (100) plus 50% (=150) and greater than F1 (115) plus 50% (=172.5) as this condition is NOT met, PV2.8.4A does not apply.

- The Contract Sum less Excluded Amounts and price adjustments is €6,000,000 (Z).
- The proportion due in the certificate for the Work Elements allocated to the ready mix mortar and concrete category in the Pricing Document is 25% (P).

1. *Calculate sum to be adjusted* *Multiply W x Y x Z x P*	= 0.2 x 30% x 6m x 0.25 = 90,000
2. *Calculate change in Index*	0.2
3. Multiply sum to be adjusted by change in index	= 0.2 * 90,000 = 18,000
4. Calculate the threshold amount	= 10% * 90,000 = 9,000
5. Deduct step (4) result from step (3) result	= 18,000 - 9,000
Total amount of increase recoverable in the Certificate	= €9,000 (K)

Note:

1. ***Compensation is not payable for increases in price of materials that are not one of the weighted categories in Appendix 8***

Part 4 Worked examples of PV2 for contracts prior to 7th January 2022

4.5 Worked Example - Increase in Non-re-usable Temporary Works after FPP

In July 2022, an adjustment is made in the Interim Certificate (for the period to 31st June 2022) for an increase in the price of non-reusable temporary works. As the increase falls after the Base Date, PV 2.8. applies. The relevant index used in the formula in Appendix 6 for non-reusable temporary works is the Consumer Price Index, the figures for which are shown below:

CSO Indices for CPI	
February 2022 (CPI^B, the month in which falls the Base Date)	119.3
July 2022 (CPI^A, the month in which falls the middle day of the Adjustment Period referred to in the Interim Certificate)	133.6
As $CPI^A – CPI^B > 0$, Formula B in Appendix 6 of PV2 is used.	

- The Contract Sum is €6,250,000 and the aggregate of Excluded Amounts and price adjustments is €250,000.
- The proportion due in this certificate allocated as non-reusable temporary works in the Pricing Document is 25% (P).
- **Formula B** is:

$$\frac{\mathbf{Y \times Z \times P \times (CPI^A - CPI^B)}}{\mathbf{CPI^B}} - \mathbf{(10\% \times Y \times Z \times P)} = \mathbf{K}$$

(Provided however that if K is less than zero, solely as a result of the deduction of the 10%, the adjustment shall be zero).

		Calculation
1.	***Calculate the sum to be adjusted***	***Calculation***
a)	*Calculate Z* The Contract Sum (excluding VAT) *less* any Excluded Amounts and price adjustments.	= 6,250,000 - 250,000 = 6,000,000
b)	*Given P*	= 0.25
c)	*Multiply Y x Z x P*	= 10% x 0.25 x 6,000,000 = 150,000
2.	***Calculate the change in index*** **(CPI^A-CPI^B)/CPI^B**	= (133.6-119.3)/119.3 = 0.120
3.	***Multiply the sum to be adjusted by the change in index***	= 150,000 x 0.120 = €18,000
4.	***Calculate 10% * Y x Z x P***	= 10% x 150,000 = €15,000
5.	***Deduct Step 4 from Step 3***	= €18,000 - €15,000
As K > 0, the amount payable in respect of an increase of Non-reusable Temporary Works in the March 2028 Certificate is:		= €3,000

4.6 Worked Example – Increase in labour after FPP

In July 2022, an adjustment is made in the Interim Certificate for an increase in the price of labour, which occurred in June 2022 (after the Base Date). The formula for calculating adjustments for changes in the price of labour is in Appendix 7 of PV2.

