#### PRACTICE

# How to avoid cumulative delay and disruption disputes in NEC contracts

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#### **KEY POINTS**

- Change and associated delay and disruption are managed in NEC projects through the compensation events process.
- When quoting for compensation events, contractors need prospectively to identify all cumulative effects of a change on the duration – not just the obvious ones.
- Project managers and contractors should collaborate on compensation events to avoid later disputes over cumulative delay and disruption.

There are six broad types of change in NEC contracts: scope changes and instructions, differing site conditions (physical, weather and 'issues'), delays and prevention, disruption, suspensions, and risk matters. All can impact on a project's cost and duration.

Scope changes and associated delay and disruption are identified and captured by means of the NEC compensation event process. In an NEC4 Engineering and Construction Contract (ECC), the project manager notifies a compensation event and instructs the contractor to submit a quotation. This has to include a prospective assessment of the foreseeable and unforeseeable effects of the change to the programme, including any cumulative delay and disruption.

This article discusses two factors which are often overlooked in the compensation event process and can lead to disputes: properly identifying the 'ripple effect' of change on other project operations and quantifying this cumulative effect on the project duration.

#### Identifying the ripple effect

NEC4 ECC clause 62.2 states, 'Quotations for a compensation event comprise proposed changes to the Prices and any delay to the Completion Date and Key Dates assessed by the *Contractor*. The *Contractor* 

submits details of the assessment with each quotation. If the programme for remaining work is altered by the compensation event, the *Contractor* includes the alterations to the Accepted Programme in the quotation.'

Many compensation event quotations that we see are simply based on the direct effects of the event, making an assessment of the additional materials and labour resources, including any additional equipment required to deliver the additional scope, along with an assessment of any direct impact on the planned completion date.

But cumulative disruptive effects can reduce labour productivity and disrupt the sequencing of planned operations, leading to a further delay to planned completion. This disruption often affects the later stages of the project, and may be both foreseeable and, in some cases, unforeseeable, which is often referred to as the ripple effect. This is where a single operation delay can permeate across other operations and impact planned completion – and potentially lead to disputes.

## Quantifying cumulative effect on duration

Identifying and quantifying the ripple effect due to a compensation event requires a comprehensive review of the accepted programme. This should focus on operations sequencing and resource usage as all these aspects can be impacted by the additional works and affect planned completion.

It is imperative that all time impacts are identified and captured including time prior to formal notification of the event. This could include, for example, identifying a design issue and the associated time incurred by people seeking direction and/or clarification of the issue prior to it being formally notified. All time impacts associated with re-design, procurement and re-scheduling of the works can then be identified and captured along with the direct time impacts associated with execution of the changed works.

Capturing the direct impacts and cumulative impacts requires different approaches. The direct impacts are usually prepared on a prospective basis. However, making an assessment of the cumulative impact can be more problematic, as a contractor cannot often foresee or readily quantify the impacts prospectively. Impacts of a compensation event on the planned completion date can be vastly different depending on the approach taken, resource availability, site limitations and equipment limitations. All have the capacity to determine the assessment of a compensation event quotation, and the corresponding effect this has on planned completion and cost.

Contractors should consider using resourceloaded programmes, as this makes it easier to address resource allocation issues once any changed works are incorporated into the accepted programme. It helps to identify areas that require resource levelling or extra resources for certain operations, mitigating the ripple effect on planned completion.

If there is a large degree of uncertainty, the use of clause 61.6 and assumptions can be discussed with the project manager. Clause 61.6 states, 'if the effects of a compensation event are too uncertain to be forecast reasonably, the *Project Manager* states certain assumptions about the compensation event in the instruction to the *Contractor* to submit quotations. Assessment of the event is based on these assumptions. If any of them is later found to have been wrong, the *Project Manager* notifies a correction'.

By enabling the project manager to make formal assumptions prior to preparing and assessing compensation event quotations, it helps to prevent any disagreements due to lack of a common understanding. This also provides a mechanism for corrections to be made if any assumptions prove incorrect and adversely affect the cumulative impacts captured in the quotation.

#### Conclusions and recommendations

In assessing NEC compensation event quotations, contractors often fail to account for the unforeseeable ripple effect of cumulative delay and disruption which can lead to later disputes.

To avoid disputes and misunderstandings, contractors and project managers should collaborate on the administration of the NEC compensation event procedure, including discussing the benefit of project manager assumptions through clause 61.6.

Contractors should also consider using resourceloaded programmes, which make it easier to mitigate the ripple effect of changes and should keep appropriate records to substantiate cumulative delay and disruption in the event of a later dispute.

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