

Network Rail and the Office of Rail
Regulation

Independent Reporter (Part A)

2010/11 Quarter 4 Review

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Executive Summary

This report describes the data assurance work that was undertaken during 2010/11 Quarter 4. It involves reviewing progress on previous recommendations in a number of areas, and updating Confidence Ratings of relevant Key Performance Indicators (KPIs - see Appendix C for the remit of this work).

The main findings are summarised below. Note that the definition of the Confidence Ratings is provided in Appendix E.

KPI 2: Customer Satisfaction

The one recommendation to develop a documented procedure for measuring satisfaction by Network Rail's customers (i.e. Train Operating Companies and Freight Operating Companies) has been implemented (subject to final agreement of layout) and is therefore considered to be closed.

The most recent Customer Satisfaction Survey was undertaken by GfK NOP for the first time. Although we were unable to independently check the underlying survey data for confidentiality reasons, the response rate was high and the results provide a detailed analysis. Given the above procedure is now in place, the Confidence Rating for this KPI is increased from B2 to A1.

KPI 5: Train Performance

Network Rail have made good progress on the recommendations from the Quarter 1 report, with the vast majority now complete and so closed.

In addition, a number of Train Performance areas have been reviewed by the Reporter Team in some detail to check for accuracy.

PPM/CaSL Data Flow - a number of enhancements have been made to spreadsheets since the last review in Quarter 1, with others in progress. The Reporter team is content that that data still appears to be flowing through correctly. Documentation of the PPM and CaSL calculation process is currently underway.

PSS Data Extraction Process – this feeds into the PPM and CaSL calculations. The data is compared each period against TOC PPM and cancellations data as a cross-check, and this gives confidence that the final extraction of data from PSS (post any corrections) is accurate. It is noted, though, that not all TOCs provide cancellations data for checking in which cases no reconciliation can be carried out.

SRP77 Impact on Cancellation Data – it was expected that SRP77 would improve the accuracy of cancellations data in PSS, and might eventually remove the reliance on TOC data. The review found that it does enable better data capture within PSS but TOC data is still required for checking purposes and is used in industry reporting. Two further recommendations are made with regards to reliance on TOC data.

Impact of Adjusted Data Series (ADS) – this is a new methodology for improving the calculation of delay minutes for incidents still under dispute at the time of reporting. The Reporter team reviewed 11 periods of data from this financial year

to compare the accuracy of calculations under the old and new systems. This demonstrated that ADS significantly improves the accuracy of delay minute reporting.

National Data Quality Report (NDQR) Roll-out - The NDQR is now issued on a periodic basis in line with the intentions that Network Rail set out during the Quarter 1 audit. Audits are now being held on a rolling programme with any non-compliances and areas for improvement recorded and tracked.

Overall, it is the view of the Reporter that the reporting of performance data across all KPIs remains sound with the processes further improved since the previous Reporter Team visit. However, it is noted that there remains a significant reconciliation exercise on certain routes following the severe weather disruption in Periods 9 and 10. The reporting of cancellations would also be improved if all TOCs provided independent data for checking.

Performance KPIs

5a) PPM

Confidence Rating = A1

As with the last two years, the impact of the severe weather in Periods 9 and 10 did cause problems on some Routes with data collection. Given the level of disruption this year, the reconciliation exercise in some Routes has been significant, but overall these problems had a less than 1% effect on Sector figures. This score remains the same as when last reviewed in the 2010/11 Quarter 1 Report.

5b) CaSL

Confidence Rating = A2

This remains the same as the 2010/11 Quarter 1 review. Although the SRP77 enhancement to TRUST has now been implemented, Network Rail are still reliant on TOC cancellation data for reporting, i.e. PSS cancellation data is not yet used in the final reported figures. The data provided by TOCs provides Network Rail with an opportunity to carry out a detailed reconciliation exercise, which demonstrates there still remain some differences between the datasets.

5c) Network Rail Delay Minutes to TOCs

Confidence Rating = A1

This is the same as 2010/11 Quarter 1.

5d) Network Rail Delay Minutes to FOCs per 100 Train km

Confidence Rating = A3

Network Rail has developed a plan to improve accuracy of freight mileage data through use of TODS+. However at the time of this review, this plan had not been implemented and so any impact on the accuracy of this measure could be evidenced at this time. Therefore this rating remains the same as 2010/11 Quarter 1.

6a & 6b) Asset Management (Track/Non Track Delay Minutes)

Confidence Rating = A1

This dataset is a direct derivative of Network Rail delay minutes, and so this rating is reflective of the rating given to KPI 5c.

KPI 6(d): Asset Management (Network Capability)

These recommendations relate to various measures of network capability including linespeed, gauge, route availability, electrified track capability, and passenger and freight train mileages. Useful progress has been made on all recommendations. However, in some instances progress has been hampered by the nature and age of the underlying data systems and this helps to explain why only two of the recommendations have been completed.

The 2009/10 Confidence Ratings for the KPIs were reviewed in the light of progress made in respect of the recommendations, and were found to be unchanged in all cases, mainly, but not exclusively, because of incomplete documentation:

- Linespeed (C1) – Confidence Rating = B2
- Gauge (C2) – Confidence Rating = B2
- Route Availability (C3) – Reliability Confidence Rating = B2
- Electrified Track Capability (C4) – Confidence Rating = B2
- Ongoing Short-Term Network Change Proposals and Discrepancies between Actual and Published Capability Arising from the Infrastructure Capability Programme – Confidence Rating = BX¹
- Passenger and Freight Train Mileage, Gross Freight Tonne Mileage – Confidence Rating = B2
- Track Mileage and Layout – Confidence Rating = B2

KPI 9: Environmental Initiatives

The majority of recommendations made in the 2009/10 Quarter 4 Review have been implemented. Systems and processes continue to be in place to ensure the reliable collection of accurate environmental data, which are well documented and understood. Changes made to the Environmental Sustainability Index have yet to be updated in the appropriate procedures.

The heavy reliance on manual input and manipulation of data has been reduced by the development of a master KPI monitoring spreadsheet to be completed by data owners. Training and implementation of this new reporting process is underway.

The overall Confidence rating reported in 2010 for Environmental Initiatives was B3. This will remain the same despite a number of the recommendations made having been closed.

¹ The accuracy of this KPI cannot be measured since no benchmark data is available. It is therefore rated as X.

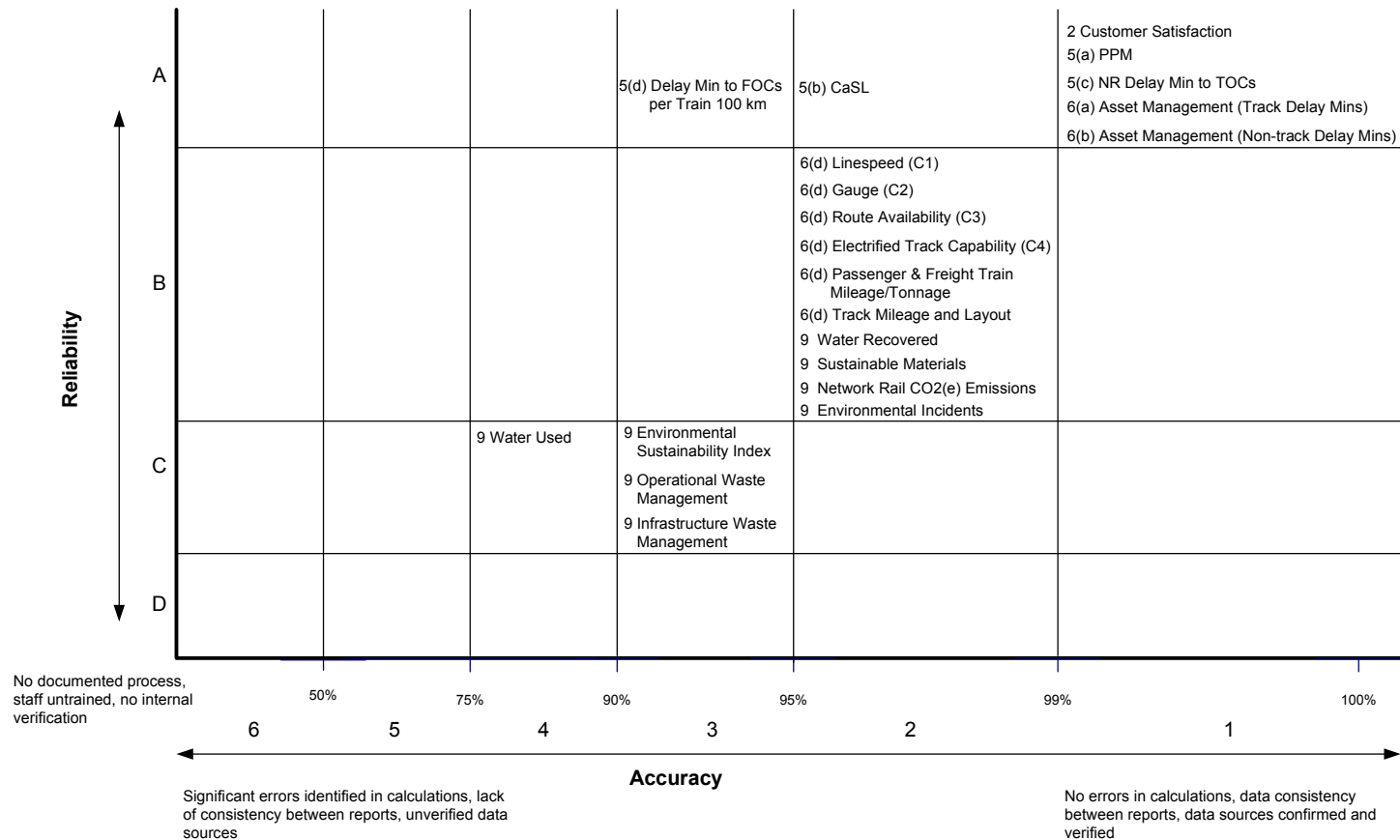
It recognised however, that there is likely to be more movement with the scores in the coming year as changes made are fully implemented and Network Rail's improved verification of data supplied by third parties takes effect. A summary of comments made against each KPI is provided below:

- **126:** Environmental Sustainability Index was previously given a Reliability Score of B and an Accuracy score of 3. There has been no change.
- **129:** Operational Waste Management was previously given a Reliability Score of B and an Accuracy score of 3. There has been no change. However it is anticipated this will improve as the new master KPI spreadsheet is implemented and contracts are modified.
- **134:** Infrastructure Waste Management was previously given a Reliability Score of B and an Accuracy score of 3. There has been no change. However it is anticipated this will improve as the new master KPI spreadsheet is implemented and contracts are modified.
- **KPI 130:** Water Used was previously given a Reliability score of B and an Accuracy score of 4. There has been no change. However it is anticipated this process will improve as a review of water use is conducted the sub-metering programme is rolled out.
- **KPI 146:** Water Recovered was previously given a Reliability score of B and an Accuracy score of 2. There has been no change.
- **KPI 128:** Sustainable Materials was previously given a Reliability Score of B and an Accuracy score of 2. There has been no change.
- **KPI 132:** Network Rail CO₂ (e) Emissions was previously given a Reliability score of B and an Accuracy score of 2. There has been no change. It is anticipated this process will improve as the planned sub-metering programme is rolled out.
- **KPI 127:** Contractor CO₂ (e) Emissions was previously given a Reliability and Accuracy score of X. There has been no change. This KPI does not have a target associated with it; hence NR are not true performance measures. NR intent to remove it from the overall ESI.
- **KPI 133:** TOC CO₂ (e) Emissions was previously given a Reliability and Accuracy score of X. There has been no change. This KPI does not have a target associated with it; hence NR are not true performance measures. NR intent to remove it from the overall ESI.
- **KPI 147:** Environmental Incidents was previously given a reliability score of B and an Accuracy score of 2. There has been no change. However it is anticipated that the inclusion of more classifications of incidents to enable better trend analysis will improve this.

Summary of Confidence Ratings

Our confidence ratings for the Quarter 4 KPIs in this report are summarised in the following figure.

Defined up to date, documented procedure, internal verification with fully trained individuals



Confidence Ratings Matrix

1 Introduction

1.1 Background

Arup was appointed by the Office of Rail Regulation in 2009 to undertake the role of Independent Reporter (Part 'A'). This commission requires the Reporter to review a series of measures produced by Network Rail for the ORR to ensure their correctness. These reviews are undertaken as part of a rolling programme and are reported to the ORR in a series of Quarterly Reports. They usually involve providing confidence ratings in the accuracy of relevant Key Performance Indicators; however, the remit for Quarter 4 is different in that it focuses on reviewing progress on a number of previous recommendations (see Appendix C for the Quarter 4 remit).

This report covers the Reporter's data assurance activities in Quarter 4 of 2010/2011, with a detailed review of recommendations previously made in respect of the KPIs listed below.

1.2 2010/2011 Q4 Report

This Quarterly Report has been produced in accordance with Mandate AO/003: Data Assurance for Output Monitoring. The KPIs covered in this report are as follows:

- KPI 2 (a) and (b) - Customer Satisfaction (TOC and FOC);
- KPI 5 - Train Performance;
- KPI 6(d) - Asset Management (Network Capability); and
- KPI 9 – Environmental Initiatives.