The relevant price index for labour is the Consumer Price Index, the figures for which are shown below:

CSO Indices for CPI	
February 2022 (the Index Figure for the Base Month) CPI^B	119.3
July 2022 (the Index Figure for the Adjustment Month) CPI^A	133.6

- The Effective Value for the Interim Valuation for the period up to 31st June 2026 is €1,500,000. This is the net value of work on the project in the period covered by the Interim Certificate before deducting retention and less any amounts for price adjustments and Excluded Amounts.)
- The formula for calculating adjustments to the Contract Sum arising from variations in the price of labour after the Base Date as follows

$$\mathbf{LV = (CPI^A - CPI^B)/CPI^B \times Y \times EV}$$

1. Calculate the sum to be adjusted	***Calculation***
a) Given EV	= €1,500,000
b) Multiply EV x Y	= 1,500,000 x 30%
	= 450,000
2. Calculate the change in index	= (133.6 - 119.3)/119.3
	= 0.120
3. Multiply the sum to be adjusted by the change in index	= 450,000 x 0.12
	= €54,000
4. LV, the amount payable in respect of an increase in the price of labour in the Interim Certificate:	**= €54,000**

Note

1. The amount of LV is payable only to the extent that the workers in respect of whom an increase is being claimed have received in Ireland for the relevant work at least the increase standard wage rates.
2. No compensation is payable for increases in cost of labour in excess of the labour percentage specified in Appendix 7 of the Contract.

Part 5 Worked examples of PV2 for contracts of 7th January 2022

5.1 Introduction

This Section 5 contains a number of worked examples to illustrate the application of the various price fluctuation formulae.

The examples cover the following situations:

Section	Reason for price variation
5.2	Exceptional Increase in a **material category** within the fixed-price period
5.3	Exceptional Decrease in a **material category** within the fixed-price period
5.4	Exceptional Increase in a **fuel category** within the fixed-price period
5.5	Exceptional Decrease in a **fuel category** within the fixed-price period
5.6	Increase in a **material category** after the fixed-price period
5.7	Decrease in a fuel category after the fixed-price period
5.8	Increase in **non-reusable temporary works** after the fixed-price period
5.9	Increase in **labour costs** after the fixed-price period

The worked examples are based on a hypothetical works contract of 4 years duration with the following characteristics:

TII Date	31st January 2025
Base Date	01 February 2027 (24 months)
Contract Sum	€6,250,000

Note: All figures for indices used in this Section 5 are notional for illustrating the working of the formulae. They are not to be used for actual calculations.

The nominal proportions and weightings provided in Appendix 7 and 8 are shown in the tables below.

(From Appendix 7) **Element of Contract Sum**	**Percentage of Contract Sum ("Y") allocated to Element for purpose of price variation**
Labour	30%
Materials	30%
Fuel	10%
Non-reusable temporary works	5%
Plant	15%
Non-adjustable overheads	10%
Total	**100%**

Part 5 Worked examples of PV2 for contracts of 7th January 2022

(From Appendix 8) **Categories in Materials Element ("Materials Categories")**	**Weighting of Material Categories ("W")**
Stone, sand and gravel	0.08
Cement	0.00
Ready mixed mortar and concrete	0.20
Concrete blocks and bricks	0.00
Other concrete products	0.14
Structural steel and reinforcing metal	0.04
Structural steel	0.28
Reinforcing metal	0.00
Rough timber	0.00
Other timber	0.06
Bituminous macadam and asphalt	0.00
Bituminous emulsions	0.00
Electrical fittings	0.10
All other materials	0.10
Total	**1.00**

(From Appendix 8) **Categories in Fuel Element (Fuel Categories)**	**Weighting assigned to Fuel Categories ("W")**
Electricity	0.50
Fuel Oil	0.00
Gas oil	0.50
Total	**1.00**

Note: The fuel oil category is not required and a weighting of 0 therefore applies.

Worked examples of PV2 for contracts of 7th January 2022

5.2 Worked Example - Exceptional Increase in a material category

In **August 2025**, an adjustment is made in the interim certificate (for works relating to July 2025 – that is within the FPP) for an Exceptional Increase in the price of structural steel, as shown in the table below.

WPI Indices for structural steel material category	
January 2025 (the month of the Tender Inflation Indexation Date) (T1)	102
August 2025 (the month in which falls the middle day of the period referred to in the Interim Certificate) (F1)	190
An Exceptional Increase arises only when F1 is greater than T1 plus 15%. As 190 > 102 + (15% * 102), an exceptional increase applies.	

