SCOTTISH EXECUTIVE

Public report on the third year of the trunk road operating companies 2003/2004

September 2004

Performance Audit Group

Halcrow in association with PricewaterhouseCoopers and Scott Wilson

Figure 1 *The trunk road network in Scotland - 2003/04*

Foreword

The Scottish trunk road and motorway network accounts for 7% of the total length of public roads in the country. It carries over 33% of the total traffic volume including 60% of the heavy goods vehicle mileage and over 30% of light goods vehicle mileage.

The network covers the country from Scrabster in the north to Stranraer in the south and from Fraserburgh in the east to Uig on the Isle of Skye in the west. The busiest part of the network, the M8 in Glasgow, has traffic flows of up to 160,000 vehicles per day. The network is an important national asset and, complementing other modes of travel such as rail, ferries and aviation, provides a vital element of the transport infrastructure, supporting economic and social development. The trunk road and motorway network is shown in **figure 1**.

3,124 km of the network are managed and maintained for the Scottish Executive by operating companies under term contracts and 91 km are managed and maintained by a concession company under the terms of the M6 DBFO project. These are the subject of this report. In addition, but outwith the coverage of this report, is the M77 DBFO project, which is currently under construction. The total network is valued at £10billion.

The recent Scottish Executive white paper, "Scotland's transport future", published on 16 June 2004, dealt with all modes of transport in the country and set out policy for their development and investment. The paper reaffirmed the Scottish Executive's commitment to *"manage and maintain the network in the most efficient and effective manner possible, investing money now to avoid storing up problems for the future*". This commitment carries forward the principles set out in the earlier "Competing for Better Roads" (1996) and "The Road Ahead" (2001) policies under which management and maintenance of Scotland's trunk roads and motorways were procured on the basis of competitively tendered contracts.

The current contracts were let by the Scottish Executive in February 2001. These appointed Operating Companies to manage and maintain four specific geographical areas for a period of five years, with the option of extending to seven years. The Operating Companies report directly to the Scottish Executive's Trunk Roads – Network Management Division. The arrangements are outlined in **figure 2.**

The Performance Audit Group is appointed by the Scottish Executive and audits, inspects and monitors the financial, technical and performance aspects of the Operating Companies. The Group also verifies the accuracy of payment requests from Operating Companies and carries out inter-Unit comparisons and value for money investigations.

Following concern about the competition for letting of the contracts in 2001, the Auditor General was asked by the Minister for Transport to examine the Scottish Executive's procurement processes. His report, published in November 2001, dealt with whether the resulting contracts were capable of securing their objectives and delivering value for money. He concluded that, *"it would be appropriate for the Department to report publicly on performance progress under the new contracts after the first year of operations."* Subsequently, the Scottish Executive instructed the Performance Audit Group to prepare the report on an annual basis. Reports were published and circulated widely in September of 2002 and 2003.

This report covers the third year of operations –1 April 2003 to 31 March 2004 – and has been prepared from the Performance Audit Group's observations on the operation of the contracts and performance of the Operating Companies during this period.

Figure 2 *Principles of the Operating Company arrangements*

Glossary of Main Terms

Who is involved in maintaining our trunk roads?

The Department

The Scottish Executive Enterprise, Transport and Lifelong Learning Department, and its components including the Transport Group, the Trunk Roads-Network Management and Design and Construction Divisions.

What are the Department's responsibilities?

The Department is responsible to the Scottish Ministers for the management and maintenance of the trunk road network. It employs the Operating Companies to carry out maintenance work ordered by the Department and employs works contractors. It also employs the Performance Audit Group.

Operating Company (OC)

The company responsible for the management and maintenance of the trunk road network in each Unit, working under a contract to the Scottish Executive. These companies, called OCs, are:

- BEAR Scotland Ltd for the North East and North West (NE and NW).
- Amey Highways Ltd for the South East and South West (SE and SW).

What is an OC?

The OC oversees, co-ordinates and undertakes all cyclic, routine, winter and emergency maintenance. In addition, it undertakes discrete structural pavement maintenance, bridge strengthening and maintenance, structures inspection, road safety and minor improvement schemes, road marking, traffic sign and safety fence repairs, where schemes are valued at less than £150,000. The OC is required to work to quality management systems consented to by the Department.