Following this brief introductory section, each of the above KPIs is reported in a separate chapter structured such that they cover:

- Methodology employed;
- Findings obtained;
- Updated Confidence Ratings;
- General observations made; and
- Conclusions drawn.

2 KPIs 2(a) and (b): Customer Satisfaction (TOC and FOC)

2.1 Introduction

Network Rail conducts an annual customer satisfaction survey among its customers, including Train and Freight Operating Companies (TOCs and FOCs). The outputs provide a measure of overall customer satisfaction, which is also disaggregated between TOCs and FOCs. The measure is calculated as a weighted average score across all respondents, who rate their satisfaction on a scale of 1 (very dissatisfied) to 5 (very satisfied).

This measure is not a regulated output, but Network Rail's remuneration committee [RemCo] take account of the satisfaction of passenger and freight train operators in deciding whether to use its discretion to adjust bonuses under the Management Incentive Plan. It was reviewed in Quarter 4 of 2009/10 and one recommendation was made.

2.2 Audit Methodology

One of the data champions in Network Rail was contacted by phone for an update on progress. The updated procedure was then e-mailed to the Reporter for review on the 18th March 2011. This was followed up by a phone call with the Contract Services Manager, Operations and Customer Service in Network Rail who subsequently issued a redrafted procedure for review. He also sent some data to support the review of the KPI score, although the detailed survey data could not be sent due to confidentiality.

Audit Findings

Table 2.1: Progress on Customer Satisfaction Recommendation

Number	Recommendation	Data Champion	Due Date	Progress
2010.2.1	Create a documented procedure for the production of the KPI (including the provision of a survey specification, and the stipulation of a regular check within each Train and Freight Operating Company that no staff are being overlooked in the course of the survey process).	Pete Allen, Carew Satchwell	Sept 2010	The procedure has been drafted and contains all relevant information. It is awaiting final comments from within Network Rail but these will be on layout rather than content. This recommendation is therefore considered closed. Closed

2.3 Updated KPI Scoring

The previous score for this KPI was B2 although it was recognised that if the above procedure was put in place, then the score could be uplifted to A1.

At the time of that assessment the survey was undertaken by Ipsos MORI, however following a competitive procurement process, this changed last year to GfK NOP. We have undertaken the following checks:

- The list of target respondents has been reviewed and continues to consist essentially of the TOC/FOC's senior management team (i.e. MD and Executive team). This is designed to reflect those people with whom Network Rail's Customer Relationship Executives have regular contact.
- The survey continues to have a high response rate of 80% (260 respondents from 323 surveyed). Other than for Island Line which had a nil response, the minimum response rate from individual TOCs and FOCs was 50%.
- GfK NOP has produced a series of detailed reports for the results of each TOC/FOC and Network Rail Route. These compare that scores from the previous year and comment on the reasons for any changes. In last year's review we noted that the results were not biased by any recent events or incidents. However, in the latest results, GfK NOP have noticed that relatively poor train performance in the autumn and problems with the roll out of ITPS may have suppressed satisfaction in other areas. That said, for ITPS at least, they do not believe this will have affected the overall satisfaction rating.

Although we have not been given the underlying data to check the results, the response rate continues to be high and the results provide a detailed analysis. Given the outstanding procedure is now written (subject to final issue), the new score is A1.

2.4 Conclusions

The process for the production of the customer satisfaction scores is well-established, and appears to be well-managed both by Network Rail and by their chosen contractor.

3 KPI 5: Train Performance

3.1 Introduction

The previous audit of the performance KPIs took place in Quarter 1 of 2010/11. As a result of that audit a set of specific recommendations was made and a number of suggested areas were put forward that should form a focus of the next Reporter Team visit. These were:

- Check that the new PPM/CaSL data flow process is fully embedded, documented and operating correctly. This was intended to specifically check that the errors noted in the 'PPM and CaSL (2)' spreadsheet had been removed.
- Review the data extraction process from PSS.
- Review the impact of the revised SRP77 procedures on cancellation data and any process changes Network Rail have introduced in the interim period.
- Review the impact of the new Adjusted Data Series (ADS) process based on a full year of data.
- Review the suitability of the current ratings system for the assessment of the Performance KPIs, for which a greater accuracy level than $\pm 1\%$ (historically equivalent to a rating of 1) is required to merit the highest accuracy rating.
- Review the implementation and rollout of the National Data Quality Report.

At the request of ORR, the follow up on each of the performance KPIs and the above areas of review were undertaken in Quarter 4 of 2010/11. The exception was the review of the suitability of the current rating system which is being progressed separately by the ORR.

3.2 Audit Methodology

To undertake these checks the Reporter Team visited the Network Rail National Performance Team on the 4th March 2011 and met with the following team members:

- Senior Performance Analyst
- Senior Performance and Forecast Analyst
- Performance Systems Analyst
- National Performance Support Analyst
- National Data Quality Specialist
- Delay Attribution Specialist
- TDA Project Analyst
- Performance Analyst

At the meeting, the progress on recommendations was checked and evidence was provided to clarify what actions had taken place. The specific areas of review were checked and then data was collected to check that the evidence presented could be verified. Analysis of the data provided was undertaken after the meeting

with any clarifications raised directly with the provider. The findings are set out in the following sections.

3.3 Audit Findings

The review of the follow up to the recommendations in the Quarter 1 Report is summarised in this section. In all cases the Reporter Team looked for clear evidence that demonstrated that the required follow up had taken place.

Table 3.1: Progress on Train Performance Recommendations

Number	Recommendation to Network Rail	NR Data Champion	Due Date	March 2011 Update
2010.5.2	Improve Document/Data Version Control <ul style="list-style-type: none"> Performance Spreadsheets Version Control 	Stephen Draper	September 2010	Network Rail has developed a Process Document which provides clear guidance on spreadsheet version control and naming convention. This document outlines the core spreadsheets used in the calculation process, the location on the network where they should be stored, and how they should be updated each period. The Reporters viewed the file structure on the Network Rail directory during the Visit, and were supplied with a copy of the latest set of spreadsheets for review. This provided demonstrable evidence that these procedures are being followed. Closed
2010.5.4a	Devise and agree a plan to resolve outstanding freight mileage data issues	Stephen Draper	September 2010	Network Rail has investigated options to improve the collation of mileage data in accordance with the recommendation. They have set out options to remove dependence on legacy systems and provide data through PSS. The plan is to do this by utilising the Train Operator Data System (TODS+). The plan has been created with a target implementation date of end of April 2011. Closed Reporter team to review implementation of plan in next audit.
2010.5.4b	Devise and agree a plan to resolve outstanding freight SRT data issues	René Tym	September 2010	Network Rail has developed a Process Overview document that defines the process for changes to timetable planning rules (which will include Freight SRTs) – “Timetable Planning Rules – Changes and Amendments (Draft)”, dated 10/03/11, which was provided to the Reporter Team. However, at present there is no definitive evidence of a forward plan for resolving and updating outstanding freight issues, although it was advised that this issue is prioritised to be resolved on each route alongside the development of the relevant Long Term Plan timetables. Ongoing
2011.5.1	Network Rail should complete the formal documentation of the procedure associated with data export from PSS	Stephen Draper	September 2010	Network Rail has developed a Process Document covering the entire process calculation process, from data extraction through to result reporting. While the status of this document is currently ‘work-in-progress’, the content is largely complete, and contains a detailed and prescriptive step-by-step guide through the tasks required to be followed by the performance analyst. Not complete, finish by May 2011
2011.5.2	Network Rail should review policy towards, and the	Stephen Draper/	November	Network Rail has reviewed several aspects of the handling of schedules and

Number	Recommendation to Network Rail	NR Data Champion	Due Date	March 2011 Update
	handling of, severe disruption in its widest sense, including the uploading of emergency timetables.	Paul Kelly	2010	<p>delay management.</p> <p>1) Day A for Day B – ITPS now has the capability to store contingency timetables which allows emergency timetables to be uploaded on Day A for Day B.</p> <p>2) Inputting of VSTP's / Emergency Timescales – an enhanced system (Integrale) is in the process of being rolled out to all Network Rail Control's which will enable quicker input of VSTPs / Emergency timescales by Network Rail Control staff. This will be a phased roll out which is scheduled to start in May 2011 and be completed by the end of the year.</p> <p>3) Managing delay attribution in times of significant perturbation – a prioritised list of responsibilities/tasks for Train Delay Attribution staff to concentrate on during times of severe perturbation has been produced and implemented. As such, Level One staff (Network Rail staff responsible for initial 'real-time' delay attribution) adopt a "phased withdrawal" from certain workload types, to concentrate on the core elements which deliver the best possible outputs for performance reporting purposes.</p> <p>Not complete, finish by December 2011</p>
2011.5.3	Network Rail should produce a full register of local attribution agreements with TOCs, and work to remove them, as part of an effort to reduce data discrepancies.	Paul Kelly	January 2011	<p>A full register of agreements has been produced. Network Rail has identified 42 such agreements which it has grouped into different types. These are being reviewed systematically to look at which ones should be included in the DAG, which will be required longer term etc. The Performance Manual is being updated to give clear instruction on how agreements should be documented in the May 2011 update of the Performance Manual. NR has complied with the requirement of the recommendation to produce a full register of agreements and is in the process of formalising these into industry documentation (ie the DAG).</p> <p>Closed</p> <p>Reporter team to confirm implementation of these actions in next audit.</p>
2011.5.4	Network Rail should review its staffing levels for the management of delay attribution across the network to address the resource imbalance noted in some Routes, ensuring that	Paul Kelly	January 2011	<p>A very detailed review of comparative TDA staffing levels has been undertaken by Network Rail. This has looked at both the volume of TRUST incidents created by Route against staff and quality indicators based on audit criteria. This has helped to produce an overall view on what the optimum staffing requirements are to deliver an acceptable level of quality attribution. The analysis has only recently been completed. The next phase is to decide what will be done with TRUST attribution resources. This decision will be influenced</p>

Number	Recommendation to Network Rail	NR Data Champion	Due Date	March 2011 Update
	staff are fully briefed and that briefing records are kept up-to-date, and protect the much improved levels of data integrity seen by the Reporter Team.			by the overall review being held within NR on how Routes and centralised teams will be staffed in the future. The analysis was shared with the Reporter Team but given the sensitivity of the staffing implications copies were not taken. Therefore NR has complied with the requirement of this recommendation to carry out a review, but no changes have yet been proposed or implemented. Reporter team to review outcomes of this review in next audit.
2011.5.5	Network Rail should review the verification checks schedule to ensure the checks are appropriate, and workload is commensurate with the resources available at Route level.	Paul Kelly	January 2011	The Reporter Team was shown the review that was undertaken of all the measures by the Route Data Quality Specialists led by the National Data Quality Specialist. The view of that team was that all of the current measures are valid and that the workload is currently commensurate with the resources available at Route level, but that they should be kept under review as the use of the National Data Quality Report develops. The NDQR is now published periodically and is supporting the focus on these measures. Closed
2011.5.6	The merits of a detailed investigation of Delay Attribution under conditions of severe disruption should be considered, and a joint remit developed, as appropriate. Such a review should include consideration of the appropriate expectations of the standard of data capture on such days.	Nigel Fisher (ORR)	October 2010	It has been confirmed by the ORR that, following consideration of this issue, such an investigation is not seen as a high priority at present. Closed
2011.5.7	Network Rail should review, clarify and rationalise the status and content of TDA supporting documentation, with particular attention to IDAs.	Paul Kelly	January 2011	A formal register of IDAs has now been instigated. This is available on line and shows clearly which IDAs are still live and which have been withdrawn. This same process is also used to manage the implementation of new IDAs to plug any gaps identified by case studies. This makes clear the rationale for any new IDA a gives the route teams the opportunity to comment on the proposal. The linkages between the IDAs and the DAG are now much clearer. Closed

3.4 Areas for Review

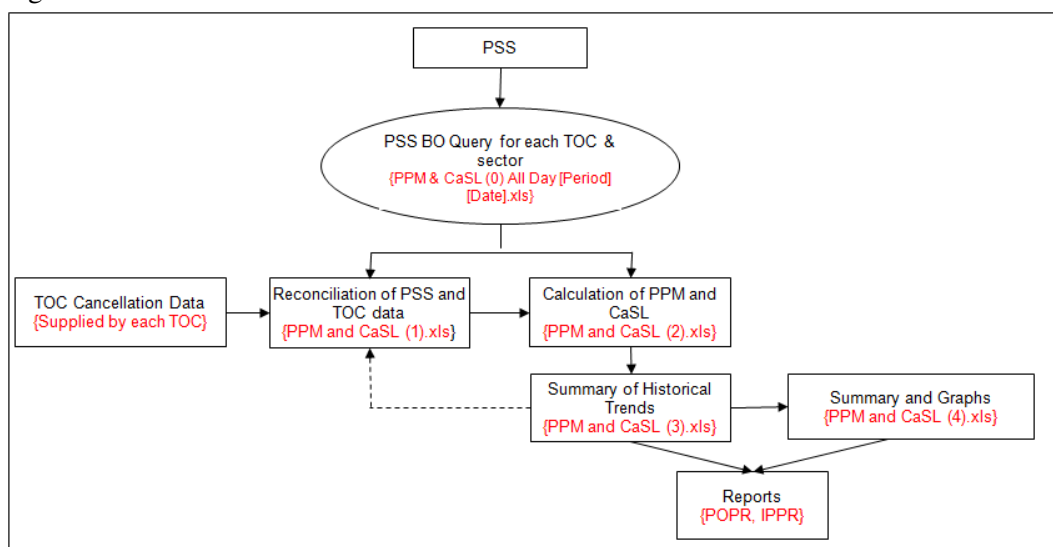
The 2010/11 Quarter 1 Report suggested that there should be a review of each of the key areas outlined in Section 3.1, which for various reasons could not be completed at the time. Each is set out in the following sections.

