Network Rail's Plan for Reviewing Project Delivery

A document issued by Network Rail on 27June 2008

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Overview

On 28 February 2008 the Office of Rail Regulation (ORR) published a report[1] into the engineering overruns in January 2008 at Rugby, Liverpool Street and Shields Junction. The report found weaknesses in Network Rail's project delivery, concluding that:

- These weaknesses were unlikely to be confined solely to the cases covered by its investigation;

- Better risk assessment and mitigation as part of the planning of possessions would address many of the identified weaknesses; and

- Significant improvements could be made in arrangements with contractors and in site management – so that unexpected events could be dealt with and managed adequately as they arise – and in communication both within Network Rail and to train operators.

ORR identified a need for Network Rail to improve its project delivery, noting the complexity and significance of the work that Network Rail is mandated to undertake and the potential impact of possession overruns on train operators, passengers and freight customers.

In light of these conclusions, on 28 February 2008 ORR published a notice which described its intention to impose a 'final order' on Network Rail and attached a copy of the draft order.

The draft final order required Network Rail to produce to ORR, by 31 May 2008 (and following consultation), a plan setting out how we intend to implement measures to ensure that our planning and execution of projects for the renewal, replacement, improvement, enhancement and/or development of the network which require possessions will be carried out in an efficient and economical manner and in accordance with best practice.

Network Rail responded to this draft order on 31 March 2008. Whilst Network Rail made no objections to the content of the draft final order, we requested that the date for delivering the plan to ORR be amended from 31 May to 30 June 2008. This request was made in order to give our consultees more time to be able to consider our consultation and to respond to it. On 22 April 2008, ORR wrote to Network Rail to confirm the draft final order and agreed that the date for delivering the plan to ORR should be amended from 31 May to 30 June.

Network Rail published a consultation document on its plan for reviewing its approach to project delivery on 13 May 2008, allowing consultees four weeks to respond. We received 8 responses to this consultation document from industry stakeholders including passenger and freight operators, funders, passenger groups, contractors and consultants. We are grateful to all those who took the opportunity to respond to the consultation. A summary of the main comments that were received is set out in section 7 of this document.

This plan, which we are today delivering to ORR, is intended to satisfy a requirement of ORR's final order and is more generally intended to identify the key action areas identified by:

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[1] See http://www.rail-reg.gov.uk/upload/pdf/352.pdf

- ORR's investigation into Network Rail management of engineering projects;

- Our own internal investigations into the January 2008 engineering overruns; and

- The incident at Shenfield following the Easter Bank Holiday.

By 31 December 2008 Network Rail will implement the actions as outlined within this plan and will deliver a report to ORR which demonstrates why we are satisfied that the plan has been implemented. We also intend to regularly engage with ORR, the independent reporter and other industry stakeholders as appropriate between now and the end of the year as we work towards implementing this plan.

It should be noted the ORR's final order appears to require Network Rail to have implemented this plan in its entirety by 31 December 2008. Network Rail appreciates that ORR is keen to see real changes implemented on the ground by 31 December and we are committed to meeting this challenge.

Network Rail is committed to a process of continual improvement and as such there are likely to be ongoing improvement workstreams in addition to those outlined in this plan. We do not believe that the 31 December implementation deadline should work to preclude Network Rail making further improvements in our approach to managing projects that are not reasonably practicable to implement by the end of the year. In order to comply with the requirements of ORR's final order, the workstreams that we anticipate will not be reasonably practicable to complete by the end of this year (including a review of the industry possession planning arrangements) do not form part of this plan. These workstreams do form an integral part of our wider review of project delivery and we are committed to making such changes as are appropriate as soon as is reasonably practicable. We will of course want to engage closely with our stakeholders as part of this process.

Section 1 – Introduction and Summary

Network Rail's plan for reviewing project delivery has been produced following consultation with a range of industry stakeholders including our customers, relevant funders, Passenger Focus and others. In order to facilitate as wide a consultation as possible, our consultation document was published on our website. Individual notifications were also sent to a number of key stakeholders.

Our final plan, which is set out in the remainder of this document is intended to:

(i)   demonstrate how Network Rail will implement measures to the greatest extent reasonably practicable, including procedures and training, to ensure that its planning and execution of projects for the renewal, replacement, improvement, enhancement and development of the network which require possessions will be undertaken in an efficient and economic manner and in accordance with best practice ("the Measures"); and

(ii)   set out clear milestones showing how Network Rail will implement the Measures; and

(iii)   demonstrate that particular attention has been paid in the Measures to addressing weaknesses in Network Rail's risk management, supplier management, site management and communications with train operators and rail users.

In many areas Network Rail has already put in place changes to improve its management of engineering projects. Amongst other things, we have taken significant steps to improve communication with passengers in advance of planned engineering activities and promote awareness of how these works affect train services. We have also taken steps to increase internal scrutiny regarding the robustness of our project plans before these plans are authorised into delivery.

One immediate action was taken to strengthen deliverability ("Go" / "No Go") reviews of Bank Holiday projects as such projects are high resource demand points in our delivery programme. In parallel we had already begun to develop a series of improvement workstreams which form this action plan. Each has specific deliverables which can be measured and demonstrated, and we are investigating the correlation with TRUST and other sources of overrun data to build up evidence of the effect of the improvements we are making.

Network Rail is committed to reducing the impact of engineering projects on train operators, both passenger and freight. During the remainder of 2008 we intend to conduct a full and detailed review of our approach to managing engineering projects which require possessions. By doing this we believe that we will clearly be able to identify the key problems that are perceived to exist with our current approach and to address these in order to meet, and where possible surpass, the reasonable requirements of our customers and funders. We believe that once fully implemented, the modifications that we will make as part of this review will bring about a step change in the quality of project delivery.

With this in mind, this plan is intended to:

1) Identify the key issues that Network Rail believes need to be examined, taking into consideration consultation feedback;

2) Set out what we are planning to do by the end of 2008 to better mitigate the identified problem areas; and

3) Identify what further industry-wide issues need to be considered in this area and establish a plan for taking these issue forward in consultation with the wider industry.

