

# NEC Secondary Option X1 Price Adjustment for Inflation

Presented by  
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## About Us




GVE Commercial Solutions Ltd are a commercial management consultancy providing quantity surveying and programming services. Our consultants specialise in the NEC forms of contract.

Our NEC capability has principally been acquired through practical application and experience within a 'live' project environment, assisting both contractors and subcontractors.

Our specialist NEC services include:

- Commercial and contract management of projects,
- Bespoke training,
- Project health check reviews,
- Contract reviews,
- Programme management,
- Dispute avoidance and/or resolution.

For further information please see our website: [www.gvecs.co.uk](http://www.gvecs.co.uk)  
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## What is Inflation?

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## What is Inflation?

Inflation occurs when a 'product' or 'service' price increases over time. Inflation is measured by comparing today's price with the price for the same 'product' or 'service' exactly one year ago.

The calculation uses the following formula, expressed as a percentage;

$$\left[ \left[ \frac{\text{Current Price}}{\text{Price One Year Ago}} \right] - 1 \right]$$

Example of inflation

I buy a large burger meal that costs me a total of **£5.50**.

Exactly one year ago the same purchase would have cost me **£5.20**.

$$\left[ \left[ \frac{£5.50}{£5.20} \right] - 1 \right] = 5.76\%$$

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## Types of Inflation?



In economics, the 'triangle model' of inflation is derived from the 'Phillips curve' and identifies inflation as having 3 root causes, as follows;

### Demand - Pull

This occurs when demand exceeds supply, commonly described as 'too much money chasing too few goods'.

### Cost - Push

This occurs when there is a substantial increase in the cost of goods or services, where no suitable alternative is available.

### Built-in Inflation

This results from an expectation based on past events, such that inflation becomes a normal occurrence, leading to price/wage spirals.



## Price Index

## Price Index - Principles



Each 'type' of 'product' or 'service' is subject to a different set of factors which influences the actual price.

To provide a 'comparative' measure, 'products' and 'services' that reflect a particular type of expenditure can be grouped together.

When an inflation calculation is applied to this 'basket of expenditure' it creates a specific price index.

A 'weight' is applied to each component in this price index relating to the importance of that item.

To accommodate current preferences, both the 'content' and 'weighting', of the price index components, are revised to reflect changes in spending.

The benchmarked 'base index' is commonly valued at 100, with each new calculation comparing the current price to the 'base index'.

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## Consumer Price Index



This is known as 'CPI' and effectively replaced the similar Retail Price Index or RPI.

CPI measures the rate at which goods and services bought by 'households' changes over time, using a representative 'basket of goods'.

Each month around 180,000 'sample prices' are collected to compile the index, covering approximately 700 representative goods and services.

Changes to the composition and weighting of the 'basket of goods' are introduced in February each year.

A CPI index is 'measured' using the same calculation as for inflation.

CPI differs from RPI in that RPI includes the cost of housing and uses an 'arithmetic' mean in the calculation whereas CPI uses a 'geometric' mean.

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## Construction Contracts

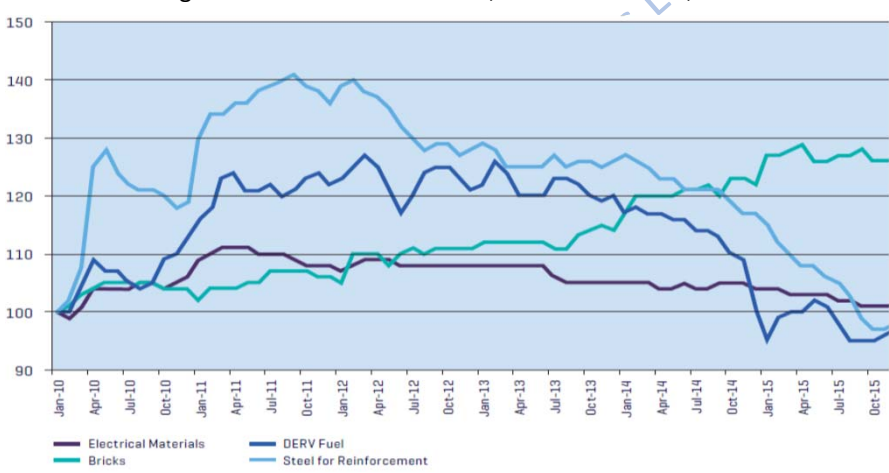
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### Price Fluctuation

Construction involves the use of numerous components, with the price for each of these fluctuating at different rates over time, shown as follows;



Month	Electrical Materials	Bricks	DERV Fuel	Steel for Reinforcement
Jan-10	100	100	100	100
Apr-10	105	105	105	125
Jul-10	105	105	105	120
Oct-10	105	105	105	120
Jan-11	105	105	105	130
Apr-11	105	105	105	135
Jul-11	105	105	105	140
Oct-11	105	105	105	135
Jan-12	105	105	105	130
Apr-12	105	105	105	125
Jul-12	105	105	105	120
Oct-12	105	105	105	125
Jan-13	105	105	105	125
Apr-13	105	105	105	125
Jul-13	105	105	105	125
Oct-13	105	105	105	125
Jan-14	105	105	105	125
Apr-14	105	105	105	125
Jul-14	105	105	105	125
Oct-14	105	105	105	125
Jan-15	105	105	105	125
Apr-15	105	105	105	125
Jul-15	105	105	105	125
Oct-15	105	105	105	125

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## Contract Mechanisms



Many standard forms of contract provide a mechanism to calculate an inflationary price adjustment, including;

- Applying a formula calculation based on changes to Price Indices,
- Calculating 'actual cost' increases,
- Calculating 'actual cost' increases for specified cost components only.