3.4.1 PPM/CaSL Data Flow Process

The findings outlined in this section relate to follow-up actions as outlined in the Quarter 1 Report. The Quarter 1 Report also provides a detailed outline of this calculation process and so it is recommended that this section is read with reference back to that report.

The broad process and structure of the PPM and CaSL calculation spreadsheets remains as previously reported in Quarter 1, as outlined below for reference.

Figure 3.1: Process for PPM and CaSL Calculations



It is noted that there have been a number of enhancements to these spreadsheets, since the development was still work-in-progress during the last visit. The Reporter team also notes that the historic errors observed in the “PPM & CaSL 2” spreadsheet in the previous visit have now been corrected.

Having reviewed the end-to-end process through the spreadsheets, the Reporter team are content that the data still appears to be flowing through correctly, since all linkages between spreadsheets are based on formulae. A series of spot checks was carried out on the data flow by the Reporter team to ensure this is accurate, as summarised in Appendix D. This shows no concerns.

The only area of hard coding in the process remains the manual entry of TOC Cancellation data, as provided by the TOCs. This data is still used within the final figures, although Network Rail continue to carry out a reconciliation exercise with PSS cancellation data, as outlined in more detail in Section 3.4.3.

The Reporter team were informed that Network Rail plan to submit a proposal to the PPM Steering Group to issue a standard template form for TOCs to fill in their cancellation data each period (this is currently returned in a variety of non-

standard formats). The introduction of standardised templates for TOC cancellation data was raised in the previous Reporter Visit Report, since it would enable the initial input of this data into the process to become automated. This would also resolve another minor observation noted by the Reporters from reviewing TOC supplied data – the naming convention of files supplied by TOCs means it is currently not easy to identify which file relates to which TOC (for example, the file supplied by First Capital Connect is simply called “NR PPM and Cancs Input_{period}”), thus it is not clear which TOC supplied the information without opening the file).

Documentation of the PPM and CaSL calculation process is currently underway, but not yet complete. The Reporters were provided with a ‘work-in-progress’ copy of this document (“Copy of PPM & CaSL Industry Data WIP.doc”); timescales for completion were not advised. This document provides a good overview of the process, an outline of each spreadsheet and the approach to version control of these spreadsheets (including details of file naming conventions to adhere to).

This document also provides a very prescriptive step-by-step outline of the tasks that the performance analyst must undertake, and by when, which would enable a new analyst to be able to pick up the process relatively easily. The one area which is necessarily not completely prescriptive is the ‘reconciliation’ exercise between PPM data as calculated through PSS and that supplied by TOCs. This is because the reasons for data inaccuracies can be wide ranging – currently the document outlines a selection of examples of causes of data inaccuracy. This is an area of the document which Network Rail has indicated might be expanded further.

The document is also used as a repository for capturing ideas for further process improvements.

As well as documenting the process, Network Rail has ensured that there are other members of the performance team who are able to run through this process. While the process is run each period by the same performance analyst, these steps reduce the risk which was previously apparent in holding all the domain knowledge of the process with a single person.

The Reporter team are satisfied that the PPM/CaSL data flow process is fully embedded and operating correctly. Documentation of the process is underway, and provides clear guidance of the approach. All errors noted in the previous report have been removed.

3.4.2 PSS Data Extraction Process

During this visit, the process for extracting data from PSS for the calculation of PPM and CaSL was reviewed.

Data is extracted from PSS via Business Objects through a simple ‘Select’ Query on the database. Certain fields within the database are calculated separately within Business Objects, through queries within the system, for example:

- A query to calculate PPM is based on the guidance outlined in the official PPM Definition document as agreed at the September 2009 NTF-OG.

- A query to define which Sector each train falls into (i.e. London and South Eastern, Regional, Long Distance or Scotland), with definitions based on the PPM Definition document.

It was confirmed that these queries are not altered between periods currently, thus reducing any risk of error due to user intervention. Alterations would only be required with a change to the underlying structure, e.g. commencement of a new franchise serving different Sectors.

The key task which Network Rail perform to provide confidence in the accuracy of data extracted from PSS is a reconciliation with data provided by TOCs. Each TOC provides details of planned trains, PPM and cancellations – if there is any significant deviation (a broad rule of thumb is 0.1%) in PPM this will warrant more detailed investigation of cause of differences.

The reconciliation process is outlined in Network Rail’s process documentation. During this process there are some limited areas in which Network Rail can make corrections to data held within the PSS data after reconciling with TOC information. Amendments cannot be made directly by the performance analyst but a request must be submitted on a standard template spreadsheet. The requestor of any such amendments are subsequently labelled within PSS thus providing a clear audit trail.

Only a limited set of amendments can be requested to the PSS data, as outlined below (and as summarised in a Network Rail document “PSS Edits – Template.xls” supplied by the Performance Analyst):

- FTS (Fail to Stop) needs to be added;
- FTS entered in TRUST in error;
- Non-report at origin and/or destination, train ran full journey;
- Duplicate schedule, should be non-applicable;
- Should have been P-coded;
- Wrong schedule cancelled off, need to make non-applicable one applicable for PPM; and
- Full / Part cancellation needs to be added.

The reconciliation exercise may highlight other areas where the PSS data is incorrect, but for which corrections cannot be made within PSS, although these are generally relatively small. This will lead to small differences between the final TOC PPM figures and that calculated by PSS. For this reason TOC data on cancellations is still carried forward by Network Rail for final reporting.

The differences in the final figures for cancellations for each TOC in each period can be observed in the final “PPM & CaSL (1) TOC-PSS” spreadsheet as supplied by Network Rail.

Given this detailed reconciliation process is undertaken for each TOC, this gives confidence that the final extraction of data from PSS (post any corrections) will be accurate. If there were any problems with this process, the comparison with TOC data would be expected to highlight this.

Given the extraction process query is static, i.e. not altered from period to period, this removes the risk of error due to user-intervention.

It was noted that not all TOCs provide cancellation data to Network Rail each period, for example NXEA have not provided any data since April 2010. In these circumstances, Network Rail cancellation data is necessarily used for reporting, and no reconciliation exercise is able to take place.

From this review, the process of extracting data from PSS appears sound. The detailed reconciliation exercise undertaken by Network Rail between independently-produced TOC and PSS data provides a ‘safety’ check to highlight any potential data errors.

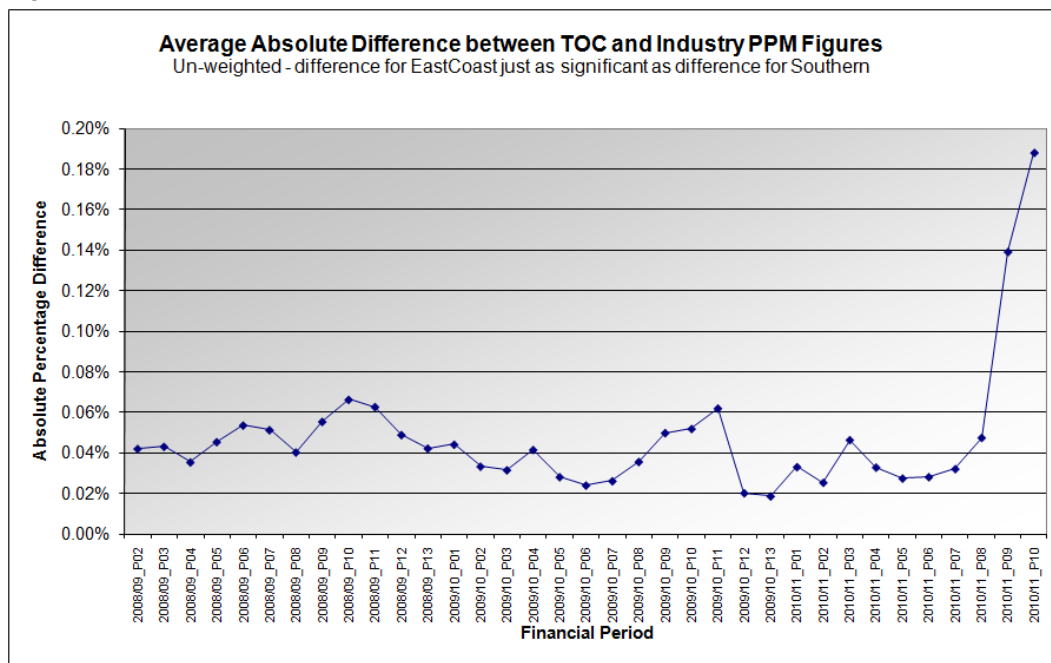
3.4.3 SRP77 Impact on Cancellation data

It was noted from the previous Reporter visit that “it is recognised that the benefits of SRP77 could mean that figures from PSS could be used to generate PPM and CaSL numbers, and so the reliance on TOC data will disappear”.

However, as noted above this is not yet the case, and there is as yet no timescales for any switch over to PSS data. This is partly due to the fact that there do remain a number of differences observed between the datasets, even after the reconciliation exercise (which aims to identify and rectify significant differences).

As reported in 2010 Quarter 1, Network Rail have been carrying out trend analysis of the discrepancies between PPM as calculated from PSS data (post-reconciliation), and PPM data as supplied by TOCs. This is to determine whether the introduction of SRP77 has helped narrow the gap between these figures (due to NR being able to populate more detail particularly with respect to Fail To Stop (FTS) trains within PSS). An update of this analysis is shown in Figure 3.2 below where the trend shows the average absolute difference in PPM per TOC.

Figure 3.2: Trend of Average Absolute Difference between TOC and Industry PPM Figures

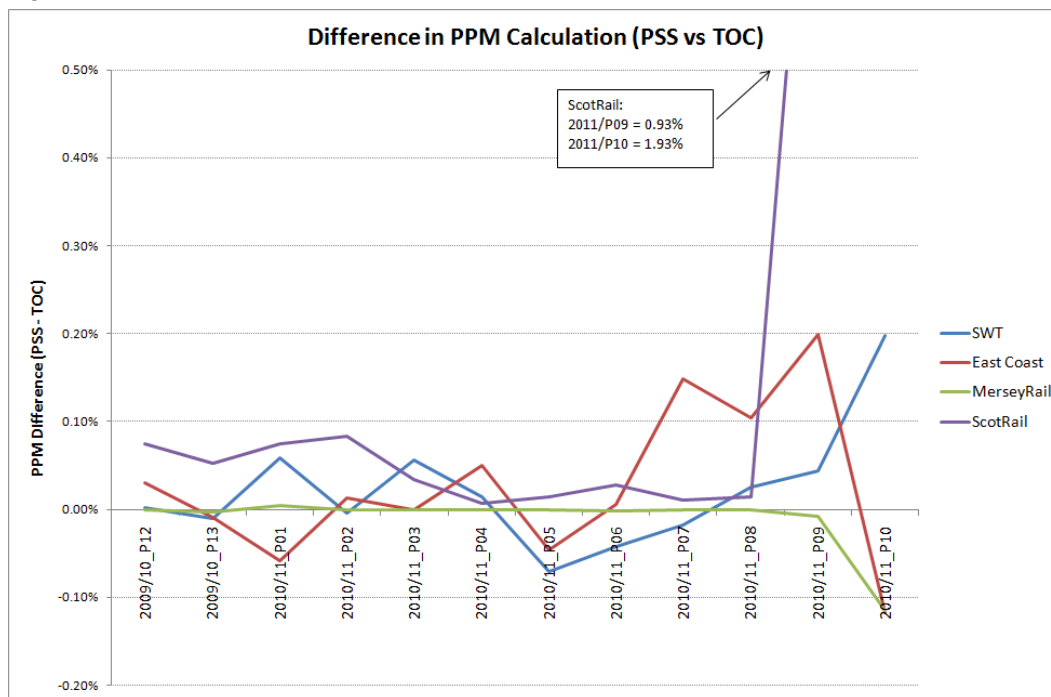


Looking at these average figures, it indicates that there remain similar (low) levels of differences between the TOC and NR PPM calculations (linked to differences

in cancellation data), and these differences are similar pre and post SRP77 implementation (the average difference for Periods 1-8 in 2009/10 is virtually identical to 2010/11 at 0.03%). Note, the spike in Periods 9 and 10 relate to problems associated with the bad weather conditions, and the current ongoing process of reconciling data after the event for particular TOCs.

Figure 3.3 below shows the absolute difference in PSS calculated PPM and TOC produced PPM for a sample of four TOCs, taken from each Sector.

Figure 3.3: Trend of PPM Differences (PSS v TOC) for four TOCs



The discrepancies can be caused by differences in either number of cancellations or number of planned trains in each system, and this chart highlights that the impact tends to be very low (less than 0.1%). For reference, charts showing the differences in cancellations recorded by the TOC and in PSS for each TOC is shown in Appendix B.