Whilst we have already identified some "quick wins", implementing this plan is likely to take a number of months and indeed some post-implementation action areas might be expected to run beyond 31 December 2008 as part of embedding improvements. We have highlighted this issue to ORR and have asked ORR to take this into account when assessing whether the plan has been implemented. We believe that it would be inappropriate if ORR's final order unintentionally set an expectation that every change that is identified in this plan should be fully implemented by the end of 2008. The final order itself does not require the implementation of measures that are not reasonably practicable within the plan timescales, and our plan seeks to establish the key changes that we anticipate it will be reasonably practicable to implement by the end of the year. However, the key improvement areas as set out within this plan are subject to a constant process of review and analysis. For example if, in implementing this plan, we identify any area where a more fundamental review is required than currently envisaged, we do not believe that ORR's final order should preclude this more fundamental review from taking place – even if this means that an element of this plan will not be fully implemented by the end of the year.

However, it is recognised that ORR (and other industry stakeholders) want to see real change in our approach to managing engineering projects which require possessions as soon as possible. Network Rail is committed to implementing as much of this plan as is reasonably practicable by the end of the year.

The key considerations that were raised in response to our consultation on this plan are summarised in section 7 of this document. In the main, the responses that we received to our consultation were positive in tone and have helped us in finalising the identification of the key areas where change is required. In reviewing our approach to delivering projects which require possessions we will focus on four key areas. These can be summarised as follows:

- Risk management;
- Site management;
- Supplier management; and
- Communication.

Within our consultation document, we set out our proposal to sub-divide these headings into a number of key 'action areas'. Respondents to our consultation again broadly agreed that Network Rail had identified the correct key action areas, but also made a number of specific comments in relation to a number of the workstreams. A number of specific comments were also made about our current approach to managing engineering projects which require possessions. We have reviewed and revised the key action areas in light of these comments. The revised action areas, together with a description of the improvements we are trying to make, the processes we will be reviewing and the deliverables / outputs that we anticipate will result from this review, are set out in the remainder of this document.

As has already been briefly described above, in parallel with the work that Network Rail is doing to review its approach to project delivery we also intend to undertake a review of the arrangements for the planning and execution of works requiring possessions. In consultation with our customers, funders and wider industry

stakeholders, Network Rail intends to initiate a review of the industry processes by which Network Rail secures access to the network to undertake engineering activities. Network Rail believes that the current arrangements could be more streamlined, allowing both Network Rail and its customers to plan their respective activities with a greater degree of certainty.

Network Rail believes that it is highly unlikely that it will be reasonably practicable to complete this additional review and implement any resulting changes by 31 December 2008 – the date by which ORR's final order requires Network Rail to have implemented its improvement plan. As a result, we plan to produce recommendations by 31 December for changes to improve the industry arrangements for securing access to the network to undertake engineering activities. The recommendations will be implemented during the course of 2009 to the extent that they can be agreed with other industry stakeholders.

Clearly, it would be possible to mitigate immediately the risk of engineering overruns, either by taking longer possessions than are required, or by factoring less work into the possessions that are taken. Network Rail does not believe that either of these options is in the best interests of rail users or that they would be the most efficient or economical way of working. In their response to our consultation document, Passenger Focus specifically commented that it is important that the risk of overrun should not force Network Rail to become unduly risk adverse. We support this view. We believe that it is crucial to achieve an appropriate balance between the risk of overrun and taking unnecessarily long possessions. As part of the implementation of this plan we will seek to define this balance.

Network Rail also believes that it is important to put the number of engineering overruns into perspective to enable a proportionate response to the issues that are perceived to exist. Network Rail manages and completes thousands of projects a year across the railway network. The overwhelming majority of these projects are completed on time and on budget. However, we recognise and accept that the January 2008 overruns were hugely disruptive to our customers. As a result of these incidents, Network Rail has already taken a number of actions in response. These include:

- Executive-led readiness reviews of Bank Holidays and major works;

- Improvements in information supplied to the public in advance of planned possessions (described more fully in Section 5);

- Extension of our risk management processes to cover all possessions which are identified as complex or "high-risk";

- Operational contingency plans, prepared and agreed with customers in advance of the engineering works;

- Strengthening of the control and management arrangements during major works.

In preparing this plan Network Rail has had informal discussions with both ORR and the independent reporter, Halcrow. ORR has indicated that, in assessing whether Network Rail has complied with the requirement of the final order, it will be looking to Network Rail to demonstrate that the improvements that are set out in this plan have been effectively implemented in practice, and that the implementation of this plan brings about real change, where needed, in Network Rail's approach to managing engineering projects which require possessions.

In order to emphasise the need for change, Network Rail has appointed Executive Level Champions as owners of each of the action areas that has been identified within this plan. These Champions will be tasked with ensuring that the implementation of the programme of improvements is given an appropriate level of priority within Network Rail.

To implement the identified changes, Network Rail intends to adopt a process improvement lifecycle of 5 generic phases, as follows:

- **Define** – Clarify the scope, champion and team for the project;

- **Discover** – Understand through investigation, communication and analysis the business problem, and its impact;

- **Design** – Identify and test potential solutions in order that a business case for change may be presented and agreed;

- **Deliver** – Implement the changes including process, people and technology; and

- **Demonstrate** – Review the project, demonstrating the benefits achieved with reference to baseline data, and share learning.

Our intended approach for implementing this plan is to follow the **DMAICT** lifecycle of Six Sigma. This is a tested, rigorous and recognised methodology which includes a comprehensive set of training, tools and structures. This lifecycle, together with the planned implementation timescales, is described more fully in the table below, which also sets out the key completion dates for phases of each workstream in the overall programme:

Action	Key completion date
Define (**D**efine)	13 June 2008 (following consultation)
Discover (**M**easure and **A**nalyse)	30 September 2008
Design (**I**mprovements)	30 October 2008
Deliver (Improve and **C**ontrol)	30 November 2008
Demonstrate (**T**ransfer)	From 30 October 2008 onwards

We envisage that the improvements that are identified in this plan, once implemented, will bring about a step change in our performance in terms of mitigating the risk of overruns and managing them more effectively if they occur. Delivery and demonstration of improvement will be continuous from the stages defined above.

