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VISUALISATION

# Visually representing project change events

**BOB LASLETT** emphasises the importance of offering a holistic view of project changes

One of the biggest challenges to successfully delivering a project is the impact of changes. Having been involved with major offshore oil and gas projects, capital investment projects (nuclear power stations and major infrastructure), as well as major business projects (cross-border merger and acquisition projects and global organisational change programmes), I have found the one common theme to be inevitable changes to scope.

Project scope changes occur for many different reasons. They can happen as a result of a regulatory change, a technology change, poorly defined requirements, a change of ownership, a stakeholder's change of mind, changes due to adverse weather, routing changes due to terrain difficulties, changes for security reasons, or late specification changes. Changes are many and varied, and not always foreseen or predicted.

Changes to the scope of a project are often expected, especially if it is a technically complex project, a mega-project, a project using leading-edge technology, or a project being delivered in a volatile and unpredictable environment – as many projects are today.

The challenge is not just to integrate the change(s) into the project plan, but also to mitigate any adverse impact to cost and schedule. However, it is not just the

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immediate project team that is intimately involved with any change; subcontractors, suppliers, certifying authorities and others may also be impacted. I have seen regulatory change have a major impact on an offshore oil and gas project due to gas flaring restrictions changing midway through engineering/construction, and a technology change requiring the use of difficult-to-source exotic materials for piping needed due to a change in types of chemicals being processed. I have also seen a change in the build sequence of an infrastructure project due to a lack of key crane resource availability when required by the project schedule.

Visually communicating project data and key linkages significantly helps in the management of change on a project and makes it easier to demonstrate the cause, effect and quantification of delay.

Should a project culminate in a dispute, then visualisation allows you to:

- **organise your dispute case information through visual structure, making technically complex subjects easy to understand;**
- **view dispute case data structures that are more intuitive to navigate;**
- **present dispute case information using a visual storytelling mode;**
- **provide indexed data, enabling case information to be searched and found easily;**
- **have a secure, cloud-based solution, enabling collaboration online in real time from any internet connection;**
- **make it easier to demonstrate the cause, effect and quantification of delay;**
- **better support the justification of delay and quantum; and**
- **significantly aid the explanation of a very technically complex dispute through clear, visual and easily understood graphics during mediation and/or in litigation.**


In a dispute case involving mediation and litigation, it is obvious that the claimant and defendant must understand the relevant case issues, but, of equal

importance, the legal teams and all those involved in the court procedure, whether judges, arbitrators or mediators, must fully understand the complexities of the case in order to make a judgment.

The visual representation of project change events is a process that significantly helps in both project execution and project dispute cases. It not only provides a holistic view of a project, but also considers its individual parts by linking essential details to provide a visual view of complex changes. It can be used as a methodology to support project delay analysis.

Change events may be caused by a single action or cumulative actions, so understanding the causation of each action through visualisation can be important with respect to the direct cause. It is even more important in understanding the impact of a change event, or, more commonly, the multiple impacts and knock-on effects of a change event. The inevitable result of change events is a project delay and increased costs. Knowing the cause can both mitigate delays and avoid a dispute.

Visually showing the project data links related to the change event can significantly expedite project management decisions, which can reduce delays, especially in areas such as procurement (long-lead items), resourcing, subcontractor mobilisation and any approvals process.

The use of a unique visual representation of the project structure does not detract from the project planning and scheduling (including critical path analysis). 



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