As highlighted by this chart, there is a particular issue with First ScotRail data for Periods 9 and 10 due to the periods of bad weather. The core difference is in ‘planned trains’ and the Route Performance team are currently cross-referencing the trains list to confirm which should have been applicable and non-applicable. At present, the ‘published’ figures for this TOC will use planned trains based on all trains which ran (i.e. non-cancelled) as recorded in PSS, plus the number of trains cancelled according to the TOCs data. Figures for these periods may change slightly once this reconciliation has been complete, if appropriate edits need to be made in PSS. Therefore, the experience for this TOC/Route highlights the risk in accuracy of initial published figures for PPM for certain TOCs during periods of severe disruption.

Appendix B also contains a table showing the percentage of cancelled trains by Sector, calculated via data in PSS and via TOC data. This shows for the majority of periods, the difference (post-reconciliation) at a Sector level is less than 0.1%. Even for the periods with severe disruption where reconciliation is still underway

within the Route, the impact was less than 0.5% for the Long Distance, LSE and Regional Sectors.

Based on this brief assessment, it is not clear that SRP77 has made a significant difference to help reconcile TOC and PSS cancellation data. However, this comparison is based on post-reconciliation data, and so some benefits may be being realised through less time needed for the reconciliation exercise if the initial extraction of PSS data is closer to TOCs data.

The core elements of the process which are critical for this area remain the reconciliation process which provides comfort in both the data extracted from PSS, but also in the data supplied by the TOC. While the initial population of FTS cancellations and other issues remain within the PSS system, continued use of TOC data both to enable the reconciliation exercise (for confidence in figures) and for reporting remains sensible.

This of course raises a slight risk for those TOCs where this reconciliation is unable to be carried out since the TOC does not provide the data, e.g. NXEA. While it is recognised that Network Rail are not able to mandate TOCs to provide cancellation data, having this reconciliation exercise does give added confidence.

The review found that while SRP77 does enable better data capture within PSS, there remain discrepancies with data supplied by TOCs. As a result, TOC data is still required for checking purposes, and is still used by Network Rail for final reporting.

The following recommendations are made:

- NR to propose at the PPM Steering Group that all TOCs supply Cancellation and PPM data to enable the data reconciliation exercise to be undertaken for all TOCs each period; and
- NR to identify what steps need to be taken to enable improved data capture in PSS to allow a move from using TOC cancellation data to PSS cancellation data in reporting.

3.4.4 Adjusted Data Series

As outlined in the 2010/11 Quarter 1 Report, a new methodology, the Adjusted Data Series (ADS) has been introduced to improve the accuracy of delay minute reporting for incidents still under dispute at the time of publication:

“The previous system only allowed the estimation of the likely outcome of disputes at whole TOC level. The revised process is designed to calculate the impact at delay category level to give a more accurate picture of the likely outcome ...

The ADS methodology uses historical data showing where disputed minutes, by delay category, are re-allocated to once a settlement is reached. The adjustment factors are updated every 3 months based on the most recent data.”

This process was agreed by the National Task Force and IPPR data has been produced with and without ADS for each of the 11 periods of this financial year. This data was supplied to the Reporter for review.

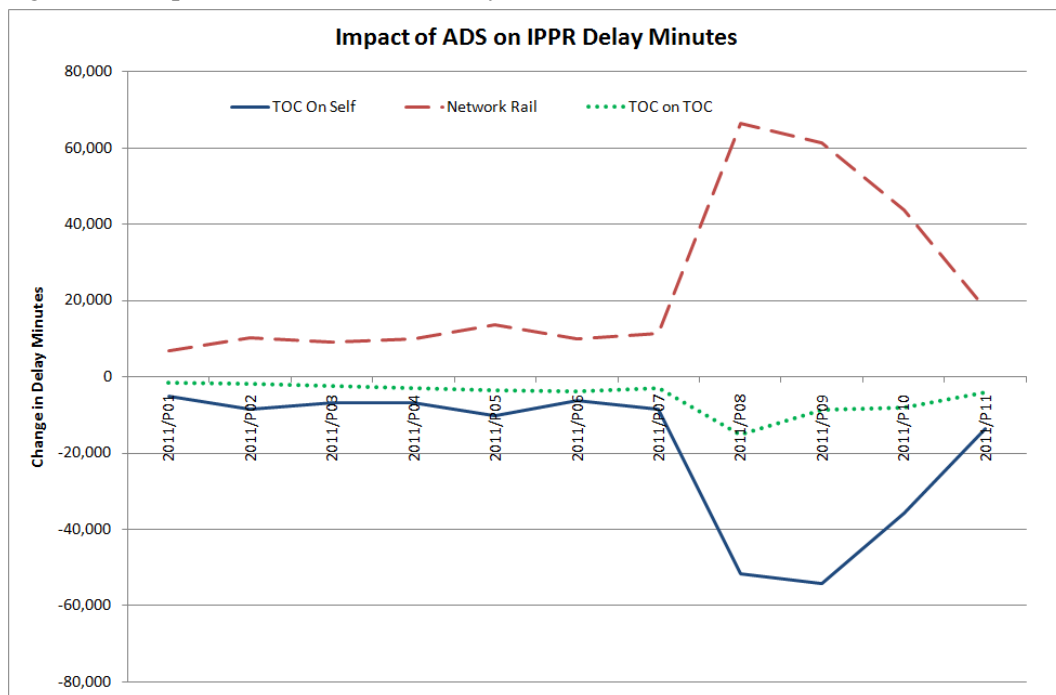
The metrics used to calculate ADS are updated four times per year (Period 3, 6, 9 and 12). Network Rail have supplied details of the metrics and the changes which were implemented in Period 9 and Period 12.

Analysis carried out on the data supplied by Network Rail indicates that the effect of the new ADS process on IPPR delay minutes is that, at the time of publication for the 11 periods of 2010/11:

- An average of 19k more minutes per period move from TOC on Self² (6%) to Network Rail;
- An average of 5k more minutes move from TOC on TOC³ (5%) to Network Rail; and
- 24k more minutes attributed to Network Rail (4%).

The charts below show how delay changes in each category as a result of applying the ADS methodology to the raw data. This shows that the figures above have been significantly skewed by recent periods. Prior to Period 8, there was an average of 10k more minutes attributed to Network Rail per period. The particular spike in period 8 was linked to Autumn, with 35k more minutes being attributed to Network Rail’s “Autumn” IPPR code in this period alone.

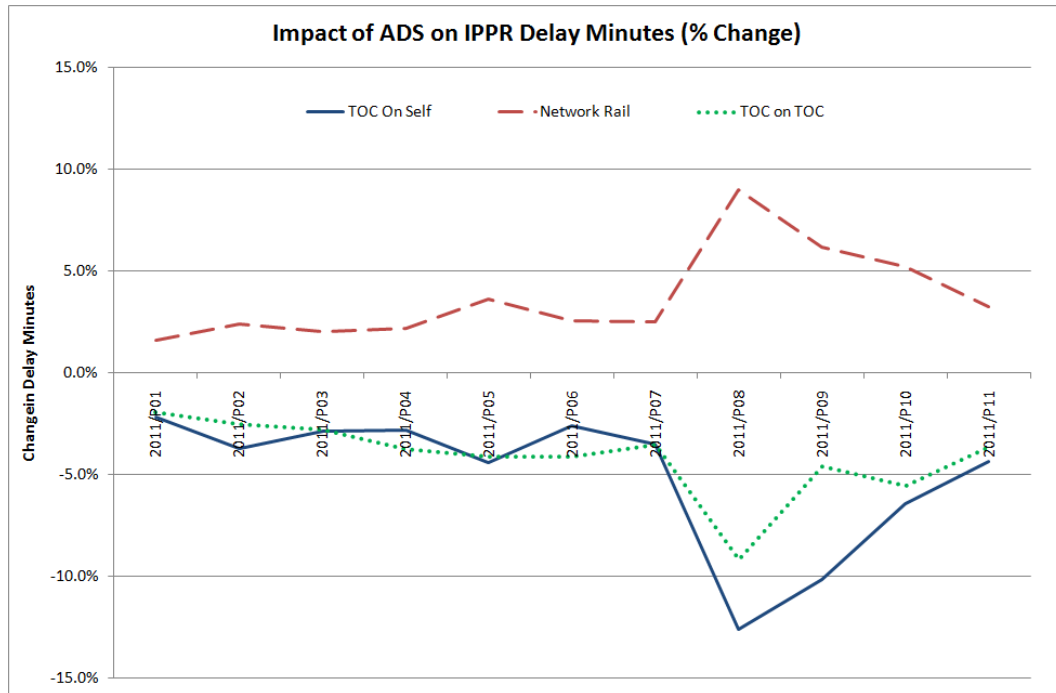
Figure 3.4: Impact of ADS on IPPR Delay Minutes



² TOC on Self – delay minutes caused by a TOC incident to itself

³ TOC on TOC – delay minutes caused by a TOC incident to other TOCs

Figure 3.5: Impact of ADS on IPPR Delay Minutes (% Change)



Note these figures are based on the IPPR data at the time of initial publication of each period of data.

The chart below demonstrates how the ADS process has improved the accuracy of the initial publication of delay figures (using Network Rail delay minutes only).

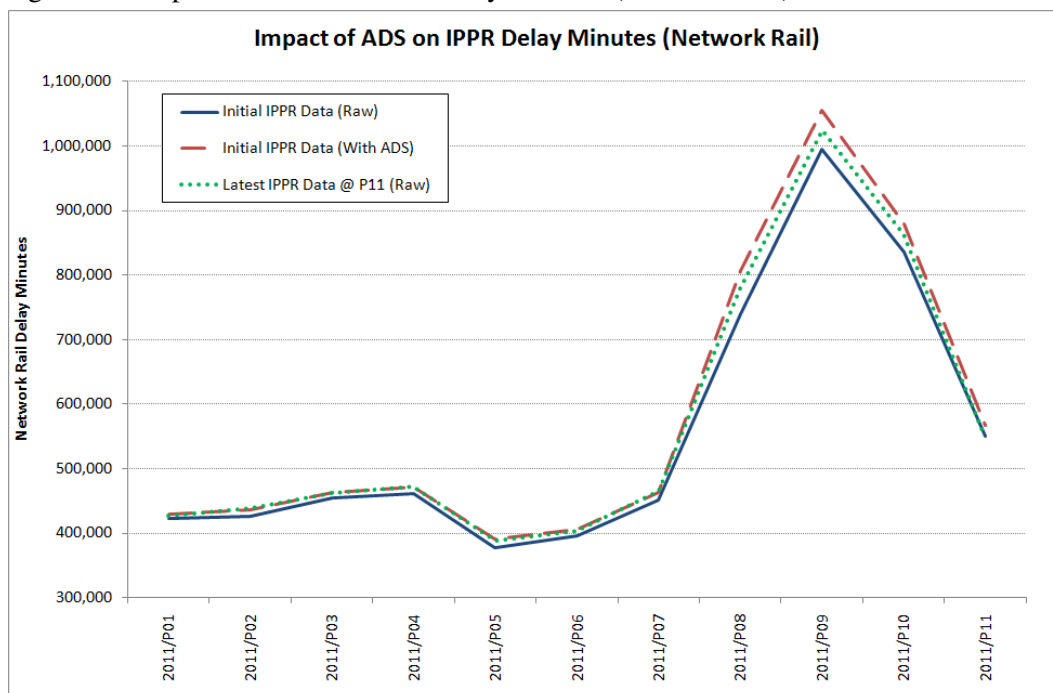
This shows the initial (raw) delay minutes attributed to Network Rail in each period as the blue solid line, i.e. what would have been reported in that period by Network Rail under the legacy system before ADS.

The red dashed line then shows the initial NR delay minutes reported in each period by Network Rail, with ADS applied, i.e. higher number of minutes for NR after the estimation of the impact of resolving outstanding disputed minutes.

Finally, the dotted green line shows the refreshed data for each period as reported in the Period 11 IPPR files, which includes the delay minutes for incidents that have been resolved by Period 11. This means that some of the later periods will still have some outstanding disputed delay minutes, but the earlier periods should reflect the corrected position.

The ADS methodology effectively aims to estimate the impact of the ‘data refresh’ process for disputed minutes. Therefore the difference between the red and blue lines represents an estimate of the *initial* under-estimation of Network Rail minutes prior to ADS. Given the green dotted line is post-refresh, if ADS is working well, we would expect the red dashed line and the green dotted line to be at broadly the same level.

Figure 3.6: Impact of ADS on IPPR Delay Minutes (Network Rail)



This shows that the ADS process has improved reporting, since the latest refreshed IPPR data (green dots) matches the initial ADS calculated data (red dashes) in the early periods. It also shows the impact ADS has had on latter periods, where there are still some incidents in dispute, which are represented by the remaining difference between the green and red lines.

From this review, it is clear that ADS has significantly improved the accuracy of delay minute reporting.

3.4.5 National Data Quality Report Rollout

The National Data Quality Report is now issued on a periodic basis in line with the intentions that Network Rail set out during the Quarter 1 audit. This is now used to monitor compliance with the measures set out in the report which also form the basis of the audits now undertaken by the National Data Specialists.

Audits are now being held on a rolling programme with any non compliances and areas for improvement recorded and tracked. The measures used in the NDQR were reviewed as required by the recommendation from the Q1 audit. This was done by the Route Data Quality Specialists led by the national team. The intention is to keep the measures under review as to their validity. However at present the NDQR is pointing out variances across routes in all of them. As a result the current view is that the measures are all required until a greater degree of consistency is reached.

3.5 Confidence Ratings

Using the definitions listed in Appendix E, the ratings for the performance KPIs are outlined in the table below, demonstrating any changes since the Quarter 1 report.