What else does the OC do?

The OC also oversees and co-ordinates maintenance works carried out by contractors on discrete contracts valued at more than £150,000 and works by utility companies (statutory undertakers). The OC undertakes day-to-day management of the Unit; provides professional and design services; carries out surveys, inspections and supervision; manages its allocated budget and reports to the Department.

Performance Audit Group (PAG)

Halcrow, working in association with PricewaterhouseCoopers and Scott Wilson, was re-appointed by the Department as PAG for a second seven year term from December 2002. Scott Wilson's role in PAG is primarily for the monitoring of the M6 DBFO project. Further sub-consultants with a minor input include: TRL, Gillespies, Tony Ham Insurance Brokers and the University of Dundee.

What is the role of PAG?

PAG audits, inspects and monitors the financial, technical and performance aspects of the OCs to a plan agreed with the Department. PAG also checks payment requests from the OCs and carries out inter-Unit comparisons and value for money investigations at the request of the Department.

PAG acts as the 'Scottish Ministers' Agent' (SMA) for the M6 DBFO project for which Autolink is the concession company. Another DBFO project for M77 Malletsheugh to Fenwick has been awarded by the Department. This is currently under construction and is outwith the remit of PAG.

General terms

Category 1 Defects

A term described in the contract for serious road defects that should be repaired within specified timescales. Prompt repair of these defects improves the safety of road users.

Contract Control and Management System (CCMS)

A system of computer-based financial management and project control specified in the contract and operated by the OC. The system gives the Department and PAG access to real-time information remotely from their respective offices.

Default Notice

A procedure under the contracts where the Department can issue a notice when an OC commits a default. This is part of the performance management procedures and may lead to omitting amounts from payment.

Key Performance Indicators (KPIs)

The contract specifies a list of indicators to be provided by the OCs to give information on performance and allow inter-Unit comparison. These indicators do not set contractual obligations on OC performance.

Network

The system of motorways and trunk roads in Scotland. The network is 3,124 km long and varies from urban motorways to rural single carriageways. In addition, 91 km of motorway is covered by the A74 (M) [M6 DBFO] project. Another 20 km for the M77 DBFO project is currently under construction and outwith the scope of this report.

Notification of Emerging Issue (NEI)

A process for flagging up potential occurrences of non-compliance of the OCs' contracts. The aim of the process is early intervention to prevent issues escalating to default notices.

Quality Management System (QMS)

Quality management is a fundamental requirement under the TRA contracts and the QMS required by the contracts is specified in more detail than under previous arrangements. All of the activities by the OCs under the contract are covered by their QMS.

Routine Maintenance Management System (RMMS)

A specified computer-based system, operated by the OC, designed to record and report on details of the network, inspections carried out and routine maintenance activities. It also links to the CCMS, providing access for the Department and PAG.

Sector Scheme

Sector Scheme certification is given to suppliers and installers of materials by UKAS accredited certification bodies. This certifies that the holder operates a QMS complying with BS EN ISO 9001:2000 and the Sector Scheme document.

SERIS

The Scottish Executive's Road Information System. This system contains data on the physical characteristics and condition of the road network.

The Road Ahead (TRA)

A consultation paper on the review of the management and maintenance arrangements on Scotland's trunk roads published by The Scottish Office in April 1999. This consultation led directly to the current second generation of contracts, with four OCs, which commenced on 1 April 2001. These contracts are due to run until March 2006 and can be extended until March 2008, if required by the Department.

Trunk Road

The main strategic routes, including motorways, that are the responsibility of the Department. Most other roads are classified as 'local roads' and are the responsibility of the relevant local authority.

Unit

The network is divided into four separate geographic Units for maintenance and management purposes. These are designated: North East (NE), North West (NW), South East (SE) and South West (SW).

Financial terms

Budget

The amount of money allocated by the Department for management and maintenance activities to be carried out during a financial year.

Financial Year

The period between 1 April 2003 and 31 March 2004.

Operations

Work carried out by the Operating Companies.

