Good Practice Guide:
Operational Readiness for Delivery of Significant Engineering Works

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Part A

This section identifies the main changes incorporated into the Good Practice Guide - Operational Readiness for Delivery of Significant Engineering Works.

This is a new document. Therefore there are no changes in this document relative to a previous version.

This document is edition 0.1 (Draft) of this Good Practice Guide (GPG). When it is formally published it will be labelled as version 1.0, and it will be updated after each significant lessons learned from delivery of significant engineering works, whether after Christmas / Bank Holiday work, or after complex or significant scale works throughout the calendar year.

Responsibilities
This Good Practice Guide is made available to all member companies of the Railway Delivery Group, and to Network Rail. Recipients should ensure that copies are made available as required to those within their own organisations for which its content is relevant.

Explanatory Note
This Guide is intended to reflect good practice and is advisory only. The extent to which a receiving organisation chooses to comply with any or all of its contents is entirely at its own discretion.

Supply
This is not a Controlled document. Copies (both printed and electronic) may be obtained from the RSSB website after publication date.

Acknowledgements

Thanks go to the following people for their contribution and input into the development of this GPG:

Oliver Bratton, Operations Director, MTR Cross Rail
Andrew Murray, Head of Railway Performance & Operations, DfT
Andrew Pennington, Head of Planning South Western Railway Alliance
Andrew Dutton, Programme Manager, Network Rail Western Route
Chris Gee, Performance Manager, Network Rail LNE/EM Route
Andy Miller, head of Integrated Performance, ScotRail Alliance
Iain Flynn, Rail Delivery Group
Paul Gilbert, Director Operations, National Supply Chain Network Rail
Paul Ashton, Professional Head of Operations, Network Rail
Vince James, DPI Programme, Network Rail
Phil James, Current Operations Manager, Network Rail LNW Route
Dominic Medway, Operational Performance & Analysis Manager, NR Rail

Michael Thomas, Performance Manager, Network Rail Wales Route
Kerry Marchant, Project Manager (Change), Network Rail IP
John Gill, Infrastructure Services Director, Network Rail
Luke Gregitis, Amended Schedule Planning Manager, Network Rail

Recognition is also given to the value derived from pre-existing lessons learned reports including:

"Conclusions and recommendations from the investigation into the Easter 2013 train service performance issues at Reading" *3rd June 2013*

"A review into the causes of passenger disruption affecting King's Cross and Paddington station services on 27 December 2014" *12th January 2015*

"Review into Passenger Disruption affecting London Bridge following works at Christmas 2014" *April 2015*

Part B

1. Purpose

This document has been developed to provide a best practice guide for the industry to use when preparing for the delivery of significant engineering works. This guide draws upon experience following good or bad planning and delivery, and has incorporated lessons from a number of high profile lessons learned from recent years.

2. Scope

This document has been developed to be used by all passenger and freight operators, as well as Network Rail. The content of this Good Practice Guide should be considered when planning for the delivery of significant engineering work. Use of the process is not limited solely to the big blockades, but should become an input when considering operational readiness and contingency plans for all material engineering work delivery.

This Good Practice Guide does not focus on the technical development of the possession or worksite plans, except where they touch directly on operational issues. It focuses on the activities that should be in place to support and enable successful operational delivery immediately before, during and after delivery of significant engineering work. Consideration must be given to both planned and unplanned circumstances.

This Good Practice Guide has not been written at a detailed level, and is only designed as a prompt to encourage a wider range of considerations to be made in advance of the delivery of significant engineering works.

3. Objective

To minimise disruption to passengers and end freight customers when significant engineering works are delivered, and to consistently deliver the operational timetable and committed performance levels through effective operational and project planning.

4. Definitions and Glossary

4.1 Significant engineering work

There is no precise definition of 'Significant engineering work'. It is not as simple as a measure of possession duration, yardage, cost or complexity. The intention is that the bigger, more complex possessions, which by nature present the biggest risk to passenger disruption, will utilise this Good Practice Guide in order to improve their readiness. Factors to be taken into account when considering whether to invoke this Good Practice Guide would include the volume of passengers disrupted, adequacy of road and rail diversionary routes, cutting off a major berthing or train crew depot and impacts on key terminal such as airport, docks, interchange locations.

5. Principal Requirements – Planning

5.1 Risk management

A Quantitative Schedule Risk Assessment, or recognised equivalent, must be undertaken by the Sponsoring and Deliverer organisations in order to test the operational risks to train services at all stages of the planned engineering work. There must be a clear understanding of the confidence that is in place for all aspects of the operational plan, and for contingency plans in the event of disruption.

The Delivering Work Within Possession (DWWP) process and associated readiness reviews should prompt a conscious decision as to whether this Good Practice Guide should be invoked.