Table 3.2: Train Performance Confidence Ratings Review

KPI	Original Score	New Score	Comments
5a: PPM	Reliability A Accuracy 1	Reliability A Accuracy 1	No Change. As noted last year, with the exception of the use of TOC data, the process is fully automated, and minor errors in the process identified previously have now been corrected. Although the winter problems affected PPM reporting for certain TOCs / Routes, the impact on Sector PPM is lower than 1%.
5b: CaSL	Reliability A Accuracy 2	Reliability A Accuracy 2	No Change. Although the SRP77 upgrade has now been in place for nearly a year, Network Rail are still reliant on TOC cancellation data for reporting purposes. The provision of TOC data provides confidence in terms of enabling a reconciliation exercise between data held within PSS and by TOCs, however as demonstrated in Appendix B, there remain differences between these datasets. This was particularly the case in the periods impacted by the severe weather conditions - data is still being reconciled within certain Regions to enable a 'final' figure to be calculated.
5c: Network Rail Delay Minutes to TOCs	Reliability A Accuracy 1	Reliability A Accuracy 1	No Change. The impact of the ADS calculation has added greater confidence in the accuracy of these figures at the time of reporting.
5d: Network Rail Delay Minutes to FOCs per 100 train kms	Reliability A Accuracy 3	Reliability A Accuracy 3	No Change. Network Rail has developed a plan to improve accuracy of freight mileage data through use of TODS+. However at the time of this review, this plan had not been implemented and so any impact on the accuracy of this measure could be evidenced at this time.
6a/6b: Asset Management (Track / Non Track Delay Minutes)	Reliability A Accuracy 1	Reliability A Accuracy 1	No Change. This dataset is a direct derivative of Network Rail delay minutes, and so is reflective of the KPI score for 5c.

3.6 Conclusions

The reporting of the performance data across all the KPIs remains sound with the processes further improved since the previous Reporter Team Visit. However, there remains a significant reconciliation exercise on certain Routes following the severe disruption as a result of the bad weather in Periods 9 and 10.

Network Rail have made good progress on the recommendations from the Quarter 1 report, with the vast majority now in progress and so closed.

While the introduction of SRP77 does not at present enable Network Rail to move to rely wholly on PSS cancellation data for reporting, it does enable better data capture, either initially or after a reconciliation exercise with TOC data. Due to remaining differences between the datasets, PPM and CaSL reporting remains based on TOC cancellation data at present.

The introduction of ADS since Period 1 is demonstrated to be significantly improving the accuracy of delay minute reporting.

4 KPI 6(d): Asset Management (Network Capability)

4.1 Introduction

By agreement with ORR, the 2009/10 review of KPI 6(d) covered seven areas of Network Capability:

- Linespeed (C1);
- Gauge (C2);
- Route Availability (C3);
- Electrified Track Capability (C4);
- Ongoing Short-Term Network Change Proposals and Discrepancies between Actual and Published Capability Arising from the Infrastructure Capability Programme;
- Passenger and Freight Train Mileage, Gross Freight Tonne Mileage; and
- Track Mileage and Layout.

Recommendations were made in respect of all but the last of these, and the objective of the current review is to review progress with the recommendations made in 2009/10, and, in parallel with this, to review the 2009/10 Confidence Ratings given to the KPIs, and update them as necessary to reflect progress subsequently made with the recommendations.

4.2 Audit Methodology

Various meetings and telephone calls were held to review progress as follows.

Linespeed (C1) - A telephone conversation was held on 23rd February 2011 with Network Rail's acting Data Champion, to review progress with recommendation 2010.6.9, and a written update was subsequently provided. A meeting was also held at Network Rail's 40 Melton Street office on 28th February 2011 with the staff member responsible for the compilation of the data contained in the Annual Return, to review progress with recommendation 2101.6.8, in the course of which the latest version (AR-WI-024 Issue E, dated 25th February 2011) of the Work Instruction covering the Network Capability KPIs was provided.

Gauge (C2) - A meeting was held at Network Rail's 40 Melton Street office on 28th February 2011 with the staff member responsible for the compilation of the data contained in the Annual Return. A further meeting was held at Hudson House, in York, on 16th March 2011 with the Gauging Data Champion. The current process documentation was provided, and the current version of the Gauge Capability Database was demonstrated.

Route Availability (C3) - A meeting was held at Network Rail's 40 Melton Street office on 28th February 2011 with the C3 Data Champion, and with the staff member responsible for the compilation of the data contained in the Annual Return.

Electrified Track Capability (C4) - A meeting was held at Network Rail's 40 Melton Street office on 28th February with the staff member responsible for the compilation of the data contained in the Annual Return, and with the staff member with overall responsibility for the maintenance of the GEOGIS database.

Short-Term Network Change Proposals and Discrepancies - A telephone conversation was held on 26th February 2011 with the Data Champion responsible for documentation, and on 9th March 2011 with the Data Champion responsible for the presentation of the Network Change process.

Passenger and Freight Train Mileages - A meeting was held with the new Data Champion on 28th February 2011, and the latest versions of the process documentation were provided.

4.3 Audit Findings

A review of progress against the recommendations is shown below.

Table 4.1: Progress on Network Capability Recommendations

Number	Recommendation	Data Champion	Due Date	Progress
2010.6.8	Develop Work Instruction to cover data processing activities conducted at Melton Street	Mary Jordan, Tony Smith	Sept 2010	<p>Since the issue of the 2009/10 review findings and recommendations, the internal Work Instruction covering the work conducted at the Melton Street offices to compile the results for Network Capability measures C1 to C4 has been updated. It is not yet complete, as the population of the Appendices is ongoing, and the text requires occasional updating to reflect changes to inputs, processes and outputs. The updated Work Instruction nonetheless provides sufficient information to enable suitably informed and trained staff to replicate the specified process and thus to produce the required C1 outputs; the recommendation is therefore substantially complete, subject to the completion of the Appendices and any forthcoming changes to data and processes.</p> <p>Not complete, finish by September 11</p>

Number	Recommendation	Data Champion	Due Date	Progress
2010.6.9	Investigate the feasibility of, and likely timescales for, automating the linespeed updating process as much as possible.	Daniel Curry	March 2011	<p>Network Rail has investigated the potential scope for automating the linespeed updating process, and the associated timescales. It has been concluded that full automation is not possible until the existing, GEOGIS-based master asset register is replaced, since GEOGIS is a ‘legacy’ system, requiring manual updates to ensure that asset information is accurate and up-to-date. No plans are currently in place for the replacement of GEOGIS; if and when this should change then the situation should be reviewed and any opportunities for automation should be pursued.</p> <p>The scope for automating, or, at least, simplifying the process for searching through the Weekly Operating Notices (WONs) for permissible line speed changes has also been considered. It was concluded that the best approach would be for the linespeed team to be provided with filtered versions of the WONs, containing only linespeed changes. The WON supplier is currently unable to do this, because of staffing constraints, but the situation will be reviewed when these constraints have been resolved. In the meantime, it has been proposed that the WONs should be searched electronically for instances of the word ‘permissible’ to locate relevant records, and we endorse this approach as a stopgap measure, assuming the text of all such records does indeed contain the proposed search term.</p> <p>Not complete, finish by Sept 11</p>

Number	Recommendation	Data Champion	Due Date	Progress
2010.6.12	Implement aspiration to further automate the generation of Gauging Certificates and their incorporation in the Gauge Capability Database	Tim Fuller	March 2011	<p>The updated version of the Gauge Capability Database was demonstrated to the Part A Independent Reporter, including the automated generation of Gauging Certificates. The system has been developed and refined significantly since the 2009/10 review, with certificates now being incorporated automatically in the Gauge capability Database as they are produced (some scanning of signed certificates is still required, but the use of electronic signatures is being investigated as part of further refinements); some of the underlying database procedures relating to 'tight clearances' have also been refined, so that the generation of certificates can now be completed in seconds, rather than in minutes, as was previously the case. There are further, longer-term aspirations for improvements to the system, but this recommendation has now been implemented and can be considered to be complete.</p> <p>Closed</p>
2010.6.13	Formalise and document process for calculation of aggregate Route km values	Mary Jordan, Tony Smith	March 2011	<p>Although, as noted above, a Work Instruction (WI) was been developed for the preparation of network capability measures C1 to C4, the conversion of track km to Route km remains something of a 'black art', and has not yet been fully automated in the form of a single database query. However, the process employed has been partly documented in section F of the WI (this remains a work in progress), and two separate calculations are now undertaken and their results compared, providing a useful internal check, and highlighting any 'gaps' within the records for individual ELRs (Engineers' Line References).</p> <p>Not complete, finish by Sept 11</p>

Number	Recommendation	Data Champion	Due Date	Progress
2010.6.14	Develop Work Instruction to fully cover Route Availability verification and data processing activities.	Ian Bucknall, Mary Jordan, Tony Smith	Sept 2010	<p>Since the issue of the 2009/10 review findings and recommendations, the internal Work Instruction covering the work conducted at the Melton Street offices to compile the results for Network Capability measures C1 to C4 has been updated. It is not yet complete, as the population of the Appendices is ongoing, and the text requires occasional updating to reflect changes to inputs, processes and outputs. The updated Work Instruction nonetheless provides sufficient information to enable suitably informed and trained staff to replicate the specified process and thus to produce the required C3 outputs; the recommendation is therefore substantially complete, subject to the completion of the Appendices and any forthcoming changes to data and processes.</p> <p>However, the Work Instruction only covers the RA data processing activities performed by the Asset Reporting team, prior to which a significant amount of 'upstream' processing is conducted. A process review is currently underway, in the course of which the necessary accompanying documentation will be developed.</p> <p>Not complete, finish by September 2011</p>
2010.6.15	Review process and Work Instruction, and update as necessary to fully cover Electrified Track Capability data processing activities, including the updating of records in GEOGIS.	Spencer Thompson/Mart in Tiller, Mary Jordan, Tony Smith	Sept 2010	<p>As for measures C1 to C3, since the issue of the 2009/10 review findings and recommendations, the internal Work Instruction covering the work conducted at the Melton Street offices to compile the results for Network Capability measures C1 to C4 has been updated. It is not yet complete, as the population of the Appendices is ongoing, and the text requires occasional updating to reflect changes to inputs, processes and outputs. The updated Work Instruction nonetheless provides sufficient information to enable suitably informed and trained staff to replicate the specified process and thus to produce the required C4 outputs; the recommendation is therefore substantially complete, subject to the completion of the Appendices and any forthcoming changes to data and processes.</p> <p>However, the updated Work Instruction does not cover the updating of records in GEOGIS. Existing GEOGIS standards are under review, in the course of which existing user material is being updated and documentation, including Work Instructions, is being developed.</p> <p>Not complete, finish by Sept 11</p>

Number	Recommendation	Data Champion	Due Date	Progress
2010.6.16	The processes [for establishing discrepancies between actual and published capability] should be fully documented	David Rayner	Sept 2010	Documentation of the process for establishing discrepancies between actual and published capability identified by the Infrastructure Capability Programme (ICP) has been completed and provided to the Independent Reporter – this recommendation is therefore complete. Closed
2010.6.17	The feasibility of presenting a single, central view of the Network Change process and outputs should be investigated	Chris Aldridge	March 2011	We understand from Network Rail that the ‘data infrastructure’ required to deliver this recommendation will not be in place until the full implementation of Corporate Content Management System 2 (CCMS2); this is currently underway, but sufficient system stability is not anticipated until September 2011. Consideration and discussion of the presentation of a single, central view of Network Change is already underway, and some trialling is planned once CCMS2 achieves sufficient stability (probably as indicated by two Periods of successful parallel running). Assuming no unforeseen problems, implementation of the single, central view is anticipated by the end of 2011. The current Network Change system, although disaggregated and distributed around the country, appears to be working quite effectively, and there seems to be little benefit in centralising the process until CCMS2 is in place and operating in a stable manner. Not complete, finish by Dec 11
2010.6.18	The presentation on the Network Rail website of infrastructure undergoing the Network Change process should be improved, and indexed	Chris Aldridge	March 2011	The need for improved presentation of Network Change to the ‘external world’ outside Network Rail is recognised within the organisation, and work is underway to achieve this. Plans are being developed and discussed with Network Rail’s IT department; it is envisaged at this stage that an improved presentation of Network Change will be available on the Network Rail website from [awaiting confirmation from Network Rail upon return from leave of relevant staff]. Not complete, finish by TBC

Number	Recommendation	Data Champion	Due Date	Progress
2010.6.19	Develop comprehensive documentation of the Billing process, to complement and include the TABS Journey Error Corrections manual.	Paul Adkins	Sept 2010	<p>Work on the implementation of this recommendation was started early in 2010/11 by the outgoing Data Champion, who developed a 'shell' structure for the documentation, and allocated sections of the documentation to various team members for completion. Around the same time, the decision was taken to re-locate the Track Access Billing team from London to Manchester, and, during the intervening period, a project was initiated to base billing for traction electricity consumption on on-train metering, rather than on estimated power consumption. There has therefore been a considerable degree of upheaval and change during the past year, and attention has been concentrated on maintaining the continuity and integrity of the Track Access Billing process and systems. Nonetheless, the need for documentation has not been forgotten, and two options are currently under consideration: (i) continuing the in-house development process, and (ii) using skilled external resources deployed on the On-Train Metering project to develop the bulk of the documentation.</p> <p>A review of the supplied documentation shows that a great deal of the necessary documentation is already in place, including a large number of explanatory screenshots, although this will need a significant amount of collation and co-ordination, and the filling of any remaining gaps.</p> <p>Not complete, finish by Sept 2011</p>

4.4 KPI Confidence Ratings Review

The Confidence Ratings assigned to the various Network Capability KPIs in 2009/10 were reviewed in the light of progress made with the corresponding recommendations. Some of the recommended investigations and improvements have been completed, and documentation has generally been improved; however, none of the sets of recommendations for individual KPIs has yet been completed, and the confidence ratings are therefore unchanged from 2009/10. Detailed comments are provided in Table 4.2.