Orders

The instructions issued from time to time by the Department to the OCs. These specify operations (not works contracts) to be undertaken under the contract by the OCs. Payments to OCs should not be made unless a corresponding order has been issued.

Price Fluctuation Factor

An inflation adjustment to the OC's schedule of rates and prices tendered in their contracts.

Spend

The value of work done, OC operations and works contracts, excluding price fluctuation factor and amounts omitted from payment.

Works Contracts

Discrete schemes with a value of over £150,000 put out to tender.

NE: A96 Blackburn bypass

Contents

NW: A830 east of Mallaig looking west

Chapter 1

Overview

1.1 Executive Summary

The third year of BEAR and Amey's contracts has been successful. The OCs have broadly delivered their obligations under their contracts. There were some exceptions to this success and these were generally localised in effect and mostly of short duration.

On the network, BEAR and Amey's performance was good. There was generally good practice in supervision and workmanship of works contracts with most schemes being carried out successfully. Performance on structural maintenance operations varied across the network.

The OCs broadly met their winter maintenance obligations. The winter was the most severe since 2000/01, particularly in the North East, and the total number of road closures was 11, compared to four in each of the two previous years.

The largest area of concern on BEAR and Amey's performance was in the application of some of their management systems. Although these do not have a direct effect on the quality of road maintenance, they are important tools, allowing the OCs to organise their operations efficiently.

All the OCs have a fully operational CCMS, providing a basic level of control and an acceptable standard of information. This has helped to give a general improvement in the OCs' financial management over the year. There is, however, still a need to improve compliance on some controls and procedures to maximise the effectiveness of their systems. Both BEAR and Amey have action plans to address these matters.

BEAR's RMMS was fully functional during the year and Amey has an action plan to deliver the remaining functionality of its RMMS.

BEAR improved its QMS during the year by introducing an Integrated Management System covering the disciplines of quality, environment and health & safety. BEAR's management used contract and internal KPIs to closely monitor performance, demonstrate improvement and take action where appropriate.

Default notices were issued in response to PAG reports that Amey's QMS was not being implemented in accordance with the contract. Amey re-organised its quality, environment and health & safety disciplines under one entity, the Performance Management Group. This led to a more pro-active approach within Amey and allowed default notices to be closed out later in the year.

1.2 Background to the Contracts

Contracts
2003/04 was the third year of The Road Ahead (TRA) contracts for the management and maintenance of the trunk road network in Scotland. The contracts were awarded by the Scottish Executive, with work starting on 1 April 2001.

The contracts are framed around the following key objectives:

- **Customer service** - to enable a 'customer oriented' approach to be further developed in the way roads are managed and maintained.
- **Value for money** - to achieve the maximum efficiency in the use of the substantial sums of money expended on the maintenance of the network.
- **Effective management** - to encourage innovation and skilful management to maximise trunk road capacity and achieve the best use of the network.

There is a further objective:

- **Flexibility** - to accommodate change to the trunk road network.

The network is divided into four geographic Units: North East, North West, South East, and South West. Each Unit has its own contract and is managed and maintained by an Operating Company (OC). Figure 1 shows the extent of the trunk road network and coverage of the Units. Figure 2 illustrates the principles of the operating company arrangements.

Contracts were awarded to BEAR Scotland Ltd for the North East and North West Units. BEAR Scotland Ltd is a consortium of Babtie Group Ltd, Ennstone Thistle Ltd and Ringway Group Ltd.

Contracts were awarded to Amey Highways Ltd for the South East and South West Units. Amey Highways Ltd is the sole party to these contracts and W.A. Fairhurst & Partners provide professional services to them.

Separate long-term contracts exist for the operation and maintenance of A74(M) [*M6 DBFO Project*] and M77 [*DBFO Project*]. The M77 DBFO project is currently under construction and outwith the scope of this report.

The Performance Audit Group (PAG), under the direction of the Department, provides a robust performance auditing and monitoring regime for the contracts.

Extent of network
The length of the trunk road network in Scotland is attributable to the four Units is as shown in figure 3.