This Good Practice Guide should be taken into consideration by the Route Business Timetable Change Advisory Group (TCAG) and associated Timetable Change Risk Advisory Group (TCRAG) processes in terms of better informing the reviews of any additional issues or opportunities for improved operational readiness for the timetable change and engineering delivery.

5.2 Compliance with the 'Delivering Work Within Possessions' (DWWP) process and other Standards

This Good Practice Guide is intended to be complementary to the DWWP Standard NR/L3/INI/CP0064 issue 5 and Standards NR/L2/OPS/202 and NR/L3/OPS/303.

All recommended and mandatory steps within the Standards must have been followed in the lead up to the start of the possession. Communications plans, contingency plans, risk mitigations and engineering train crew plans will all be treated with the same level of nationwide cross-project scrutiny and planning as other resources in short supply, such as signal testers and overhead line engineers.

Where major signalling works or multi-disciplinary works are being undertaken, consideration will be given to providing additional contingency time for the validation process.

When contingency plans are reviewed through the readiness reviews, they will be tested for multiple scenarios including different durations of over-run, fast line or slow line blocks or all line block. Every effort must be made to minimise the development of contingency plans from scratch on the day.

Readiness reviews will establish that any new equipment required in delivery of the engineering work has been tested in an off-the-railway environment before it is used on live railway work.

5.3 Review and acceptance of the Timetable

The Route, TOCs, FOCs and System Operator's Capacity Planning team must reach an agreement on the service specification, agreeing what the operators must bid at T-18 to satisfy passenger and freight demand within the available capacity. Risks and assumptions must be tested before the timetable is developed, so this work needs to be undertaken early enough in the access planning process to enable agreement to be reached alongside the Engineering Access Statement publication, and tested for viability alongside capacity studies. Evaluation can take place using several different methods including studies on capacity and use of train operator's simulator tools. The robustness of timetable bids must be compliance checked alongside available capacity for both planned and contingency operations.

Route Operations and the System Operator Capacity Planning teams must co-operate in order to gain an understanding of the safety and performance implications of any impact to signaller workload resulting from compromises in the developed timetable.

5.4 Development of an appropriate operational plan

A realistic operational plan must be developed to match each stage of work, and potentially changing state of available infrastructure. Where the infrastructure capability and operational plans do not deliver the aspirations of the customers, this must be communicated early. Either an informed decision must be made as to whether the operational plan remains acceptable, or the industry must fully resource any available mitigating actions to de-risk delivery.

5.5 Resource Planning

Operational resources, including traction, train crew, station staff, fleet maintenance staff, buses, handsignaller, signalling staff and general management must be competently planned to ensure that the engineering work plan itself, but also the associated operational plan is deliverable.

Where alternate routes are brought into use it is critical that the implications of driver route knowledge are understood early enough to influence the capability. This must also be tested through the risk management process. Best use of drivers (and other scarce resource) must be considered and planned at whole network level in order to evaluate the true risk.

Train Operators must consider the resource implication of route knowledge training. Network Rail delivery projects can potentially assist with the production of virtual reality route learning; TOCs need to be able to demonstrate that all drivers will be trained. This needs to consider a number of factors including leave arrangements and overtime. Given that most major works coincide with periods of peak holiday, potential risks of crew non-availability can be significant.

5.6 Freight plans

The plan for freight services must be locked down with as much rigour as for passenger services.

5.7 Depots and outstabling

Major blocks will often increase pressure of depot resources and/or remove access to stabling locations. The implications of both are important as fleet reliability must not be put at risk as a result of major blocks. Operators must demonstrate that there will not be a long term impact on fleet examinations or fleet availability. It cannot be acceptable simply to identify that Operators can ‘cope’ with the block.

5.8 Use of the Network Code

The timeline and process for access and timetable planning is fully described in the Network Code Part D. All parties must be aware of roles and responsibilities, with a clear understanding of the constraints and opportunities that the contract presents.

5.9 Contingency plans

Minimising disruption to passengers and freight traffic lies at the very heart of industry planning. Contingency plans must take consideration of every aspect of the industry operation, and must be tested against a range of scenarios.

An assessment of the performance of the trainplan must be undertaken including peer review of the timetable and its associated resourcing and delivery arrangements alongside. Where possible performance modelling of the timetable(s) proposed for use during works delivery and the final timetable after hand back must be used to strengthen confidence. This must include normal running and scenarios in perturbation. Appraisal of how the most constrained section of route can deal with disruption, including where trains can be turned back, held in sidings, must be incorporated in the modelling assumptions. If modelling is not possible consideration should be given to the use of signalling simulators or ARS type systems to prove the timetable before operation.

Where a station has alternate modes of transport available, these should be considered within the contingency plans, with collaboration with the relevant transport authority.

5.10 Signaller and Controller briefings

Major blockade timetables, typically >54 hours, must be briefed to signallers and controllers well before delivery in order that they understand how the timetable was designed to work, and to enable a wider peer review of operational impact before the day of operation.

