

Safe by Design

Briefing Note: No.01

Design Risk Assessment



Purpose

The purpose of this briefing note is to explain the steps being taken to embed safety into construction and infrastructure operation through improvements at the design stage.

Background

The Safe by Design (SbD) forum involves Network Rail working collaboratively with designers and contractors and is initially focussed on improving safety of building and civils works. SbD is one of a number of initiatives being overseen by the Project Safety Leadership Group (PSLG). SbD is chaired by Tony Wilkins (Mott MacDonald) who also represents the design consultancy community on PSLG.

Overview of SbD workstreams

Following the establishment of SbD forum an initial workshop was held in the first quarter of 2011 to identify areas for improvement. Our five priority workstreams are:

- (1) Design Risk Assessment,
- (2) Early focus on buildability and temporary works,
- (3) Improving awareness of Construction Design Management Regulations (2007) roles and responsibilities,
- (4) Lessons learnt and best practice, and
- (5) Design procurement and programme.

This briefing note edition summarises the progress made to improve Design Risk Assessment (the first workstream we tackled) as well as a quick roundup of latest progress on our other priorities.

Design Risk Assessment

Our aim is to improve the consistency and quality of how significant hazards are communicated in design.

Railway specific guidance on DRA has been produced to supplement existing construction industry information. The new guidance is published as internal Project Advice Note PAN/B&C-E/GEN/ADV/0073 (soon to be replaced by equivalent multi-discipline version) and is also made available to our suppliers via a web-based Collaboration Site. Two key messages are summarised below:

Key Message:

Significant hazard examples to be communicated in design:

- **Not likely to be obvious to a competent contractor or designer**, such as: *potential asset instability, contact with materials with a health risk e.g. fragile roofs, asbestos or lead paint*
- **Difficult to manage** (these may be common hazards but be in awkward situations), such as: *working at height, working near electrified railway lines, transporting or manoeuvring fabricated structural components on site.*
- **Unusual** (these may be 'common' hazards but occurring in unusual circumstances, or unusual because of the nature of the construction or site), including: *structural stability attained through arching action, or obstructing signal sighting.*

Key Message:

Information to be brief, clear, precise, and in a form suitable for the users:

- **Notes on drawings:** *this is preferred, since the notes will then be immediately available to those carrying out the work.*
- **Written information provided with the design:** *this should be project specific, and only include particular (not generic) hazards which will be useful to those constructing or maintaining the asset.*
- **Suggested construction sequences:** *this should be project specific, and should show, where it is not obvious, how the design could be erected safely.*



Network Rail's Standard Design Catalogue (SDC) has been updated in response to the DRA guidance. Various drawings showing works with a potential significant hazard 'instability of fabricated structural component whilst transporting or manoeuvring on site' have been revised to include a warning triangle. The accompanying risk assessment is also updated.

Web-based Collaboration Site

A new Collaboration Site (which sits alongside the SDC) is being used to share best practice examples of how significant hazards are effectively communicated in design. It includes a facility for you to post feedback. We are looking at ways of making the feedback visible to other site users and will keep you informed on progress.

This new tool is web-based and freely accessible to Network Rail employees (via IT Helpdesk on Connect) and our supply chain. Our suppliers can request access by sending an email to: safebydesign@networkrail.co.uk. If you wish to offer up best practice examples please visit the Collaboration Site to find contact details of the relevant GateKeeper.

Latest progress on other workstreams

- Early focus on buildability and temporary works: a good practice guidance document is being prepared, which will include references to existing material.
- CDM roles & responsibilities: we are identifying and will share examples of good practice communication of pre-construction information and the discharging of CDM Coordinator duties.
- Lessons learnt: we will pilot use of the Collaboration Site to collect and communicate lessons learnt and best practice.
- Design procurement and programme: our plans will be developed at a SbD workshop in October.

Further briefing notes will be issued as we progressively work through the priority workstreams. In the meantime you are encouraged to visit and contribute to the Collaboration Site and SbD and be part of an industry conversation aimed at collectively improving safety by design.