Unit	Length of network (km)	
	Total route	Total carriageway and slip
NE	640	999
NW	1,369	1,436
SE	472	753
SW	643	970
Total	**3,124**	**4,158**

Figure 3 *Details of network length for each Unit*

Chapter 2

Customer Service

The OC contracts seek as a key objective *"to enable a 'customer-oriented' approach to be further developed in the way roads are managed and maintained."*

Key Points

Availability of the network

- The continued close liaison between the OCs, the Department and other parties including the police in planning maintenance work demonstrated their commitment to customer service and safety.
- The OCs' performance continues to be excellent with 99.75% of the network available for use. This is comparable with the OCs' performance in previous years.

Traffic management

- PAG's investigations across the network showed that traffic management generally continued to be good, although there were some aspects requiring improvement in NE and NW.
- There was sustained commitment by the OCs and the Department to ensure delays were minimized on the busiest parts of the network.

Category 1 defects and repair

- There is room for improvement in Amey and BEAR's Category 1 defect repair performance.
- Amey still do not have a robust RMMS with full and accurate data entry.

Customer contact service

- The customer contact service provided by the OCs continues to be well used.

2.1 Availability of the Network

The trunk road network in Scotland managed by the OCs is 3,124 km long. It reflects the diversity of Scotland's geography and includes motorways, dual carriageways and single carriageways. The network, shown in figure 1 is economically vital to Scotland as it links major centres of population and industry, as well as providing access to ferry ports.

During 2003/04 the Department invested £124.5 m in maintaining the network. To carry out this work safely, it was essential on many occasions for the OCs to close off lanes, restricting traffic flow. They continued to work closely with the Department to minimise delays, while still carrying out this essential maintenance in a safe manner. The continued close liaison between the OCs and the Department in planning maintenance work demonstrated their commitment to customer service and safety. The OCs are required to liaise with NADICs to advise road users of potential delays.

On the busier routes, the OCs took various steps to reduce these delays. These included carrying out works at night or during off-peak periods, as well as using lane rental procedures in works contracts, to encourage early completion of repairs. During the year there were some limited road closures due to severe winter weather and flooding. These are covered in **sections 4.2.6 - Winter Maintenance and 4.2.9 - Emergencies.**

KPI 8, shown in figure 4, measures lane occupation in each of the Units over the year.

Operating Company	KPI 8 – Road Occupation (lane. km.hours over year)	% of network not available
NE	58,958	0.34
NW	16,822	0.07
SE	41,707	0.32
SW	45,031	0.25
Total	**162,518**	**0.25**

Figure 4 *KPI 8 – Road occupation*

Figure 4 shows that the OCs' performance continues to be excellent with 99.75% of the network available for use. This is comparable with the OCs' performance in previous years.

2.2 Traffic Management

2.2.1 Standards

Traffic management at roadworks is designed to provide a safe environment for operatives and road users. The OCs must ensure all traffic management on the network complies with national standards set out in the contract. The provision of safe traffic management is therefore an indication of the OCs' commitment to customer service and safety.

PAG's investigations across the network showed that traffic management generally continued to be good, although there were some aspects requiring improvement in NE and NW. PAG visited over 1,400 sites in 2003/04 and 93% had traffic management that complied with the standards. This is an improvement on 91% in 2002/03.

There were minor issues on 5% of sites, while 2% had serious deficiencies, resulting in PAG issuing hazard notices. Some of the sites requiring action involved utility companies, outside the immediate control of the OCs. In these cases the OCs needed to contact the utilities to ensure standards were improved.

Figure 5 shows an example of good traffic management in SW.

Figure 5 *Good traffic management at a safety barrier repair site on M8, SW Unit*

PAG's investigations showed:

- Although most sites complied with standards, there were some concerns regarding traffic management in NE. There was poor communication in some instances between the parties carrying out the work and those who had installed the traffic management. In some instances, BEAR installed the traffic management and sub-contractors carried out the work. In other cases, the roles were reversed. Disappointingly, this led to PAG encountering some hazardous practices on the NE network. These serious issues were immediately raised with BEAR. The situation is being monitored by the Department and PAG through the NEI process (see section 4.3.3), to establish whether BEAR is delivering its proposed improvements in standards.
- In NW, traffic management was good, although PAG identified that standards dropped slightly towards the end of the year. BEAR has taken steps to deal with this. Traffic management for operations in NW was carried out solely by BEAR.
- In SW traffic management continued to be good on works contracts and operations.
- Amey carried out almost all traffic management in-house in SE, with a sub-contractor on some smaller sites. Traffic management was good and the few minor problems identified on site by PAG were quickly dealt with.