Network Rail has a training and development programme which seeks to introduce and improve skills for existing and new recruits. This uses a combination of methods including, but not limited to, formal training, professional qualification where appropriate, formal monitoring of skills and training in conjunction with business partners, mentoring and coaching. Training requirements are built into personal development plans which form an integral part of employee reviews, and progress on these can now be formally monitored through our on-line competence management tool (ERP).

In each of the workstreams identified in our response, personal development plans of individuals and competency requirements of job families aligned to the improvements will be adjusted to ensure that change is embedded at an individual level.

Network Rail is proposing to report regularly to its Senior Management Team and to ORR (and the independent reporter) as regards implementation of this improvement plan. By using a template document, we will report and record progress and developments on a four weekly cycle. We believe that regular reporting will be crucial as we seek to demonstrate to ORR the progress that has been made as regards the implementation of this plan. As part of reporting on each workstream we will also develop performance indicators, where appropriate, to demonstrate improvement from a baseline level of performance. We have already supplied information to ORR regarding the number of train cancellations due to possession overruns and unfinished work in possessions. We intend to continue supplying this information to ORR and will also include information on the number of delay minutes caused by engineering overruns on a periodic basis.

The remainder of this document confirms the key action areas that have been identified for review.

Section 2 – Risk Management

Introduction

Network Rail's current approach to Risk Management is defined in the Guide to Railway Investment Projects (GRIP), the Principles of Project Risk Management and the associated guidance notes. These require all projects to conduct risk reviews within the development and delivery cycles. The methods and results are moderated and facilitated by a Risk & Value management team.

Cost and Schedule risk assessments are also undertaken. The application and management of the results is undertaken by project managers within delivery teams and is mainly focused on delivery of activities.

Network Rail uses Active Risk Manager (ARM), an enterprise risk management tool, to hold identified key risks and associated risk treatment actions, across the programmes of work undertaken by Network Rail.

As well as monitoring risks within projects and their effect on time and cost of projects, the company has an integrated risk process looking at risks to the business from its activities, one of which is projects and major programmes. Effort is focused on where there is most benefit to the business and projects.

Identified action areas

In examining its approach to risk management, Network Rail has identified 8 key action areas. These action areas are described below and each has been allocated a reference number (RM.1, RM.2 etc) so as to assist clear identification of the key actions. In implementing this plan we will track progress against each of the key action areas using these reference numbers.

By focusing improvement efforts into workstreams associated with these areas, we believe we can make a step change in the effective use of risk management in delivery of engineering projects. The key action areas that have been identified by Network Rail are:

Reference Number	Description
RM.1	Identification and prioritisation of projects according to the risk on customer impact of delivery, including overrun.
RM.2	The effectiveness of risk assessment and the application of mitigation measures.
RM.3	The assessment of impact on customers, freight and passenger.
RM.4	The risk assessment and management of suppliers and supplier information.
RM.5	Better contingency planning between Network Rail and operators to minimise disruption in the event of an overrun.
RM.6	The consistent application of risk analyses and their use in informing decisions.
RM.7	Level of understanding of best practice in the use of risk assessment for reviewing engineering work in possessions.
RM.8	Application of best practice in the use of readiness reviews to improve possession planning.

Taking these together, we believe that by reviewing our approach to each of these key actions areas we will place customer impact at the heart of our decision-making processes in relation to risk management. The comments that we received from consultees were generally positive in relation to the identified action areas. Specific comments that were received are summarised at section 7 of this plan.

Anticipated improvements

The improvements that we intend to make as a result of the risk management workstream are described more fully below.

Management of customer impact

We plan to introduce a prioritisation system for all projects affecting customer operations which reflects complexity and impact. This will target resources and management time more effectively to projects (RM.1). This workstream is supported by three further improvements, as follows:

(i) To review and orientate our risk assessment processes and risk management plans so that these processes and plans always consider the impact on our customers. The risk management plan accompanying project delivery will thus carry customer risk assessment more visibly. It will do this by having prepared mitigation plans available at the key milestones identified in the delivery plan (RM.2).

(ii) In order to inform the risk management plan, we will develop methods for understanding and expressing impact on customers. Network Rail believes that generic solutions are inadequate and we will work with customers through workshops structured to meet access planning timescales in order to understand impact at specific locations. In implementing this action area we wish to deliver a structured approach to considering impact specific to location and end customer (RM.3).

(iii) As a component of, and response to, assessing impact, we will require projects to produce operational contingency plans that aim to minimise disruption to customers should engineering work overrun. Network Rail believes that these plans should, where appropriate, be agreed between Network Rail and the relevant train operator in advance and that they should be visible in the project and site management procedures. A method for developing and communicating contingency plans will be put in place such that all parties affected by the delivery work understand the plan and their role if contingency arrangements are required. This will avoid the temptation to implement different ad hoc plans as outlined by First Group in their response to our consultation on this plan (RM.5).

Supplier assessment

We intend to review and improve our pre-contract assessment process to place a stronger emphasis on quality and reliability of schedule and programme for delivery of resources and materials as part of our decisions. This will form part of a wider review of the tender assessment process.

Carillion Rail commented in their response to our consultation on this plan that the earliest possible involvement of the contractor who will deliver a project will lead to the optimum risk management. This comment was supported by Cross Country Trains. We agree and we will continue to include contractors in defining the delivery programme and the risk management necessary to secure delivery, recognising that under certain contracting strategies contractors are engaged after Network Rail has completed early assessments of risk (RM.4).

Application of best practice techniques

We intend to undertake benchmarking exercises with other industries and within the rail industry to identify best practice in use of risk assessment for engineering work which disrupts routine operation of delivering services or products to customers. In response to comments made by EWS we will draw on recent work in this area, in particular the ORR report into best practice rail delivery in Europe, in order to avoid unnecessary duplication.

As part of these benchmarking exercises, Network Rail will assess whether there are any lessons to be learnt from other organisations in terms of best practice risk management techniques. As a result of this review Network Rail will seek consistently to apply techniques which are at least equal in robustness and output to those tested and proven in other industries (RM.7). The benchmarking exercise will support two associated workstreams:

(i)   An examination of the use of schedule quantitative risk analysis ('SQRAs', the technique used to determine risk of delay). In undertaking this examination, we will specifically review:

- the criteria used for deciding what level of risk analysis is required for projects;

- the development of robust mitigation action plans; and

- the ownership of those actions.