- The Contract Sum is €6,250,000 and the total of Excluded Amounts and price adjustments under PV2 is €250,000.
- The net amount due in the certificate for Work Elements allocated to the structural steel material category in the Pricing Document is €131,250. The aggregate amount for the Work Elements allocated to the structural steel material category in the Pricing Document is €525,000.
- The formula for calculating the amount of an Exceptional Increase (M) is:

$$\mathbf{M = \{W \times Y \times Z \times P \times (F1 - T1)/T1\} \; - \; (15\% \times W \times Y \times Z \times P)}$$

1. Calculate the sum to be adjusted	***Calculation***
a) *Calculate Z*	= €6,250,000 - €250,000
The Contract Sum (excluding VAT) *less* any Excluded Amounts and price adjustments.	= €6,000,000
b) *Calculate P*	= €131,250/€525,000 =0.25
c) *Multiply W x Y x Z x P*	= 0.28 * 30% * 6,000,000 * 0.25
	= 126,000
2. Calculate the change in index	= (190 - 102)/102 = 0.863
3. Multiply the sum to be adjusted by the change in index	= 126,000 * 0.863
	= 108,705.88
4. Calculate 15%*WYZP	= 126,000 * 0.15
	= 18,900
5. Subtract Step 4 from Step 3	= 108,705.88 - 18,900
M, Amount payable in respect of an Exceptional Increase for the structural steel material category in the Interim Certificate for July 2026 is	**= €89,805.88**

Note:

1. The formula may also be written as follows:

$$\mathbf{M= \{W \times Y \times Z \times P \times \{((F1 - T1)/T1) - \; 15\%\}}$$

5.3 Worked example - Exceptional Decrease in a material category

In October **2025**, an adjustment is made in the interim certificate (relating to September 2025 – that is within the FPP) for an Exceptional Decrease in the price of structural steel, as shown in the table below.

WPI Indices for structural steel material category	
January 2025 (T1)	102
September 2025 (the month in which falls the middle day of the period referred to in the Interim Certificate) (F1)	60
Where F1< T1, is F1 < T1 – (15%*T1)?	YES
An Exceptional Decrease arises only when F1 is less than T1 minus 15%. As 60 < 102 - (15% * 102), (or 102 – (15% * 102) > 60) an exceptional decrease applies.	

- The Contract Sum is €6,250,000 and the total of Excluded Amounts and price adjustments under PV2 is €250,000.
- The total amount for the Work Elements allocated to the structural steel material category in the Pricing Document is €525,000.The net amount due in the certificate for the Work Elements allocated to the structural steel material category in the Pricing Document is €65,625.
- The formula for calculating the amount of an Exceptional Decrease (M) is:

$$\mathbf{M = \{W \times Y \times Z \times P \times (F2 - T1)/T1\} + (15\% \times W \times Y \times Z \times P)}$$

1. Calculate the sum to be adjusted	***Calculation***
a) Calculate Z	= €6,250,000 - €250,000
The Contract Sum (excluding VAT) *less* any Excluded Amounts and price adjustments.	= €6,000,000
b) *Calculate P*	= €65,625/€525,000 = 0.125
c) Multiply W x Y x Z x P	= 0.28 * 30% * 6,000,000 * 0.125 = 63,000
2. Calculate the change in index	= (60 - 102)/102 = -0.41
3. Multiply the sum to be adjusted by the change in index	= 63,000 * -0.41 = -25,941.20
4. Calculate 15%*WYZP	= 63,000 * 0.15 = 9,450.00
5. Subtract Step 4 from Step 3	= -25,941.20 + 9,450.00
M, amount recoverable in respect of an Exceptional Decrease for the structural steel material category in the Interim Certificate:	**= -€16,491.20**

Note:

1. The formula may also be written as follows:

$$\mathbf{M = W \times Y \times Z \times P \times \{((F1 - T1)/T1) + 15\%)\}}$$

Part 5 Worked examples of PV2 for contracts of 7th January 2022

5.4 Worked Example - Exceptional Increase in a Fuel Category

In August 2026, an adjustment is made in the interim certificate (relating to July 2026 – that is within the FPP) for an Exceptional Increase in the price of gas oil, as calculated below.

WPI Indices for Gas Oil category	
January 2025 (T1)	113
July 2026 (F1, the month in which falls the middle day of the period referred to in the Interim Certificate)	205
Where F1> T1, is F1> T1+15%*T1?	YES
An Exceptional Increase arises only when F1 is greater than T1 plus 15%. As 205 > 113 + (15% * 113), an exceptional increase applies.	