Once the recommendations have been completed and implemented, we expect the Confidence Ratings of all KPIs could improve to A1. The one exception is the Ongoing Short-Term Network Change Proposals and Discrepancies between Actual and Published, for which no benchmark data is available and so its accuracy cannot be measured. It will therefore likely remain at BX.

Table 4.2: Network Capability Confidence Ratings Review

KPI	Original Score	New Score	Comments
Linespeed (C1)	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. Some progress has been made with the simplification of the process for searching through the WONs, but an appropriate filtering process has not yet been put in place. It has been concluded that full automation of the updating of linespeed data is not feasible within the constraints of the existing GEOGIS system. Improvements have been made to the process documentation, but these are not yet complete. The confidence rating is therefore unchanged.
Gauge (C2)	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. The recommended updates to the Gauge Capability database have been completed satisfactorily. Documentation of the processes followed in York (Hudson House) and London (40 Melton Street) has been developed and improved, but the documentation is not yet complete. The confidence rating is therefore unchanged.
Route Availability (C3)	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. The process for converting track km to route km has not yet been fully automated or documented, and the 'upstream' data processes have not yet been documented. The confidence rating is again therefore unchanged.
Electrified Track Capability (C4)	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. The Work Instruction for KPIs C1 – C4 is almost complete, but the corresponding GEOGIS user material is subject to update and documentation is being developed. The confidence rating therefore remains unchanged.
Ongoing Short-Term Network Change Proposals and Discrepancies between Actual and Published Capability Arising from the Infrastructure Capability Programme	Reliability B Accuracy X	Reliability B Accuracy X	No Change. Process documentation has been developed, and the feasibility of presenting a single, central view of the Network Change process has been investigated; however, the implementation of this single, central view is not feasible until CCMS2 is fully implemented. The improved presentation on Network Rail's website of infrastructure undergoing the Network Change process has not yet been implemented. For these reasons, together with the fact that the accuracy of the KPI cannot be meaningfully assessed, the confidence rating is unchanged from 2009/10.

KPI	Original Score	New Score	Comments
Passenger and Freight Train Mileage, Gross Freight Tonne Mileage	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. Process documentation is under development, but is not yet complete; the confidence rating is therefore unchanged.
Track Mileage and Layout	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. No recommendations were made in respect of this recommendation, but, since it is determined on the basis of values produced for capabilities C1, C3 and C4, its rating also remains unchanged, at B2.

4.5 General Observations

Some of the findings – for example relating to Linespeed and Electrified Track Capability - illustrate the potential difficulties to be faced in dealing with and updating legacy data systems, as well as the advantages of migration to newer, more efficient centralised systems.

4.6 Conclusions

Progress has been made on all recommendations but in some cases this has been slower than envisaged. This is partly because of the difficulties associated with the reliance upon legacy IT systems and the challenges associated with updating them. As and when these systems are replaced, any opportunities for further process automation should be pursued.

In the meantime, outstanding process documentation should be completed. In the case of Passenger and Freight Train Mileage and Gross Freight Tonne Mileage, a great deal of user and process documentation already exists and the following suggestions are made.

- The documentation should perhaps be completed and combined at two complementary levels, to provide (i) a comprehensive document providing all the details of the data and processes involved, and (ii) a much shorter, simpler user guide, providing details of day-to-day processes, and thus providing a 'Help' function for users.
- The two sets of documentation should ideally be structured similarly in terms of chapters and sub-sections, so that users can refer quickly from one to the other. One option would be to provide most of the documentation 'online', either via the Network Rail intranet or files installed directly on individual PCs, with hyperlinks being provided between corresponding sections of the documentation, and using the F1 key or similar to provide context-sensitive help.
- A very simplified set of 'cue cards' could also be provided to users in hard copy format for quick reference.

5 KPI 9: Environmental Initiatives

5.1 Introduction

A full review of Network Rail's Environmental Performance Indicators was conducted in April 2010. The reliability and accuracy of data associated with each KPI was scored and a number of recommendations were documented. The purpose of this review is to assess progress made with each of the recommendations documented in 2010 and to update the KPI scoring if required.

5.2 Audit Methodology

In order to review progress, a meeting was held with Network Rail's Head of Environmental Policy, on Thursday 17th March 2011. Relevant level 1 and 2 procedures and KPI maps were reviewed and appropriate data were sampled. A follow up conversation was then held to review any changes to the associated KPI scoring.

5.3 Audit Findings

The review findings are summarised in the table overleaf.

Table 5.1: Progress on Environmental Initiatives Recommendations

Number	Recommendation	Data Champion	Due Date	Progress
Ref code 45: Environment recommendati on 1	It would be beneficial to carry out a briefing of the Level 2 Standard and KPIs to the responsible parties at all levels within Network Rail and the wider industry, and in the latter case most especially with the contractors and other stakeholders with a direct interest in the measures. This will help ensure understanding of the company's measured environmental deliverables.	Diane Booth, Kent Farrell	Jul-10	<p>Dianne Booth has drafted an executive paper to explain the changes being implemented in relation to Environmental Sustainability Index (ESI) from July 2010. The main change is to reduce the number of Performance Indicators (PIs) being reported on from 9 down to 6 to ensure that data reported is correctly aligned to targets. This paper has been communicated with the executive, consultation with data suppliers has been undertaken and they have agreed to trial this reporting system. Training is also planned for the PI owners to trial the new reporting system.</p> <p>Briefings have been conducted, however the Level 2 Standard 'Standard for Environmental Performance Indicators' has yet to be updated to reflect the new ESI process therefore this action is considered not complete. Progress with training will be followed up next time.</p> <p>Not complete, finish by Sept 11.</p>
2010.9.1	The possibility of developing one master environmental KPI spreadsheet, allowing population and manipulation by both third parties and Network Rail, is currently being investigated. Formulas should be included on spreadsheets where possible, to avoid manual input. This will minimise the risk of error when transposing data between sources. Progress will be reviewed during the next Data Assurance cycle.	Diane Booth	Mar-11	<p>A new master KPI monitoring spreadsheet has been developed to reflect the changes described above. Formulas are embedded in the spreadsheet and results reported automatically. Information is entered directly by the PI owners. The next stage will be for information to be entered into the corporate KPI system. Training sessions are planned to provide training to each of the PI owners and trial the new system.</p> <p>A master environmental KPI spreadsheet has been developed, therefore the action is considered complete. Progress with training will be reviewed at the next audit.</p> <p>Closed</p>

Number	Recommendation	Data Champion	Due Date	Progress
2010.9.2	KPI maps are currently being reviewed and documented for each KPI. As part of the review, job titles should be added to the KPI maps in addition to individual roles, thus reducing the maintenance requirements of the document. In addition, consistent descriptions should be provided of business areas for waste on the KPI map – it currently does not detail Operations and Customer Services, Commercial Property, or Infrastructure Maintenance. Again, progress will be reviewed during the next Data Assurance cycle.	Diane Booth	Sep-10	KPI maps have been completed. NR decided it is important to keep individual names on these lower level pieces of documentation to enforce ownership. Job titles are used in level 1 and level 2 documentation. Descriptions covering the scope of each KPI and the business areas are provided within the Standard for Environmental Performance Indicators. These are accessible through NR's connect intranet site and were reviewed during the review. KPI maps have been updated therefore this action is considered complete. Closed.
2010.9.3	Progress with the Utilities Team 3-year plan for improving the 'water used' monitoring process is under review. Again, progress will be reviewed during the next Data Assurance cycle.	Diane Booth	Sep-10	There is limited progress with this action - water consumption data is reliant on suppliers and continues to be estimated. NR is focussing instead on identifying where water is being used and the types of water that are being used. NR is investigating if it is possible to balance what water they think they are using with the water they are able to recover. This has involved looking at areas where NR may be able to expand water recovered from tunnels. As water data is still unreliable this action is not considered closed. Not complete, finish by March 2012.

Number	Recommendation	Data Champion	Due Date	Progress
2010.9.4	Key targets and data required from contractors by Network Rail should be formally written into appropriate contracts, when up for renewal. For example where NR requires contractors to conduct waste duty of care audits and confirm results back to NR; where NR require ISO 14001 certification for principal contractors.	Diane Booth	As contracts are renewed	Key targets and data required from contractors by NR is being included in contracts as they are reviewed. It was evident during the review that waste management contracts had been reviewed to include data reporting and environmental target requirements. Bonus payments are made if targets are achieved, penalties applied if targets are not achieved. NR also plans to complete a verification audit to ensure the data being reported by the Waste Contractor is accurate. As key targets and data are being incorporated into contracts as they are renewed this action is considered complete. Progress with other contracts and the outcome of the waste verification audit will be reviewed next time. Closed.
2010.9.5	Reporting should be extended to include all waste streams generated, including reused, recovered and recycled waste.	Diane Booth	Mar-11	Waste reporting does include reused, recovered and recycled waste where relevant and this action is considered complete. Closed.
2010.9.6	Definitions should be provided of: <ul style="list-style-type: none"> • Recycled Materials • Recovered • Reused 	Diane Booth	Sep-10	Definitions for recycled materials, recovered and reused waste are provided in the Standard for Environmental Performance Indicators and this action is considered complete. Closed.
2010.9.7	Source details should be provided of assumed densities for estimated waste collection vessels.	Diane Booth	Sep-10	Assumed densities for estimated waste collection vessels are provided by waste contractors. The accuracy of these will be reviewed during the verification audit NR plan to perform on waste contractors mentioned above. Source data has been provided and this action is considered complete. Closed.

Number	Recommendation	Data Champion	Due Date	Progress
2010.9.8	A procedure should be developed, in a flow chart format, to benefit users in completing the correct documentation in the event of an environmental incident.	Diane Booth	Sep-10	<p>There is an H&S Incident and Investigation procedure which contained outdated information on the environmental incident process. This has since been removed and a new environmental incident procedure is currently being drafted, this has yet to be implemented. Progress with implementing this procedure will be reviewed next time. A KPI map (flow diagram) has yet to be documented and it is recommended that this also be completed. As the Environmental Incident procedure has yet to be finalised and formally issued this action is not considered closed.</p> <p>Not complete, finish by Sept 2011.</p>
2010.9.9	The clarity of KPI 137: Land Management should be improved to indicate that it only covers England and not Scotland and Wales.	Diane Booth	Sep-10	<p>The corporate report does clarify that the Land Management KPI only covered England. The intention is to include information on Scotland and Wales when the required information is available from the local authorities in these countries. Information from Scotland has since been provided and included in the KPI data. The intention is to include information for Wales when it becomes available therefore NR decided that it was not appropriate to modify the procedure. When data appears in the corporate report it is clear which country it applies to, therefore this action is considered closed.</p> <p>Closed.</p>
2010.9.10	Clarify how incidents of graffiti and fly-tipping reported by members of staff are managed.	Customer Services Manager	Sep-10	<p>Incidents of graffiti are not considered to be environmental issues, they are social crimes, however ORR had requested for them to be included in this review.</p> <p>Incidents of graffiti are reported by staff to the central control log in the same way other incidents are reported. These are then progressed as a maintenance request for corrective action. Information collected is managed by the Customer Services Manager and reported as part of the Lineside Visual Environment KPI with the measurement unit of '% of service requests closed within 20 days'.</p> <p>ORR should clarify if incidents of graffiti should be included in the ESI or not therefore this action is not considered closed.</p> <p>Not complete, finish by Sept 2011.</p>

Number	Recommendation	Data Champion	Due Date	Progress
2010.9.11	<p>Graffiti and fly-tipping come under the Lineside Visual Environment KPI. This KPI also covers:</p> <ul style="list-style-type: none"> • Vegetation (includes general vegetation, trees, vegetation clearance, giant hogweed, Japanese knotweed, ragwort) • Site clearance • Fencing and boundary walls • Bridge appearance. <p>Confirm if the bullets above should also be covered by this review process.</p>	Customer Services Manager	Sep-10	<p>As above - this is an issue for ORR to consider and confirm if they are to be included within the ESI or not.</p> <p>ORR should clarify if vegetation; site clearance; fencing and boundary walls and bridge appearance should be included in the ESI or not, therefore this action is not considered closed.</p> <p>Not complete, finish by Sept 2011.</p>
2010.9.12	<p>It was highlighted in the review that there are additional KPIs and environmental information reported within the Corporate Responsibility Report that did not form part of this review. NR took an action to confirm how best to raise the profile of this work with ORR.</p>	Diane Booth, Angelique Tjen	Sep-10	<p>This additional information referenced included office CO2; Biodiversity Action Plans etc. This is not reported under the ESI as there are no specific targets associated with the data. However all the data is verified and available on the NR website should ORR wish to review it, therefore this action is considered closed.</p> <p>Closed.</p>

5.4 Updated KPI Scoring

The scoring of KPIs completed in 2010 has been reviewed with input from Diane Booth from Network Rail and there is considered to be no change at this stage. However it is recognised that there is likely to be more movement with the scores in the coming year as changes being implemented as a result of the recommendations and Network Rail's improved verification of data supplied by third parties takes effect. More detailed comments are provided in the table overleaf.