Amey in SE and SW is fully accredited to install temporary traffic management on motorways and high speed dual carriageways in accordance with the National Sector Scheme for Quality Management in Highways Works. BEAR is progressing towards full accreditation. While this is not a contract requirement, it indicates both contractors' commitment to continuous improvement.

2.2.2 Planning and Programming

On busier routes on the network, there are contract restrictions on when operations can be carried out. This is to minimize delays to road users. The OCs met these requirements.

When larger, longer term works contracts were carried out, advance planning and consultation with the police and local authorities was undertaken by the OCs and the Department.

- Major works in NE tended to be carried out later in the year. BEAR did a great deal of consultation and planning to ensure that, even though some works involved localised road closures, delays were minimised.
- In NW, as in previous years, most major works were carried out after the summer tourist season. This reduced delays at the busiest period, but meant work was carried out during the winter months.
- Major works were carried out in SE, with efforts made by Amey to minimize delays to road users. Given the level of traffic flows on the Unit, including at weekends, some delays were inevitable.
- There was a similar situation in SW. Major works on the busiest sections of the Unit were carefully planned, with advance consultation, although some delays were unavoidable.

2.2.3 Works on the Network

There were many examples of good practice on the network in 2003/04. These included:

- Sustained commitment by the OCs and the Department to ensure delays were minimized on the busiest parts of the network.
- Further use of NADICS' signing across the network.
- Short duration overnight closures on narrow rural routes in NW. These enabled work to be carried out safely on narrow sections of the network. Procedures were in place on these sites to ensure diversion routes or emergency access.
- Continued use of convoy working on the rural network.

2.3 Category 1 Defects and Repair

To ensure the safety of the road user, the OCs are required to repair Category 1 defects, the most serious defects, within specified timescales. The OCs must also record details of all defects and repairs in the Routine Maintenance Management System (RMMS) within four working days, to provide evidence of their actions. The prompt repair and recording of defects improves safety for the road user and reduces the Department's exposure to third party claims.

The contracts have varying timescales for the repair of different types of Category 1 defects ranging from 24 hours to 28 days. Where a repair requires a 24 or 48 hour response, the OCs are allowed to carry out a temporary repair and defer the permanent repair to be carried out within 28 days.

The contracts also require the OCs to produce standard audit reports from their RMMS to summarise their Category 1 defect repair performance. These were only available from Amey late in the year. The reports have been available in BEAR all year.

Figure 6 summarises the Category 1 defect repair performance of the OCs. The figures for NE and NW were determined from their Standard Audit Reports. A substantial amount of missing data in Amey's RMMS prevented their Standard Audit Report from showing their true Category 1 defect repair performance. Incomplete data entry by Amey for certain types of repair has prevented a full assessment of all repair dates recorded on RMMS. At present Amey is taking steps to remedy this. In figure 6, Amey's performance is based on its manual analysis of RMMS data.

Unit	KPI 1 - % permanently repaired within 28 days	% defects repaired in timescale as recorded in RMMS			% of defects with repair date recorded in RMMS
		24/48 hour response	Average	28 day response	
NE	89	39	-	79	87
NW	86	32	-	72	84
SE	72	-	85	-	-
SW	86	-	81	-	-

Figure 6 *Category 1 defect repair performance, as reported by the OCs*

The performance of repairs is also recorded in one of the key performance indicators (KPI 1 – permanent repair of Category 1 defects within 28 days) specified in the contract and reported quarterly by the OCs. The contract states the source of the KPI data should be the RMMS database.