- The Effective Value for the Interim Valuation for the period up to 31st July 2026 is €1,000,000. This is the net value of work on the project in the period covered by the Interim Certificate before deducting retention and less any amounts for price adjustments and Excluded Amounts.)
- The formula for calculating an Exceptional Increase for a fuel category is:

$$N = W \times Y \times EV \times \{(F1 - T1)/T1\} - (15\% \times W \times Y \times EV)$$

The amount of the Exceptional Increase for fuel oil in the Interim Certificate is calculated as follows:

1. Calculate the sum to be adjusted	***Calculation***
a) Given EV	= €1,000,000
b) Multiply W x Y x EV	= 0.5 x 10% x 1,000,000 = 50,000
2. Calculate the change in index	= (205 - 113)/113 = 0.814
3. Multiply the sum to be adjusted by the change in index	= 50,000 x 0.814 = 40,700
4. Calculate 15%*W x Y x EV	= 0.15 x 50,000 = 7,500
5. Subtract Step 4 from Step 3	= 40,700 - 7,500
N, the amount payable in respect of an Exceptional Increase for the gas oil category in the Interim Certificate:	**= €33,200**

Note:

1. The formula may also be written as follows:

$$N = \{W \times Y \times EV \times \{((F1 - T1)/T1) - 15\%\}$$

Part 5 Worked examples of PV2 for contracts of 7th January 2022

5.5 Worked Example - Exceptional Decrease in a Fuel Category

In November 2026, an adjustment is made in the interim certificate (relating to October 2026 – that is within the FFP) for an exceptional decrease in the price of gas oil, as follows:

WPI Indices for Gas Oil category	
January 2025 (T1)	113
July 2026 (F1, the month in which falls the middle day of the period referred to in the Interim Certificate)	75
Where F1 < T1, is F1 < T1 – (15%*T1)?	YES
An Exceptional Decrease arises only when F1 is less than T1 minus 15%. As 75 < 113 - (15% * 113), (or 113 – (15% * 113) > 75) an exceptional decrease applies.	

- The Effective Value for the Interim Valuation for the period up to 31st October 2026 is €1,000,000. This is the net value of work on the project in the period covered by the Interim Certificate before deducting retention and less any amounts for price adjustments and Excluded Amounts.)
- The formula for calculating an Exceptional Decrease for a fuel category is:

$$N = W \times Y \times EV \times (F1 - T1)/T1\} + (15\% \times W \times Y \times EV)$$

The amount of the Exceptional Decrease for Gas Oil in the Interim Certificate is calculated as follows:

1. Calculate the sum to be adjusted	***Calculation***
a) Given EV	= €1,000,000
b) Multiply W x Y x EV	= 0.5 x 10% x 1,000,000 = 50,000
2. Calculate the change in index	= (75 - 113)/113 = -0.336
3. Multiply the sum to be adjusted by the change in index	= 50,000 x -0.336 = -€16,814.20
4. Calculate 15%*W x Y x Z x P	= 0.15 x 50,000 = 7,500
5. Add result from Step 4 to Step 3	= -16,814.20 + 7,500
N, the amount recoverable in respect of an Exceptional Decrease for the gas oil fuel category in the Interim Certificate:	**= €9,314.16**

Note:

1. The formula may also be written as follows:

$$N = W \times Y \times EV \times \{(F1 - T1)/T1) - 15\%)\}$$

5.6 Worked Example - Increase in Material Category after the FPP

In April 2027, an adjustment is made in the interim certificate for an increase in the price of ready-mixed mortar and concrete in the Interim Certificate relating to March 2027 (i.e. after the Base Date).

As the increase occurs after Base Date, the greater of an increase under PV 2.8.2 or PV 2.8.4 may apply.