In addition, NR is in the process of streamlining KPIs to only report on those that have targets associated with them. The KPIs that do not have targets, hence are not true performance measures, will be removed from the overall ESI, these are blocked out in grey within the table. Data will be captured separately to enable their inclusion in Corporate Responsibility and/or Annual Return reporting processes.

Table 5.2: Environmental Initiatives Confidence Ratings Review

KPI	Original Score	New Score	Comments
126: Environmental Sustainability Index	Reliability B Accuracy 3	Reliability B Accuracy 3	No Change. As the Environmental Sustainability Index is calculated from each of individual PI, it is reliant on the data and processes used to make up these component parts being both reliable and accurate.
129: Operational Waste Management	Reliability B Accuracy 3	Reliability B Accuracy 3	No Change. An established process is in place for monitoring and reporting operational waste data but there continues to be an inevitable reliance on third party data. It is anticipated this will change as the new master KPI spreadsheet is implemented and will reduce the level of manual manipulation of data and contracts are being developed that will mean waste suppliers will be paid on the basis of reported performance.
134: Infrastructure Waste Management	Reliability B Accuracy 3	Reliability B Accuracy 3	No Change. An established process is in place for monitoring and reporting infrastructure waste data but there continues to be an inevitable reliance on third party data. It is anticipated this will change as the new master KPI spreadsheet is implemented and will reduce the level of manual manipulation of data, and contracts are being developed that will mean waste suppliers will be paid on the basis of reported performance.
KPI 130: Water Used	Reliability B Accuracy 4	Reliability B Accuracy 4	No Change. There is a process in place to monitor and report water used, however it continues to be based on estimated readings as water is not metered at present. It is anticipated this process will improve as a review of water use is conducted as the sub-metering programme is rolled out.
KPI 146: Water Recovered	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. There is an established process in place for monitoring and reporting water recovered, which is metered consistently month by month. However there continues to be reliance on third party data.

KPI	Original Score	New Score	Comments
KPI 128: Sustainable Materials	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. An established process is in place for monitoring and reporting sustainable materials, with the data feed coming directly from the NR procurement system. In addition, Network Rail has performed internal assurance audits to verify the reliability of sustainable timber data.
KPI 132: Network Rail CO2 (e) Emissions	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. An established process continues to be in place for monitoring and reporting NR CO2 emissions. It is anticipated this process will improve as the planned sub-metering programme is rolled out.
KPI 127: Contractor CO2 (e) Emissions	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. This KPI does not have a target associated with it; hence they are not true performance measures. NR intend to remove it from the overall ESI, but data will be captured separately to enable their inclusion in Corporate Responsibility and/or Annual Return reporting.
KPI 133: TOC CO2 (e) Emissions	Reliability X Accuracy X	Reliability X Accuracy X	No Change. A process has been established for monitoring and reporting TOC CO2; however, data was not available for review at the time of the audit. In addition, the reliability of the external data provided by ATOC cannot be evaluated therefore a score of 'X' has been attributed for both scores. This KPI does not have a target associated with it; hence they are not true performance measures. NR intend to remove it from the overall ESI, but data will be captured separately to enable their inclusion in Corporate Responsibility and/or Annual Return reporting.

KPI	Original Score	New Score	Comments
KPI 133: FOC C02 (e) Emissions	Reliability X Accuracy X	Reliability X Accuracy X	No Change. A process has been established for monitoring and reporting TOC CO2; however, data was not available for review at the time of the audit. In addition, the reliability of the external data provided by ATOC cannot be evaluated therefore a score of 'X' has been attributed for both scores. This KPI does not have a target associated with it; hence they are not true performance measures. NR intend to remove it from the overall ESI, but data will be captured separately to enable their inclusion in Corporate Responsibility and/or Annual Return reporting.
KPI 147: Environmental Incidents	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. A robust process continues to be in place for monitoring and reporting incidents. It is anticipated that the inclusion of more classifications of incidents to enable better trend analysis will improve this.
37: Land Management	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. An established process is in place for monitoring and reporting on land management, which continues to be reliant on third party data.
211: Graffiti and fly-tipping	Reliability B Accuracy 2	Reliability B Accuracy 2	No Change. A robust process continues to be in place for monitoring and reporting graffiti and fly-tipping incidents. However, it is not possible to determine the level of accuracy of information provided by members of the public.

5.5 General Observations

Changes made to streamline the number of Key Performance Indicators reported under the Environmental Sustainability Index, in line with targets, will simplify and improve the accuracy of the environmental performance measurement. Improvements made to the master environmental KPI monitoring spreadsheet and enforcing ownership will reduce the potential for human error by minimising the double handling of data. These changes have yet to be reflected in the Standard for Environmental Performance Indicators.

Further work is required to improve the reliability of water data and to complete and implement the environmental incident procedure. In addition, ORR should confirm if they require the Graffiti and Fly-Tipping KPI to be incorporated within the Environmental ESI.

5.6 Conclusions

In conclusion, the majority of recommendations made have been implemented. Systems and processes continue to be in place to ensure the reliable collection of accurate environmental data, which are well documented and understood. However, changes made to the ESI have yet to be updated in the appropriate procedures.

The heavy reliance on manual input and manipulation of data has been reduced by the development of a master KPI monitoring spreadsheet to be completed by data owners. Training and implementation of this new reporting process has yet to be fully implemented and will be followed during the next review.

Appendix A

Glossary

Glossary of Terms and Abbreviations used in the Report

ADS	Adjusted Data Series
ATOC	Association of Train Operating Companies
CaSL	Cancellations and Significant Lateness
CCMS2	Corporate Content Management System 2
DAG	Delay Attribution Guide
ELR	Engineers' Line Reference
ESI	Environment Sustainability Index
FCC	First Capital Connect (TOC)
FTS	Fail To Stop - trains which fail to stop at all planned calling locations; recorded as a cancellation under PPM definition
Gauge	Maximum vehicle cross-sectional size that a route can accommodate
GEOGIS	Database containing Network Rail infrastructure characteristics
ICP	Infrastructure Capability Programme
IDA	Internal Delay Attribution Guidance Notices
IPPR	Industry Period Performance Report
ITPS	Integrated Train Planning System
KPI	Key Performance Indicator
NDQR	National Data Quality Report
NTF-OG	National Task Force – Operator's Group
NR	Network Rail
NXEA	National Express East Anglia (TOC)
PI	Performance Indicator
PPM	Public Performance Measure
PSS	Performance Systems Strategy - Network Rail database used to store TRUST data
RA	Route Availability - maximum axle load that a route can accommodate

Sector	The HLOS summarises train services into 4 Sectors for performance reporting; Long Distance, London & South East, Regional, Scotland
SRP77	Program reference code for recent upgrade of TRUST
SRT	Section Running Time
TABS	Track Access Billing System
TRUST	Network Rail train running monitoring system
TDA	TRUST Delay Attribution
TODS+	Train Operator Data System
VSTP	Very Short Term Plan trains
WON	Weekly Operating Notice

Appendix B

Cancellations Data

Cancellations Data

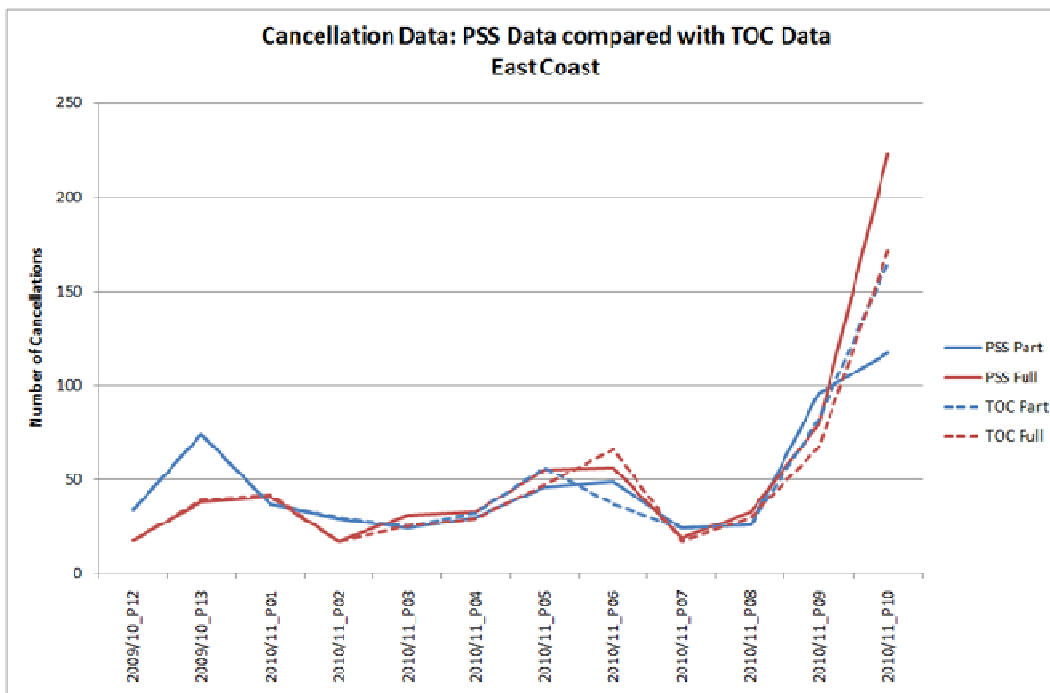
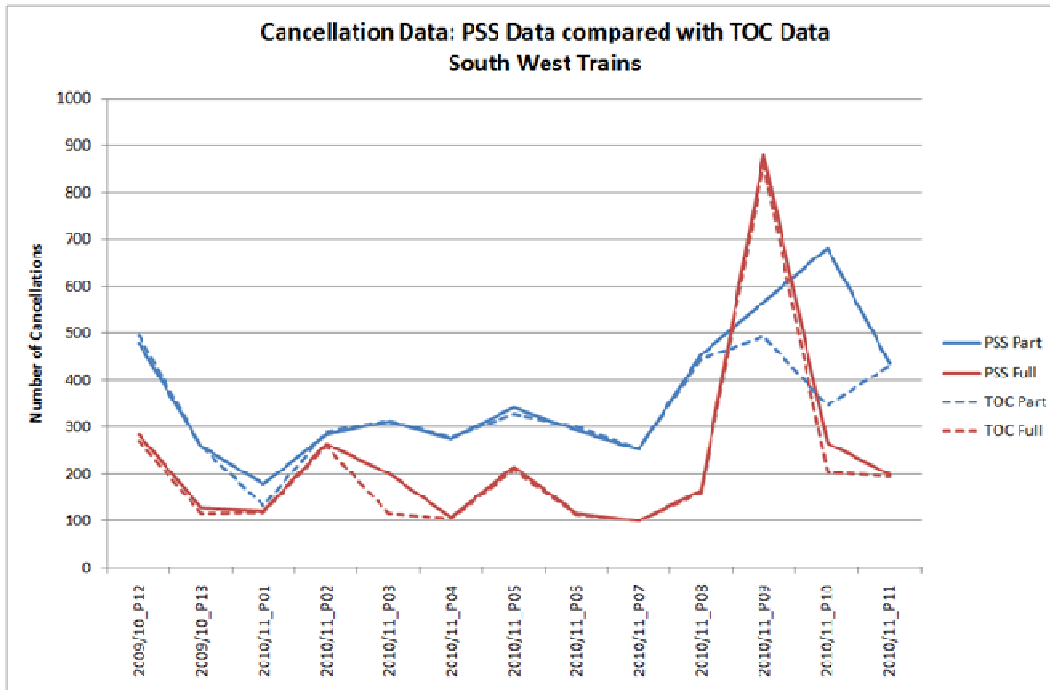
Sector Level