The resulting anticipated improvement will be a consistent demonstration by all projects on the operational railway that risk analyses have been used and actions associated with risk mitigation are owned and in place (RM.6).

(ii) An examination of the use of readiness reviews and subsequent action plans to improve the robustness of delivery. These reviews are intended to act as checks that major items driving delivery timing, such as delivery of key materials and availability of resources, are understood. The resulting anticipated improvement will be greater use of readiness reviews in preparation for delivery (RM.8).

Anticipated deliverables

Network Rail believes that effective implementation of the risk management action areas will result in a number of clear deliverables for both Network Rail and our customers. The anticipated deliverables are summarised below:

- All major projects requiring possessions on the operational railway will have a risk management plan as part of the planning process. This will include a specific possession risk register covering operational risks.

- All major projects requiring possessions will undertake readiness reviews in a timely manner so that the risk management plan is checked and is robust prior to the start of any possession. As emphasised by various respondents to our consultation on this plan, the review will make particular reference to: resources, materials, sequencing of preparation and follow-up work, any speed restrictions necessary for informing operational impact, and the capability and availability of diversionary routes.

- Pre-contract assessments will include an emphasis on quality and reliability of programme for resource and materials as part of bid and award.

- The risk management plan will contain contingency plans which deal with the impact of overrun and will, where appropriate, be agreed with customers prior to delivery.

- Communication protocols (the method of communicating during work) will be clearly defined with names and contact details in place as part of the risk management plan.

- Milestone reporting will be used from the work site through the communication protocols. The milestone reporting will define who makes the key decisions which affect time of handback and quality of completion of work within the possessions.

- Techniques for assessing the impact of an overrun on customers will be established in conjunction with customers in order to allow us to prioritise risk and resources more effectively. These will include structured workshops through which both passenger and freight operators can represent wider customer requirements and concerns.

- Techniques for the determination of the likelihood and duration of a delay, in particular, SQRAs, will be refreshed with reference to best practice across the railway industry and other sectors. We will take steps with a view to providing that the techniques we use are compatible with best practice and are consistently applied.

The anticipated benefits to our customers

The key benefits that we expect to see as a result of the implementation of the risk management workstream and the individual action areas are as follows:

- A reduction in the impact of engineering work on customers (both passenger and freight operators);

- Improvements in the visibility of risk;

- Improvements in robustness of contingency planning;

- Improvements in the consistency and availability of contingency plans to support delivery;

- More timely and frequent information from site to nominated internal managers and to our customers, with improved clarity on key decisions; and

- Network Rail employees nominated as key points of contact for decision making based on risk and impact.

Implementing the risk management action areas

Clearly, whilst the majority of the action areas outlined above are for Network Rail to take the lead on; we recognise that we cannot implement and deliver all the changes that our customers and funders expect of us in isolation. As our plans for implementing each of the identified actions areas are developed further, we would expect to discuss our plans for implementation with our customers and funders as appropriate.

Section 3 – Site Management

Introduction

There are currently a number of processes and practices in place which determine how sites are managed. Individual projects assign site management arrangements, normally in conjunction with the main contractors delivering work.

Whilst the operational aspects of the possession are managed through the Person In Charge of Possession (PICOPs), the individual sites are run on the basis of construction and delivery targets. Decisions are often made on an individual site basis and the degree of coordination varies considerably across the country, depending on the management framework that is in position.

In complex possessions, information from a number of sites may be integrated through a Control Centre. However, at present there is no consistent national guidance or trigger for the ownership or establishment of such a Control Centre. The reporting of progress from site tends to be retrospective on work delivered and often is not timely or informed in considering the impact on handback.

Communication protocols from site are not consistent, and the investigations into the January overruns identify that communication channels need to be established in advance that are clearer and more rigorously tested.

Network Rail has established an Infrastructure Support Centre (ISC) to act as a focus for communication and reporting from worksites and this has progressively improved knowledge of events on site, but the ISC does not have 100% coverage of sites or events. There are improvement processes in place already to address the coordination of real time information and to facilitate decision making.

Identified action areas

In examining its approach to site management, Network Rail has identified five key action areas. These are described below.

Network Rail believes that focusing on a number of defined workstreams will result in greater improvement than focusing on site management issues more generally. We have received a number of supportive comments from consultees on this subject. We have used this feedback to strengthen the scope of our workstreams in areas such as determining and improving competency (such that the quality of information from site improves) and ownership of key decisions. We will also take steps to reinforce that communication should include both freight and passenger operators.

Reference Number	Description
ST.1	To improve the provision of information by Network Rail to passenger and freight operators; in particular in relation to the knowledge of physical completion of work on site.
ST.2	To improve the provision of information by Network Rail to passenger and freight operators; in particular improving reporting lines.
ST.3	To improve site management reporting milestones during possessions to provide better visibility for all parties about the volume of physical work remaining and the time required to complete it.

Reference Number	Description
ST.4	To improve Network Rail's approach to, and ownership of, the understanding of: what work has been completed; whether the work is progressing according to plan; and the amount of work that remains to be completed.
ST.5	To improve Network Rail's approach to assessing the likelihood of an overrun and ensuring that an adequate chain of communication exists so that all customers receive timely and accurate information.

Anticipated improvements

The improvements that we intend to make as a result of this site management workstream are described below.

We intend to improve the quality and timing of information provided to passenger and freight operators, in particular with regard to the physical progress of 'high risk' possessions. High risk in this context means any work within a possession that either removes a part of the track or has significant potential to delay the handback of the railway into operational use (ST.1). Passenger Focus specifically commented in their response to our consultation on this plan that better lines of reporting to passenger train operators would assist passengers in planning their journeys more effectively. This opinion was supported by EWS in relation to the impact on freight customers and we agree with the sentiments that were put forward. We believe that the improvements that we are intending to make in relation to the information coming from site will assist in addressing these concerns.