The percentages in figure 6 provided by the OCs for KPI 1 are slightly higher than those PAG has encountered in auditing their RMMS. This is partly due to the different reporting requirements for defect repairs (less than 28 days for some repair types). It may also be due to the OCs utilising alternative systems for their KPI analysis instead of the RMMS database. PAG is currently examining this apparent discrepancy and the use of alternative systems by the OCs.

The proper recording of defect repair dates in the RMMS is important, as it ensures the OCs' actions are recorded and their compliance with contract requirements is auditable.

Amey

- Amey's use of their RMMS is still very poor. PAG is monitoring Amey's improvement plans to ensure the RMMS system is fully utilised with robust and accurate data entry.
- Amey's Category 1 defect repair performance is reasonable, but with room for improvement.

BEAR

- BEAR is actively utilising its RMMS to record details of defect repairs. However, there remains some room for improvement.
- NE and NW have reasonable repair performances for 28 days.
- 24 or 48 hour repairs within the required timescales remain poor.

This performance of the OCs remains an area of concern. The Department and PAG will seek improvements from the OCs over the coming year.

2.4 Customer Contact Service

Introduction
Under the contracts, the OCs must operate a Customer Contact Service (CCS). This uses a national telephone number set up by the Department. Signs across the network display the number, advising road users to call if they wish to report trunk road defects or issues of concern.

With the agreement of the Department, SW and SE operate a 24-hour CCS from their new Operational Control Room at Bargeddie depot. This also takes calls from road users who do not know to which Unit they should direct their calls. The other OCs operate a manned service during office hours, with an answering machine available at other times. All calls to the CCS are logged and reported in the OCs' monthly and annual reports.

CCS analysis
The number of calls received by each OC's CCS during 2003/04 is shown in figure 7.

Unit	Calls received 2003/04	Calls received 2002/03
NE	1,637	1,603
NW	1,568	1,894
SE	1,489	1,332
SW	9,593	8,226
Total	**14,287**	**13,055**

Figure 7 *Number of calls received*

The total number of calls across all four Units has slightly increased from 2002/03, with substantially more calls to SW than the other OCs combined. There is a small increase in calls to both SE and SW Units.

The high number of calls in SW may be due to:

- All calls default to SW if customers are unaware of which Unit they are in. This accounted for 3,697 (39%) of all calls received in SW compared with 14% in the previous year.
- Amey continued to run the CCS 24 hours a day.
- SW has routes in west central Scotland which have very high traffic volumes.

The CCS continues to provide a valuable service to road users and the OCs, enabling matters of concern to be recorded and, more importantly, resolved.

Chapter 3

Value for Money

The OC contracts seek *"to achieve the maximum efficiency in the use of the substantial sums of money expended on the maintenance of the network."*

Key Points

Performance in cyclic maintenance activities

- Overall, the OCs carried out cyclic maintenance to a reasonable standard, indicating value for money was broadly achieved.

Winter maintenance performance

- The OCs were close to meeting their targets for commencement and completion of salt spreading on a specified route.
- Precautionary salt spread rates varied, the highest average rate being in SE. Average precautionary spread rates in both NE and NW were closer to the M6 DBFO comparison.

Preparation, procurement and administration of works contracts

- Overall the tender processes demonstrated value for money was being achieved, although out-turn costs tended to be marginally higher than awarded values.
- Tendering across all Units was competitive, with an average of 13% between the lowest and third lowest tenders.

Lane rental contracts

- Lane rental benefits road users by reducing timescales for completion of works and minimising delays to the travelling public.
- Lane rental contracts in the main were well-managed, providing a balance of incentivisation, reduction in delays to road users and cost control, indicating value for money was achieved.

3.1 Performance in Cyclic Maintenance Activities

3.1.1 Background

Cyclic maintenance was carried out throughout the year to ensure the safe operation and amenity of the network was maintained. Cyclic maintenance is characterised by repetitive activities carried out on a needs-driven basis, rather than at set intervals.

Gully emptying and visibility splay grass cutting are examples of maintenance carried out for safety reasons. Litter picking and weed control are carried out for amenity reasons.

The total spend in 2003/04 for cyclic maintenance was £4.2m, representing 3.6% of overall spend on the network. The OCs are paid monthly lump sums for cyclic maintenance.