The alternative is for the tenderer to include an allowance within their bid for the effects, as a 'fixed price' allowance.

The formula method of calculating fluctuations in contracts was introduced in 1973 in response to a request from the construction industry to provide a '*speedy yet credible*' way of calculating and reimbursing fluctuations.

Price indices are produced at various levels of detail, including as follows;

- Base component, product or element,
- Type of construction,
- Sector or industry specific.

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## NEC Secondary Option X1

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## NEC Suite



Secondary option X1 can be found in the following NEC forms of contract;

- Engineering and Construction Contract (ECC),
- Engineering and Construction Subcontract (ECS),
- Professional Services Contract (PSC),
- Professional Services Subcontract (PSS),
- Term Service Contract (TSC),
- Term Service Subcontract (TSS),
- Facilities Management Contract (FMC),
- Facilities Management Subcontract (FMS),
- Supply Contract (SC).

The TSSC includes a price adjustment procedure at clause 52.

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## Secondary Option X1



A price adjustment calculation uses the details stated in (Sub)Contract Data.

An ECC, ECS, PSC, PSS and SC calculation is made each time the amount due is assessed.

A TSC, TSS, FMC and FMS calculation is made at each '*inflation adjustment date*'.

Depending on which main option is chosen, the assessed amount is either 'paid' as an interim amount or added to the total of the Prices.

The calculation includes a 'non-adjustable' component which covers items such as; insurances, bonds, overhead & profit and Contractor risk.

Compensation event quotations are either calculated using 'base date' amounts or the assessment is 'deflated' using an 'inverse' adjustment.

The calculation assessment at Completion is used for interim payments occurring after this date.

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## PAF Calculation - Example



The *base date* for indices is **12 March 2020**

The indices are those published by **Building Cost Information Service (BCIS)**

The proportions used to calculate the Price Adjustment Factor are;

General building cost	0.70
Plant	0.05
Mechanical & Electrical	0.15
Non-adjustable	<u>0.10</u>
	1.00

The relative Index values are;

	<u>Base Date Index (B)</u>	<u>Latest Index (L)</u>
General building cost	288.4	320.8
Plant	310.5	317.9
Mechanical & Electrical	283.4	310.2
Non-adjustable	100.0	100.0

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## PAF Calculation - Example



Change in the PWDD (interim amount) is **£2,124,000**

Using the calculation of (L-B)/B for each of the elements gives;

	<u>(L-B)/B</u>	<u>Proportion</u>	<u>%age</u>
General building cost	(320.8-288.4)/288.4	0.70	7.86%
Plant	(317.9-310.5)/310.5	0.05	0.12%
Mechanical & Electrical	(310.2-283.4)/283.4	0.15	1.42%
Non-adjustable	(100.0-100.0)/100.0	0.10	0.00%

Totalling the adjustment %ages for the indices gives a **PAF of 9.40%**

Price Adjustment - Options A and B

<u>Change in PWDD</u>		<u>PAF</u>		
£2,124,000	x	9.40%	=	£199,656.00

The calculated amount of £199,656.00, together with the total of previous calculated price adjustment amounts, is included in the amount due for payment.

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## PAF Calculation - Example



### Price Adjustment - Options C and D

$$\begin{array}{rclcl} \text{Change in PWDD} & & (\text{PAF}/(1+\text{PAF})) & & \\ \text{£2,124,000} & \times & (9.40\%/(1+9.40\%)) & = & \text{£182,531.62} \end{array}$$

The calculated amount of £182,531.62 is added to;

- the total of the Prices (Option C),
- or
- the Total of the Prices (Option D).

As can be seen, the calculated price adjustment amount is;

- Included in an interim payment for Options A and B,
- Added to the 'target' for Options C and D.



## Issues to Consider

## NEC3 to NEC4



The basic mechanism remains unchanged, although there are some important differences, including;

- Under NEC3 if an Index value changes then the calculation is repeated using the new index value. Under NEC4 there is no such adjustment.
- Under NEC4 the price adjustment of a compensation event is by reference to the 'dividing date', which corresponds to clause 63.1, whereas NEC3 related to the Defined Cost current at the time of assessing the compensation event.
- The TSC (TSS, FMC and FMS) price adjustment calculation is made at each '*inflation adjustment date*' instead of each time the amount due is assessed.
- The PSC (and PSS) price adjustment calculation is made each time the amount due is assessed, whereas under NEC3 this was calculated on a yearly basis.

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## Be Aware That ....



Even with the inclusion of a price adjustment mechanism, the following risks should be considered;

- The Price Indices chosen to apply a price adjustment calculation may not appropriately reflect the actual inflation amount of your project.
- The calculation is based on 'recorded information', that is;
  - The stated Price Index used is the one published 4 to 6 weeks ago,
  - The stated Price Index is produced using information at least a month prior to publication.
- The price adjustment calculation procedure needs to be set up and administered correctly to ensure the appropriate commercial entitlement.
- Other 'fluctuation' considerations are not addressed in the price adjustment mechanism, such as currency exchange rates.
- Secondary Option X1 only provides for 'cost' adjustment without considering any other associated effects.

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