We will improve site progress reporting, to include clear reporting lines between site level, project team and senior management. In particular, we believe that such reporting lines should clarify roles and responsibilities of all parties, including the Infrastructure Support Centre (ISC). The declared reporting lines will be tested before the possession and confirmed as effective by the Project Manager (ST.2).

We intend to introduce greater visibility of key/critical milestones during high risk possessions and make improvements to the process of reporting the progress of work being undertaken within them. This reporting will focus on three key issues:

- The achievement of key/critical milestones;
- The volume of work remaining; and
- Time to completion.

Milestone reporting has been identified in the risk management workstreams as providing key information for the site management team to use in their work (ST.3)

In their response to our consultation on this plan First Group stated that communication from site relies on the availability of accurate information and that Network Rail cannot merely expect to rely on experienced managers. We agree that it is vital that accurate information comes from site but we also believe that this information must be interpreted by Site Managers with an appropriate level of experience. With this in mind we will establish competence levels required for managing overrun risk in delivery in possessions. We will use this information to assign managers to sites according to the level of complexity and risk in the possession.

The Site Managers will monitor effectively that the work is being undertaken to the required standard and in accordance with the relevant specifications, agreed practices and to the timescales determined in the plan. These managers will then be required to monitor and report physical site progress against the pre-agreed milestones, time to complete and volume at risk of not meeting completion on time (ST.4). Having regard to the comment by First Group, we acknowledge that project staff need to have enough knowledge and experience to know when problems are emerging which might require some different action to be taken. We believe that the assessment of competence levels will go a long way to satisfying this requirement.

We will make improvements to the process for reporting the progress of work being undertaken, particularly high risk possessions, to ensure that passenger and freight operators receive information in a timely and structured form. This will strengthen the chains of communication between site, the various controls and our customers and allow operational contingency plans to be implemented, if required, in a timely manner thus avoiding late replanning of services and improving the provision of information to passengers (ST.5). This action reflects comments made by both EWS and Passenger Focus in their response to our consultation on this plan.

Processes / policies to be reviewed

Our current process for providing information to passenger and freight operators will be reviewed to understand (a) what level and detail of information is prescribed, (b) whether key contacts are identified and (c) whether the information that is supplied is appropriate to the needs of our customers.

Our on-call and site progress reporting process will be revised to provide a clearer reporting line from site to the ISC. We will also review the escalation route through the Project team and Senior Management and to our customers who require access to the network.

The Guide to Railway Investment Projects (GRIP) will be reviewed together with associated project management procedures to assess the degree to which the measurement of site management activities is prescribed. We acknowledge the comment made by First Group that changes to GRIP must not build in any more complexity or delay.

We will review our process for initiating contingency ramp-out measures for recording progress against project plan and the reprogramming of lost work.

Anticipated deliverables

The anticipated deliverables of the site management workstream can be summarised as follows:

- Improvements in the monitoring of the progress on site through the better use of milestones;

- We will review our process for reporting work site progress on high risk possession activities so that communication to our customers will be improved during possessions and in the event of an engineering overrun;

- We will develop a revised timeline of possession communication between the Infrastructure Support Centre, Operational Control and our customers;

- Improved definition of reporting lines between site, ISC, project teams and senior management during management of high risk possession activities, with clearer lines of communication to customers, both freight and passenger operators, affected by the work;

- Improvement in the amount of measurement of physical progress and improvement in processes for recording work not completed during different stages of work on site;

- The development of a more consistent approach to measurement of work on site;

- Better use of experienced Network Rail site managers to manage and control activities at high risk work sites;

- Use of competency assessments for site management and closer alignment of management expertise/training with site complexity and risk;

- Site progress reports submitted at pre-agreed times depending on type and complexity;

- Validation of contractors' progress reports to support right time handback; and

- Introduction of agreed contingency plans in a timely manner.

The anticipated benefits to our customers

The key benefits that we expect to see as a result of the implementation of the site management workstream and the individual associated action areas are as follows:

- Improvements in the level of accuracy and timeliness of information provided to our customers to enable them better to manage their business requirements;

- A reduction in the number of overruns resulting from possessions;

- Improved possession reporting through clearer communication channels;

- Greater and earlier information flows when overrunning works are likely to affect the running of trains; and

- Increased ownership of management decisions by Network Rail.

Implementing the site management actions

As with the risk management actions, as our plans for implementing each of the identified site management actions are developed further, we would expect to discuss our plans for implementation with our customers and funders.

Section 4 - Supplier Management

Introduction

The workstreams in this area refer to the management of materials and resources supplied to projects by a number of organisations.

At present, supply requirements are determined by individual projects and programmes, each of which implements inspection and delivery checks according to a number of processes. The identification of critical resources is based on experience and knowledge in individual projects and programmes rather than a comprehensive overview of resources required.

There are a number of co-ordinators within Network Rail's asset based Programme Controls teams. These co-ordinators have established procedures for key resources and plant where detailed allocation of supply and demand is undertaken (such as Kirow cranes, signalling testers and OLE linesmen).

However, the allocation of critical resources on the basis of future supply and demand is limited in projection. This affects the robust scheduling of programmes and the supply contract strategy.

Identified action areas

In examining its approach to supplier management, Network Rail has identified four key action areas. These are described below.

It should be noted that there is a cross reference here to the risk management workstream (specifically RM.4) associated with scrutinising the quality and reliability of schedule and programme for delivery of resources and materials.

Reference Number	Description
SM.1	The assessment of the plans and scrutiny of the work of Network Rail contractors to make sure that Network Rail can identify what resources are critical.
SM.2	An overview and understanding of strategic resource supply and demand which allows Network Rail to inform the scheduling of large programmes such that resource shortfalls are avoided.
SM.3	A process for securing sufficient competent OLE resource, which was specifically mentioned in the ORR reports into the January 2008 engineering overruns.
SM.4	Demonstration that there is an optimised balance between risk and reward with Network Rail suppliers.

Anticipated improvements

The improvements that we intend to make as a result of this supplier management workstream are described below:

- Improvements in the way that Network Rail oversees how its suppliers expedite materials, increasing certainty that critical resources are ordered in time and available at site, such that they are available when required for installation. Network Rail will overlay this with its own site inspection regime to make sure that critical material is available when required (SM.1).