The relevant indices WPI Indices are shown below:

WPI for ready-mixed mortar and concrete	
January 2025 (TII Date)	100
February 2027 (the month in which falls the Base Date)	105.30
March 2027 (the month in which falls the middle day of the period referred to in the Interim Certificate)	126.36

Establish the applicable formulae to use in the adjustment calculation:

a) For PV 2.8.2, where the index change between March 2028 (126.6) and February 2027(105.3) is > 0, Formula B in Appendix 3 applies.

$$\frac{\{ W \times Y \times Z \times P \times (A1 - B1) \}}{B1} - (10\% \times W \times Y \times Z \times P) = K$$

b) For PV2.8.4A to apply, the change in index between March 2028(F1) and January 2025(T1) must be such that F1 > T1 + 15% x T1. As this condition is met, (i.e. 126.36 > (100 + (15% * 100)) the formula in Appendix 4, Part 1 applies *provided however* that the adjustment after the Base Date shall be the greater of the increase calculated under PV2.8.4A and PV2.8.2. The formula to calculate an adjustment for an Exceptional Increase is:

$$M = \{W \times Y \times Z \times P \times (F1 - T1)/T1\} - (15\% \times W \times Y \times Z \times P)$$

- The Contract Sum less Excluded Amounts and price adjustments is €6,000,000 (Z).
- The net amount due in the certificate for the Work Elements allocated to the ready mix mortar and concrete category in the Pricing Document is 25% (P).

Material Category:	**PV 2.8.2, using Formula B in Appendix 2**	**PV 2.8.4A, using the Formula in Appendix 4, Part 1**
1. *Sum to be adjusted* *Multiply W x Y x Z x P*	= 0.2 x 30% x 6m x 0.25 = 90,000	= 0.2 x 30% x 6mx 0.25 = 90,000
2. *Calculate change in Index*	0.2	0.264
3. *Multiply sum to be adjusted by change in index*	= 0.2 * 90,000 = 18,000	= 0.264 * 90,000 = 23,724
4. *Calculate the threshold amount*	= 10% * 90,000 = 9,000	= 15% * 90,000 = 13,500
5. *Deduct step (4) result from step (3) result*	= 18,000 - 9,000 = €9,000 (K)	= 23,274 - 13,500 = €10,224 (M)
Total amount of increase recoverable in the Certificate	The greater of the increase arises under the application of the formula in PV2.8.4A, therefore the adjustment is **€10,224.**	

5.7 Worked Example - Decrease in Fuel Category after FPP

In July 2027, an adjustment is made in the interim certificate relating to June 2027 for a decrease in the price of gas oil.

As the decrease occurs after Base Date, the greater of an increase under PV 2.8.2 or PV 2.8.4B will apply.

The relevant indices are the relevant WPI Indices for the categories that the materials fall into and are shown below:

WPI for Gas Oil	
January 2025 (TII Date)	113
February 2027 (the month in which falls the Base Date)	79.1
July 2027 (the month in which falls the middle day of the period referred to in the Interim Certificate)	73.4

Establish the applicable formulae to use in the adjustment calculation:

(i) For PV 2.8.3, where the index change between February 2027 (79.1) and January 2025(113) is < 0, Formula A in Appendix 4 is applicable:

$$\mathbf{L = W \times Y \times EV \times (A1-B1)/B1}$$

(ii) For PV2.8.4B, the change in index between July 2027 (F1) and January 2025(T1) must be such that F1 (March 2028) < T1 (TII Date) + 15%. As this condition is met, (i.e. 73.4 < 113+16.95) the formula in Appendix 4, Part 2 applies *provided however* that the adjustment after the Base Date shall be the greater of the increase calculated under PV2.8.4A and PV2.8.2.

$$N = W \times Y \times EV \times \{(F1 - T1)/T1\} + (15\% \times W \times Y \times EV)$$

Fuel Category:	PV 2.8.2, using Formula B in Appendix 2 (L)	PV 2.8.4A, using the Formula in Appendix 4, Part 1 (N)
1. *Sum to be adjusted Multiply W x Y x EV*	=1,000,000x0.05x10% =5,000	=1,000,000x0.05x10% =5,000
2. *Calculate change in Index*	=-0.072	=-0.35
3. Multiply sum to be adjusted by change in index	= -360.303	= -1752.21
4. Calculate the threshold amount	N/A	=15% *5,000 =750
5. Add step (4) result from step (3) result	N/A	=-1752.21+750
6.	= -360.30	=-1002.21
Total amount of decrease recoverable in the Certificate	The lesser of the decreases arises under the application of the formula in PV2.8.2, therefore the adjustment is -**€360.3.**	