Where a signal box simplifier is required for the relevant timetable(s), the relevant local or Capacity Planning function must be commissioned to produce it as part of the readiness planning.

5.11 Station mitigations and station resource plans

Major possessions will often mean that stations that are not a terminal station or high volume railhead, suddenly see a greater number of terminating services and higher volume of passengers interchanging between rail and onward transport. This brings risk in terms of both pedestrian flow and passenger information. Operators should demonstrate that they have considered the risks around passenger flow, crowding and information and have developed a resource plan to control the risk.

Major possessions can also see a migration of large volumes of passengers between major stations. For example, closure of St.Pancras can see high volumes of passengers directed towards Kings Cross. Operators and Network Rail must demonstrate that they have adequately considered the risk in terms of both passenger flow and information and demonstrate resource plans to control that risk.

The Joint Emergency Services Interoperability (JESIP) principles would enhance the resolution of issues with passenger flows during perturbation scenarios by improving the accuracy and dissemination of information.

5.12 Passenger Information

Good, timely and accurate passenger information is essential at all times, but when there is disruption to delivery of the operational plan it becomes significantly more important. The plan for delivery of the engineering work, and for the operational plan on the day, must incorporate plans for delivery of passenger information for all eventualities.

Where new infrastructure is being introduced that impacts a station layout, passenger flows, crowding risks and location of Customer Information Systems must be specifically planned.

For the larger engineering works the customer service plans may involve the use of additional resources to support the delivery and commissioning period. In these instances all customer service teams must have a suitable understanding of their role, and knowledge of local train services, such that they are able to add real value whether the operation goes to plan or is delivered in disruption. Alternate operators, alternate routes and relevant local geography and train service options must all be well understood by all customer service resources.

5.13 Removal of asset and resource reliability risks

Delivery of engineering work inevitably creates risk to the operational railway. Every effort must be made to remove asset reliability risks by identifying critical assets before work delivery, and if necessary undertake and strengthening maintenance work to reduce the risk of asset incidents.

At critical stages of work delivery opportunities to have additional fault teams and potentially usable hot spares (relating to infrastructure assets, traction, train crew, buses etc) must be identified and planned. The deliverer must have relevant agreement in place with Route asset owners regarding provision of ‘aftercare’ for new infrastructure after hand back.

5.14 Use of new products

Risk of new products being delivered onto the railway system as part of the engineering work delivery must be identified, and the adequacy of acceptance assurance processes must be challenged.

5.15 Communications

Nominated individuals should be identified as part of the overall plan to ensure that any necessary contact with the media is undertaken effectively.

6. Principle requirements – Operations

6.1 Planned availability of incident response

The operational plan, developed to deliver train services alongside delivery of significant engineering work, must incorporate a clear command structure in the event of operational issues. Management presence in key locations is essential to minimise negative impact when there are disruptive events. The industry National Emergency Plan and the Strategic, Tactical and Operational command structures, will clearly define roles and responsibilities if an incident arises. Tactical leads in the relevant project should understand how these processes work. Compliance of the operational plan with the National Operating Procedures must be cross checked for consistency.

Service recovery plans must be considered for major works given that what works in 'normal' operation is unlikely to work for a major block or equivalent.

National Supply Chain should consider the location of Breakdown and Recovery teams on the basis of how the risk changes at times of planned disruption. When the possession hands back the Breakdown and Recovery teams would then return to their normal location.

6.2 Passenger Information

Providing accurate, relevant and timely information to passengers is critical. Adequate passenger information must be made available in advance of the timetable changes that are planned around the engineering work.

If disruption is experienced through the engineering delivery stage of work, the contingency plans potentially have to be implemented. Passenger Information During Disruption (PIDD) plans must have been developed as part of the planning stage of work, and these

6.3 Driver Resource Plans

A clear understanding of the availability and status of drivers will be required, with a clear understanding of local and wider national context across a number of areas including:

- Availability and driver hours for delivery and removal of engineering trains from site.
- Availability, driver hours and route knowledge for delivery of passenger and freight trains.
- Driver specific familiarity issues and available support of more experienced drivers of driver-managers to reduce likelihood of overly-cautious driving

6.4 Control arrangements

Wherever possible the industry must work together to effectively establish a single response structure to better focus on issues as they arise. The National Operations Control (NOC) plays a key role during major disruption including reallocation of available resources. In the event of major disruption the planned Gold Command, and potentially the Crisis Management Process, would be invoked.

The activities of the Senior Incident and Incident Officer structure in Route Businesses, alongside documented PIDD plans, should be fully exploited in the event of an incident.

Supply Chain Operations 24/7 will identify resourcing issues to the NOC. When unforeseen events mean a change to the resourcing plan for engineering trains/tampers etc, SCO 24/7 will manage this and keep NOC informed so that this information can be disseminated as appropriate.