- Improvements in the visibility of resource demand and supply levels by categorising the resources into key types requiring advance scheduling and monitoring and then matching the demand with supply to mitigate against resource constraints. Part of our intent is to identify the agency resource required to meet demand and also to avoid duplication and unnecessary booking of resource. In its response to our consultation on this plan Carillion Rail stated that as resource demands are focused on Bank Holidays and weekends, there is generally insufficient work available at mid-week times to keep this resource fully occupied and hence there is a reliance on agency staff. We recognise that this is a fundamental issue but by better understanding the resource supply market Network Rail anticipates that it will be possible to mitigate the risk of resource shortfalls (SM.2).

- In support of this, specifically for OLE as a model, we will improve the planning and management of the available OLE resource to suit delivery of the workbank, both tactically and strategically; and provide a definition of the competency requirement for OLE staff (linesmen) engaged in projects to establish a recognised standard (SM.3).

- We will develop an appropriate high level market engagement model that is understood and evolved consistently across Network Rail's capital delivery schemes (SM.4).

Processes / policies to be reviewed

- Processes within the industry as models of best practice; and

- The current supply chain management process.

Anticipated deliverables

- Improved logistics planning and monitoring of materials to site and improved security of delivery on site – this will address duplication and unnecessary site resources, an issue referred to in a number of consultation responses that were received in respect of this plan;

- Better allocation methods for resources made scarce through high demand/low supply; specifically on safety/time critical resource such as OLE linesmen and signalling testers;

- Prediction and monitoring of resource levels across assets which allow active management of programmes to manage out resource peaks; we will specifically identify this prior to publication of possession strategy as requested in consultation;

- Prediction of skills requirements, allowing supply base to be established or reinforced;

- A national competency profile for OLE;

- Use of resource profiles and resource allocation as a routine part of readiness reviews - understanding key resources is part of these reviews (RM.7);

- Introduction of category management so that the supply market is approached with a single view on types of goods and services for the purposes of enabling appropriate strategic management of the supply chain; this includes assessment of new suppliers as appropriate. First Group commented in its response to our consultation on this plan that in some areas the capability of existing suppliers is limited and that new suppliers need to be introduced. We acknowledge this comment.

- Introduction of a contracting strategy model that allows Network Rail's procurement team to identify the project outcomes and market constraints in order to determine the appropriate level of risk and reward and type of supplier engagement.

The anticipated benefits to our customers

- Reduction in the number of possessions amended at short notice due to lack of materials, or lack of resources;

- More informed change control allowing rescheduling in a timely manner where resource demand or supply changes, with a view to eliminating duplication and unnecessary ordering;

- Improved engagement with contractors in terms of relationship and responsibility. This will improve supply chain awareness, management and consistency, and includes decisions on alliancing and integrated management teams as appropriate.

Implementing the supplier management actions

As with the other actions that have been identified, as our plans for implementing each of the identified supplier management actions are developed further, we would expect to discuss our plans for implementation with our customers, funders and suppliers as appropriate. We will also discuss our plans with industry bodies such as the Railway Industry Association, the Civil Engineering Contractors Association and the Association of Consulting Engineers.

Section 5 – Communication

Introduction

A key part of delivering engineering work effectively is good communication at all levels; on site, with senior managers, between Network Rail and its customers (both passenger and freight operators), and to users of the railway and those who represent them. A number of different workstreams are required to improve delivery in this respect.

Two of these areas are being addressed as part of the Risk Management and Site Management workstreams:

1. Better contingency planning in advance of work that requires possessions is being addressed in the 'Risk Management' section of this document (RM.5). This is aimed at having agreed plans to respond should an overrun occur, and improving clarity between Network Rail and operators as to how those plans will be delivered.

2. Developing and improving communication between the site, the various controls and to our customers during engineering work is being addressed under the Site Management workstream (ST.5).

These workstreams are aimed at improving information from the work site to enable Network Rail managers to make informed decisions to mitigate the risk of overruns, allowing contingency plans to be more effectively implemented and giving freight and passenger train operating companies clear and timely information in the event of an engineering overrun. Network Rail believes that this will result in a step change in information provision. As Passenger Focus has made clear in its response, getting the provision of information to passengers right in the event of an overrun requires all parts of the industry to work together. We are committed to this process.

It is also worth noting that under the auspices of the Railway Operational Code (ROC) - endorsed by ORR - a Passenger Information Strategy Group (PISG) meets with the objective of improving the quality of operational information to passengers. Network Rail is a committed member of PISG, alongside Passenger Focus, the train operating companies and National Rail Enquiries. In its response to the consultation Passenger Focus made reference to the PISG's agreed Good Practice Guide for providing operational information to passengers. Network Rail supports the use of these guidelines.

Identified action areas

Three further workstreams have been identified to further improve communication, and to support the delivery of this plan. These are outlined below and delivery under the 'Communication' section of this plan should be judged against these.

Reference Number	Description
CM.1	Improvement to communication to external stakeholders to promote better understanding of the reasons for, and benefit of, Network Rail's work.
CM.2	The appropriate use of gold command type arrangements.
CM.3	The behaviours and approach to dealing with and reporting risk from site.

To support clarity in the delivery of these workstreams, a distinction is drawn between a) planned engineering work that has an impact on the railway; and b) disruption caused by engineering overruns. The approach to communicating with external audiences such as passengers, lineside neighbours, other rail users, representative groups such as Passenger Focus and others including ORR, DfT and political stakeholders is by necessity different for each.

a) Planned engineering work

Network Rail takes a proactive approach to stakeholder communication when major work is scheduled to take place, providing updates to key stakeholders, focusing on:

- Line-side neighbours – We keep line-side neighbours and local stakeholders fully engaged so that they understand the nature of our work and its impact. We aim to notify local residents four weeks in advance on the majority of work where it will causes significant impact and consult as appropriate in the build up to major programmes of work.

- Other stakeholders – It is standard practice for Network Rail to issue press releases and to offer briefings to key journalists in advance of major work. In doing this we seek to explain the reason for the work, its impact on communities and travellers, and the benefits. The objective is to get information to passengers, stakeholders and the general public through the media.