5.8 Worked Example - Increase in Non-re-usable Temporary Works after FPP

In July 2027, an adjustment is made in the interim certificate (for the period to 31st June 2027) for an increase in the price of non-reusable temporary works. As the increase falls after the Base Date, PV 2.8 applies. The relevant index used in the formula in Appendix 6 for non-reusable temporary works is the Consumer Price Index, the figures for which are shown below:

CSO Indices for CPI	
February 2027 (the month in which falls the Base Date)	119.3
March 2028 (the month in which falls the middle day of the Adjustment Period referred to in the Interim Certificate)	133.6
As $CPI^A - CPI^B > 0$, Formula B in Appendix 6 of PV2 is used.	

Part 5	Worked examples of PV2 for contracts of 7th January 2022

- The Contract Sum is €6,250,000 and the aggregate of Excluded Amounts and price adjustments is €250,000.
- The proportion due in this certificate of the aggregate of non-reusable temporary works allocated to as non-reusable temporary works in the Pricing Document is 25% (P).
- **Formula B** is:

$$\frac{\mathbf{Y \times Z \times P \times (CPI^A - CPI^B)}}{\mathbf{CPI^B}} - \mathbf{(10\% \times Y \times Z \times P)} = \mathbf{K}$$

(Provided however that if K is less than zero, solely as a result of the deduction of the 10%, the adjustment shall be zero).

1. Calculate the sum to be adjusted	
a) Calculate Z The Contract Sum (excluding VAT) *less* any Excluded Amounts and price adjustments.	= 6,250,000 - 250,000 = 6,000,000
b) Given P	= 0.25
c) Multiply Y x Z x P	= 10% x 0.25 x 6m = 150,000
2. Calculate the change in index **(CPI^A-CPI^B)/CPI^B**	= (133.6 - 119.3)/119.3 = 0.120
3. Multiply the sum to be adjusted by the change in index	= 150,000 x 0.120 = €18,000
4. Calculate 10% * Y x Z x P	= 10% x 150,000 = €15,000
5. Deduct (4) from (3)	= €18,000 - €15,000
As K > 0, the amount payable in respect of an increase of Non-reusable Temporary Works in the March 2028 Certificate is:	= €3,000

5.9 Worked Example – Increase for labour after the FPP

In July 2027, an adjustment is made in the interim certificate for an increase in the price of labour which occurred in June 2027 (after the Base Date of 1st February 2027). The formula for calculating adjustments for changes in the price of labour is in Appendix 7 of PV2. The relevant index for labour is the Consumer Price Index, the figures for which are shown below:

CSO Indices for CPI	
February 2027 (the month in which falls the Base Date)	119.3
March 2028 (the month in which falls the middle day of the period referred to in the Interim Certificate)	133.6

- The Effective Value for the Interim Valuation for the period up to 31st June 2026 is €1,500,000. This is the net value of work on the project in the period covered by the Interim Certificate before deducting retention and less any amounts for price adjustments and Excluded Amounts.)

Part 5 Worked examples of PV2 for contracts of 7th January 2022

- The formula for calculating adjustments to the Contract Sum arising from variations in the price of labour after the Base Date as follows

$$LV = (CPI^A - CPI^B)/CPI^B \times Y \times EV$$

1. Calculate the sum to be adjusted	
c) Given EV	= €1,500,000
d) Multiply EV x Y	= 1,500,000 x 30%
	= 450,000
6. Calculate the change in index	= (133.6 - 119.3)/119.3
	= 0.120
7. Multiply the sum to be adjusted by the change in index	= 450,000 x 0.12
	= €54,000
4. LV, the amount payable in respect of an increase in the price of labour in the Interim Certificate:	**= € 54,000**

Note:

1. The amount of LV is payable only to the extent that the workers in respect of whom an increase is being claimed have received in Ireland for the relevant work at least the increase standard wage rates.
2. No compensation is payable for increases in cost of labour in excess of the labour proportion specified in Appendix 7 of the Contract