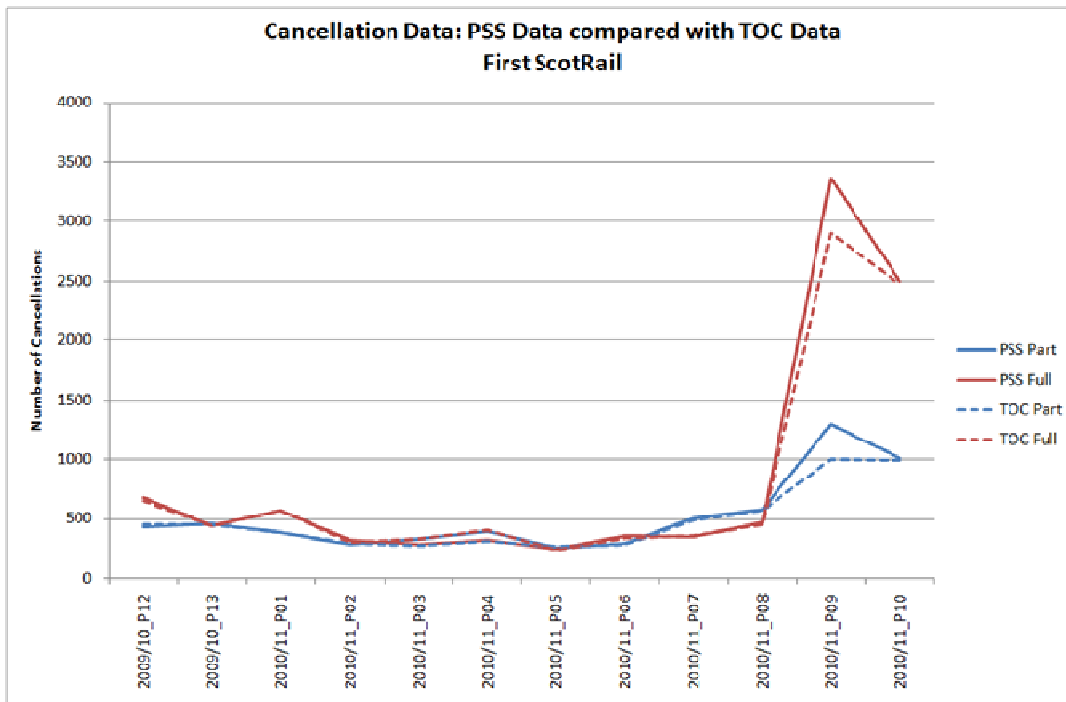
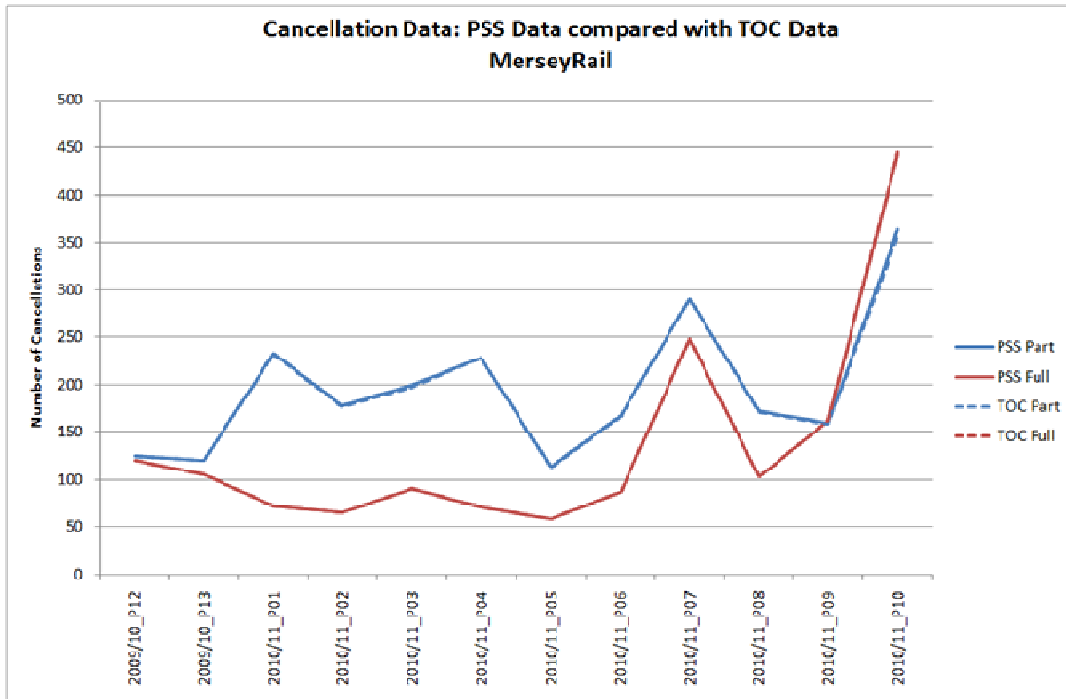
The table below shows the percentage of trains cancelled as calculated via (post reconciliation) PSS data, and via TOC data for each Sector.

Period	Difference in % Trains Cancelled (PSS vs TOC)				
	Long Distance	London & SE	Regional	England & Wales Total	Scotland
2010/11 P01	0.0%	0.0%	0.0%	0.0%	0.0%
2010/11 P02	0.0%	0.0%	0.0%	0.0%	0.0%
2010/11 P03	0.0%	0.0%	0.0%	0.0%	0.0%
2010/11 P04	0.1%	0.1%	0.0%	0.0%	0.0%
2010/11 P05	0.0%	0.0%	0.0%	0.0%	0.0%
2010/11 P06	0.1%	0.0%	0.0%	0.0%	0.0%
2010/11 P07	0.0%	0.0%	0.0%	0.0%	0.0%
2010/11 P08	0.1%	0.0%	0.0%	0.0%	0.0%
2010/11 P09	0.3%	0.4%	0.1%	0.3%	1.4%
2010/11 P10	0.1%	0.5%	0.1%	0.4%	0.1%

TOC Level

The charts below show the number of cancellations for a sample of 4 TOCs as reported in PSS, and as provided by the TOC. Note, these figures are post-reconciliation. There remain a number of issues in Period 9 and 10 with reconciliation at Route level still occurring after the effects of the severe disruption due to bad weather.





Appendix C

Quarter 4 2010/2011 Remit

The following is the text from an e-mail received by the Reporter team on 31 January from the ORR.

As discussed, we have consulted with NR and agreed the scope for the 2010-2011 Q4 review (below).

We very much anticipate the Q4 review to be shorter in length and depth than normal. We do not anticipate any more than a few days work assessing progress against recommendations, together with around 8 days work on the additional work previously proposed on performance measures (5a-d).

The remit for the Q4 review is:

- 2a and 2b (customer satisfaction) - only to review progress against the recommendations made in the 2009-2010 Q4 review
- 6d (asset management: network capability) - only to review progress against the recommendations made in the 2009-2010 Q4 review
- 9 (environmental initiatives) - only to review progress against the recommendations made in the 2009-2010 Q4 review
- 5a-d (PPM, CaSL, TOC / FOC Delays) - review of progress against the recommendations made in the 2010-2011 Q1 review, along with the additional areas for review agreed in section 5.8 (see below) of the published report

Section 5.8 of the 2010-2011 Q1 report:

1. Check that the new PPM/CaSL data flow process is fully embedded, documented and operating correctly. This will specifically check that the errors noted in the PPM and CaSL spreadsheet have been removed.
2. Review the data extraction process from PSS.
3. Review the impact of the revised SRP77 procedures on cancellation data and any process changes Network Rail have introduced in the interim period.
4. Review the impact of the new Adjusted Data Series (ADS) process based on a full year of data.
5. Review the suitability of the current ratings system for the assessment of the Performance KPIs, for which a greater accuracy level than $\pm 1\%$ (historically equivalent to a rating of 1) is required to merit the highest accuracy rating.

Please provide a fully costed proposal for the above work by close of business Monday 7 February. The Q4 draft report should be complete by 31/03/11, and the final report delivered by 28/04/11.

We will provide separate remits (and expect separate reports) for the review of the 2011 Annual Return and 2010-2011 financial efficiency measures.

Appendix D

PPM and CasL Spot Checks

D1 Introduction

This Appendix provides examples of the checks of data flow carried out by the Reporter Team on Network Rail's performance data for calculating PPM and CaSL. These checks are based on 2010/11 Period 11, and are broad repeats of prior checks of the process.

D2 Flow of Data from ‘PSS Data Export Spreadsheet’ to ‘TOC Reconciliation Spreadsheet’

The Network Rail spreadsheet ‘PPM & CaSL (1) TOC-PSS.xls’ contains separate worksheets for individual TOCs. The PSS cancellations data and the number of trains run are linked by formulae from the PSS export to this reconciliation spreadsheet. Checks carried out have shown that the formulae are accurately set up, as shown in the table below.

TOC	PSS Export			PPM & CaSL (1) TOC-PSS.xls			Difference	Comment
	Total Cancellation	Part Cancellation	Trains Run	Total Cancellation	Part Cancellation	Trains Run		
London Midland (LSE)	66	68	7,296	66	68	7,296	0	OK
London Midland (Regional)	183	522	25,309	183	522	25,309	0	OK
First Transpennine Express	33	121	7,713	33	121	7,713	0	OK
Southern	497	739	58,713	497	739	58,713	0	OK

Source: ‘PPM & CaSL (0) All Day P1111 20110218.xls’, ‘PPM & CaSL (1) TOC-PSS.xls’

D3 TOCs' Cancellation Data

Spot checks on the data supplied by TOCs and that which has been reported by Network Rail were carried out for the TOCs shown in the table below. The data supplied for this review covered 2011/P11. The spot checks carried out, as listed below, indicate the TOC cancellation data has been accurately inputted into the spreadsheet.

TOC	TOC Provided		Network Rail Reported		Difference	Comment	Data Source
	Total Cancellation	Part Cancellation	Total Cancellation	Part Cancellation			
London Midland (LSE)	66	74	66	74	0	OK	NWR_Cancellation_RPT_For_Period.xls
London Midland (Regional)	181	525	181	525	0	OK	
First Transpennine Express	33	120	33	120	0	OK	EA DfT Period Cancellations (Act and MAA).xls
Southern	468	723	468	723	0	OK	Southern Tc&c1111.xls

Source: 'PPM & CaSL (1) TOC-PSS.xls', TOC data as indicated above

D4 Calculation of PPM and CaSL

Values from the PSS Data Export spreadsheet are also linked by formulae to the calculation spreadsheet (PPM & CaSL (2)). The values in the table below have been checked to ensure accuracy and have been found to be robust. Checks have also been carried out to confirm the TOC cancellation data has been correctly linked to this spreadsheet from the 'PPM & CaSL (1)' spreadsheet, and found to be consistent (although details not shown in this table).

Train Numbers	PSS Export				PPM & CaSL Calculation				Difference			
	('PPM & CaSL (0) All Day P1111 20110218.xls')				('PPM & CaSL (2) Consolidation.xls')							
	London Midland (LSE)	London Midland (Rgnl)	First TPE	Southern	London Midland (LSE)	London Midland (Rgnl)	First TPE	Southern	London Midland (LSE)	London Midland (Rgnl)	First TPE	Southern
PPM Passes	6,640	23,087	7,380	53,908	6,640	23,087	7,380	53,908	0	0	0	0
Within 15	7,175	25,053	7,541	58,192	7,175	25,053	7,541	58,192	0	0	0	0
15-20 Late	53	135	79	239	53	135	79	239	0	0	0	0
20-30 Late	35	86	60	212	35	86	60	212	0	0	0	0
30-61 Late	32	33	28	70	32	33	28	70	0	0	0	0
61-120 Late	1	2	5	0	1	2	5	0	0	0	0	0

Source: 'PPM & CaSL (0) All Day P1111 20110218.xls', 'PPM & CaSL (2) Consolidation.xls'

D5 Calculation of Sector Level PPM/CaSL

The calculation spreadsheet is set up with a 'Lookup' worksheet which contains a list of all TOCs and the relevant Sector they operate within (and for those TOCs which operate in more than one sector, these are explicitly separated, e.g. London Midland LSE and London Midland Regional).

These values are then transposed onto a worksheet called 'Template'. The TOC values for each of the measures, as summarised in each of the individual measures calculation sheets (e.g. "Within 5"), are then multiplied with the values on the 'Template' sheet to obtain the aggregated sector values. The calculation also includes input from the sheet called 'Timelines' which takes into account the validity of franchise dates.

Auditing of the process of amalgamating TOC figures to produce sector results focussed on two sample measures, 'within 5' and 'total Cancellations'.

The values from individual TOC sheets were checked to ensure they had accurately been fed through to the 'individual measures' worksheets. These checks are summarised in the table below for the same four sample TOCs, which showed no concerns.

TOC	From Individual TOC Worksheet		To Measures Worksheet		Difference	Comment
	Total Cancellation	Within 5	Total Cancellation	Within 5		
London Midland (LSE)	66	6,640	66	6,640	0	OK
London Midland (Regional)	181	23,087	181	23,087	0	OK
First Transpennine Express	33	6,883	33	6,883	0	OK
Southern	468	53,908	468	53,908	0	OK

Source: 'PPM & CaSL (2) Consolidation.xls'

These figures are then fed into the Sector level figures as reported by Network Rail.

Appendix E

Definition of Confidence Ratings

The following tables define the confidence ratings used to assess the KPIs in this report.

Reliability Band	Description
A	Sound textual records, procedures, investigations or analysis properly documented and recognised as the best method of assessment. Appropriate levels of internal verification and adequate numbers of fully trained individuals
B	As A, but with minor shortcomings. Examples include old assessment, some missing documentation, insufficient internal verification, undocumented reliance on third-party data.
C	Some significant shortcomings in the process which need urgent attention.
D	Major shortcomings in all aspects of KPI: process unfit for purpose

Accuracy Band	Description
1	Calculation processes automated (to a degree commensurate with dataset size); calculations verified to be accurate and based on 100% sample of data; external data sources fully verified. KPIs expected to be accurate to within $\pm 1\%$
2	KPIs expected to be accurate to within $\pm 5\%$
3	Shortfalls against several attributes: e.g. significant manual input to calculations or incomplete data verification or less than 100% sampling used. KPIs expected to be accurate to within $\pm 10\%$
4	KPIs expected to be accurate to within $\pm 25\%$
5	Calculation processes largely manual with significant errors; data inconsistently reported and unverified; KPI based on small data sample or cursory inspections and verbal reports. KPIs unlikely to be accurate to less than $\pm 25\%$
X	KPI is calculated on a very small sample of data, or accuracy cannot be assessed for some other reason (to be qualified in text of report)