Providing specific information to passengers regarding train services largely rests with National Rail Enquiries and the train operating companies. The workstream identified under Site Management (ST.5) is aimed at supporting improvements in this information provision.

Network Rail believes that one area where improvement can be made is in raising awareness of how our plans affect railway users in advance of work. CM1 will deliver an appropriate programme of public education to encourage people to check their plans before travelling. This will also involve working across appropriate media channels to encourage a change of behaviour in this respect. We acknowledge that a proportionate balance needs to be struck between increasing public awareness of engineering work and not discouraging rail use.

Network Rail is also mindful of research by Passenger Focus[2] which concluded that passengers' acceptance of disruption increases if they understand the reason for the work and the benefits it will ultimately bring

Network Rail is therefore looking to provide external audiences with better information about our work (including the use of its website, linked to National Rail Enquiries). Where appropriate, opportunities will also be sought to provide MPs and others who represent the public with information and to further educate our station employees about the nature of work that might affect their station.

b) Unplanned disruption

In the event of engineering overruns, it is vital that accurate information is communicated effectively to train and freight operators, so they can provide information to passengers and other customers. Workstreams ST.5 and RM.5 are aimed at supporting improvements in this information provision, and making sure that lines of communication are understood well in advance. At this stage it is worth

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[2] http://www.passengerfocus.org.uk/news-and-publications/document-search/document.asp?dsid=1493

noting that recent initiatives have led to a joined-up approach between Network Rail and operating companies like Virgin Trains and London Midland where unplanned disruption occurs.

The Investment Support Centre (ISC) was created to act as a focus for investment work and to relay messages from site to relevant Operations Control Centres. The aim is to provide greater ability to identify risk of an overrun and enable Network Rail management to act accordingly. The information flows from site are reviewed and discussed in our section on Site Management. While the use of the ISC during the May Bank Holiday work has already improved information flow, we recognise that there are gaps and wide variations in ownership and quality of information from site. This affects the quality of Network Rail communications to customers.

ORR's report into the January 2008 overruns and our own internal investigations make specific reference to greater use of 'gold' and 'silver' type command structure in the event of overruns. The gold and silver command structure is an established process for emergency operation of the railway.

It works well but it is currently not designed for routine application and the area of appropriate control arrangements forms part of this review.

Anticipated improvements

The improvements we intend to make as a result of the communication workstream are described below:

- Better communication with a range of external audiences before, during and after major engineering work, including the provision of accurate information explaining the reason for, and benefit of, our work (CM.1);

- Support improving the flow of information between Network Rail and train/ freight operating companies (for specific actions in this respect see ST.5);

- Transferring the benefits of gold command approach into a Command and Control structure for the management of projects in high risk possessions, using information identified in RM.5 (CM.2);

- On high risk sites, better processes to facilitate clear communication and flow of information to the ISC on situations as they emerge (CM.3); and

- Better process, so that decisions to implement contingency plans are communicated through the ISC to train operators in a timely manner (part of the Command and Control Structure) (CM.3).

Processes / policies to be reviewed

- Network Rail standard NR/L2/OCS/250, Network Rail National Emergency plan and the escalation process currently in place between ISC and Route Control.

Anticipated deliverables

- Greater awareness among external stakeholders of major engineering work, specifically at Bank Holidays;

- New opportunities to promote understanding of the reasons for and benefit of investing in the railway;

- Identification of new opportunities to work with train operators, where appropriate, to communicate with rail users in a more joined-up manner;

- To assist the flow of accurate and timely information from work sites to operations teams and train and freight operators, enabling better communication with users in the event of an overrun;

- New project management process with required gold command principles to be included in the Project and Site Management method; and

- Better Network Rail site management on sites identified with high risk of overrun to improve contact with operation control centres and fact-based decisions on mitigation in a timely manner.

The anticipated benefits to our customers and stakeholders

- Providing passengers and other users with information to help them plan their journeys, advising people to check before they travel and providing better information (hence building understanding) regarding the reason and benefits associated with work.

- Improved communication between train and freight operating customers when significant overrun situations are predicted, utilising a structure that is already well defined and understood, so operators can mitigate where necessary.

- Confirmation from Network Rail, rather than contractors or third parties, that risks have been identified and options to mitigate against them are defined, thus allowing more timely and decisive management of contingency in the event of an overrun.

Implementing the communication actions

Network Rail has already implemented a number of changes as a result of the January 2008 engineering overruns, to increase the quality of information going to stakeholders and passengers for planned engineering work. These include:

- Provision of better information regarding the national programme of work at Bank Holidays to Network Rail station employees, via information packs;

- Provision of better information regarding the national programme of work at Bank Holidays to political audiences and through increased use of media channels;

- Use of multi-media channels to raise awareness of National Rail Enquiries and engage changes in behaviour of passengers including checking before travelling;

- Greater focus on explaining the reason for work and the benefits that it will deliver for passengers;

- A template approach with rail industry partners to improve operational communications in the event of unplanned disruption is also being developed where high risk areas are identified.

For gold command we intend to review control procedures in other industries that undertake planned and emergency shutdowns, and will consult with internal teams (Route and Operations) and representatives from passenger and freight operators.

ISC will be the focus for reporting considerations and we will consult internal teams within Network Rail as necessary and appropriate.

Section 6 – Consultation process

ORR's final order which was issued on 22 April 2008 required Network Rail to:

(a) produce and deliver a plan to ORR by 30 June 2008, on which it has consulted its customers, relevant funders, Passenger Focus and London TravelWatch, which:

   (i) demonstrates how Network Rail will implement measures to the greatest extent reasonably practicable, including procedures and training, to ensure that its planning and execution of projects for the renewal, replacement, improvement, enhancement and development of the network which require possessions will be undertaken in an efficient and economic manner and in accordance with best practice ("the Measures"); and

   (ii) sets out clear milestones showing how Network Rail will implement the Measures; and

   (iii) demonstrates that particular attention has been paid in the Measures to addressing weaknesses in Network Rail's risk management, supplier management, site management and communications with train operators and rail users;

(b) by 31 December 2008, have implemented the plan and have delivered a report to ORR which demonstrates why it is satisfied that the plan has been implemented.

In accordance with the requirements of ORR's final order, Network Rail produced a plan for consultation, which was published on its website on Tuesday 13 May 2008, with an invitation for written views and comments to be submitted by 5pm on Tuesday 10 June 2008.

As well as publishing the consultation on our website, we notified prospective consultees by telephone and email of the consultation publication.

Responses Received

We received 8 consultation responses. A list of respondents is set out below:

Train Operating Companies & Owning Groups

- Crosscountry
- First Group Rail Division

Freight Operating Companies

- EWS

Funders

- Greater Manchester Passenger Transport Executive
- NEXUS

Passenger Organisations

- Passenger Focus

Others

- Carillion Rail

- Touchstone Renard Limited.

Network Rail is grateful to all of those stakeholders who took the time to respond to our consultation. The key points from the consultation responses are summarised in section 7 below and have been considered more fully as we have worked to finalise the key action areas.

Section 7 - Key Issues Arising from the Consultation

General Comments

The responses that we received to the consultation were mainly positive and there was general support for the workstreams that Network Rail has identified in terms of its plan for reviewing project delivery. In the main, stakeholders agreed that Network Rail had identified the correct action areas but stakeholders also put forward a number of useful considerations. We have sought to take into account these comments in finalising this plan and a number of the key amendments that we have made to our plan as a result of the consultation exercise are described in sections 1 – 5 of this plan.

It should be noted that some of the comments made fell outside of the remit of our consultation. However, this comments have not been discounted and we will look to include them as appropriate as part of our wider review of our approach to managing projects which require possessions.

Risk Management

In relation to risk management, respondents raised clear themes of concern. First Group highlighted the need to develop realistic operational contingency plans in conjunction with train operators whilst EWS focused on the need to manage the risk associated with the impact on customers of engineering overruns. CrossCountry highlighted the impact that possessions that are cancelled at short notice have on their operational activities.

Passenger Focus encouraged the rail industry to develop a standard protocol to minimise the use of rail replacement bus services.

Carillion Rail suggested that Network Rail should review contractor involvement in the project planning lifecycle and indicated that there is not currently enough time to complete design and formulate risk register to minimise worksite risk.

Touchstone Reynard suggested that it would be useful to investigate how the possessions at Rugby, Liverpool Street and Shields Junction would have progressed if all the envisaged improvements had been put in place before project implementation and suggested running a simulation workshop, on each project.

More generally both passenger and freight operators requested that the impact of possessions on their operations was reduced, stating that Network Rail must have a clearer understanding of the impact of each project on the end user. It was clear that respondents felt that on occasion current contingency planning arrangements did not always satisfy their requirements.

Respondents stated that earlier customer involvement in contingency planning would lead to better clarity in operational requirements, thus enabling more robust planning and control. Prioritisation of services could be introduced at this stage to minimise disruption to customer business and remove arbitrary decision making from the planning and implementation process.

Site Management

In relation to site management, both Passenger Focus and EWS commented that the reporting lines from site need to be improved so as so allow passenger and freight operators in turn to provide accurate information to their customers. First Group commented that the information coming from work sites must be accurate. The experience of Network Rail project managers was also highlighted and questioned. Integrated site project management teams were proposed to enable quicker problem identification and resolution.

Touchstone Reynard suggested that dynamic comparisons with other worksites (including London Underground) would be interesting and useful.

Greater Manchester Passenger Transport Executive expressed concern in relation to the late cancellation of possessions without prior customer consultation or reason.

Supplier Management

In relation to supplier management there was a range of specific comments. Carillion Rail stated that fluctuations in manpower resource demand (in particular between Bank Holidays, weekends and weekdays) mean that it is difficult for contractors to attract, train and retain staff. This is turn creates a reliance on agency staff to deliver works during major possessions.

CrossCountry stated that Network Rail should complete its review of resource availability before publication of its possession strategy. This would assist in identifying resource constraints and reducing plan risk whilst EWS stated that Network Rail should work to reduce unnecessary and duplicated site resources.

Nexus stated that it was unclear from the consultation document how Network Rail was proposing to resolve issues associated with the poor performance of contractors.

Communication

First Group stated that at Bank Holidays in particular there is a clear message in the media that railways are not operating and that passengers should make other arrangements. They raised concern that some communication ahead of and during disruptive possessions has not been helpful to operators in this respect. EWS stated that current communications activities are focused on getting information to the travelling public but fail to recognise the needs of freight operators and their customers.

NEXUS commented that the volume of information supplied to passengers should be carefully monitored to ensure that the possibility for confusion is minimised. Passenger Focus drew Network Rail's attention to the National Rail Enquiries' Good Practice Guide for providing information to passengers and called for Network Rail and the train operating companies to work more closely to improve the provision of operational information to passengers when disruption occurs, both planned and unplanned. Passenger Focus also called for the industry to provide consistent information to passengers as far in advance as possible.

Section 8 – Conclusions

Whilst the overwhelming majority of our projects are completed on time and on budget, the January 2008 engineering overruns and the incident at Shenfield serve to reinforce the fact that Network Rail cannot ever afford to become complacent. The workstreams that we have created, taking into account the consultation with our stakeholders, are targeted at the identification of risk, the decision making and ownership of that risk and communication of decisions and contingency requirements. It is in these areas where we believe we can most strongly lead improvements that will bring benefit to the whole rail industry.

Network Rail believes that this plan represents an important opportunity to drive through improvements in our approach to project delivery. The improvements that we intend to make and which are identified in this plan are intended to place our customers at the heart of the decisions which are made in defining methods of delivering work, and in following that delivery through to site and handback.

The successful implementation of this plan represents a hugely important workstream for Network Rail between now and the end of this year, at which time we are required to report to ORR as regards why we are satisfied that this plan has been implemented. ORR will then assess in conjunction with the independent reporter whether it is satisfied that we have complied with the requirements of the final order.

Whilst the delivery of this report at the end of 2008 will represent an important milestone for Network Rail in terms of being able to demonstrate to its stakeholders that the lessons leant following the January 2008 engineering overruns have brought about real change, we are adamant that change should not stop there. Moving forward we intend to keep our approach to managing projects which require possessions under review. Where further changes are identified which would improve our approach to managing projects that require possessions, we are committed to making those changes