PAG identified between five and twelve control sites in each Unit, where it regularly monitored cyclic maintenance standards over the period May – October 2003. PAG has monitored these sites in previous years.

VFM in cyclic maintenance was measured by compliance with the contract specification in the following activities:

- Grass cutting.
- Weed control.
- Road drainage.
- Road sign condition.
- Litter picking.

Figure 8 shows a monitoring site in SE.

Figure 8 *Cyclic maintenance monitoring site on M9 near Plean in the SE Unit*

3.1.2. Findings

Grass cutting
Grass heights, where possible, were physically measured by PAG and an assessment made of the overall average grass height and percentage outwith specification.

The contract requirements for grass cutting are:

- Verge swathe and visibility areas shall be cut such that vegetation does not exceed 300mm.
- Amenity grassed areas shall, after the first cut of the season, be maintained to a height between 50 to 70mm.
- Full width verge shall have an annual cut between September and early October.
- Central reserves shall be cut twice during the season, in June and early September.

Figure 9 shows the overall percentage of grass height within specification for all monitored sites.

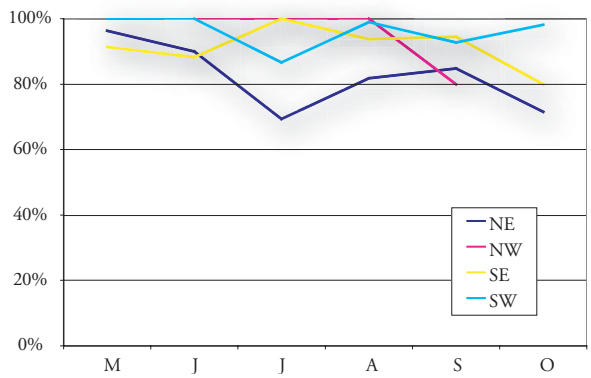

Figure 9 *Overall percentage of grass within specification*

Figure 9 shows that NW, SE & SW were generally good throughout the year. Their performance was broadly comparable with last year. NE's performance was not so strong and leaves room for improvement.

With the exception of SW, all OCs showed a reduction in performance during September and October. This reflects PAG's observations of problems carrying out central reserve and full width cuts due at this time.

Weed control
The contract requires the OCs to treat weeds to stop them becoming a nuisance, and to prevent infestations of injurious weeds.

PAG carried out visual inspections of the OCs' weed control at the monitoring sites. Where applicable, filter drains, verge and central reserves were all monitored and an average value calculated.

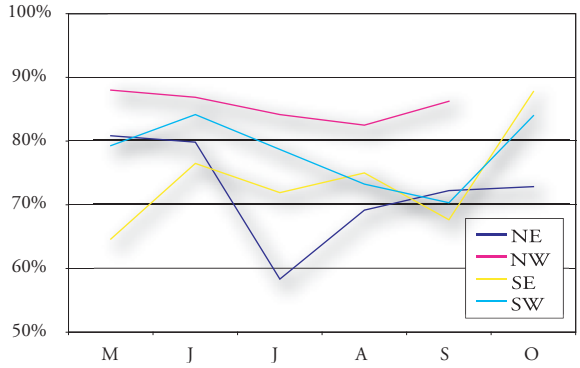

Figure 10 *Average percentage weed-free*

The average compliance throughout the monitoring period for each OC from figure 10 was:

Unit	Average compliance
NE	73%
NW	86%
SE	73%
SW	75%
Average	**75%**

Figure 11 *Average compliance throughout the monitoring period*

Figure 10 reflects PAG's general observations of a continuing weed problem across much of the network, particularly with injurious weeds, such as ragwort.

Maintenance of filter drains and verges was poor in all Units, with the exception of verges in NW. SE was particularly poor in weed control of verges.

The OC's overall performance, detailed in figure 11, showed a slight reduction from last year, leaving significant room for improvement.

Road drainage
All gullies and grips at each monitoring site were visually inspected by PAG to determine if they were working efficiently.

The contract requires gullies and grips to be cleaned as necessary, to ensure water does not stand on the carriageway.

PAG's monitoring, reported in figure 12, showed continued strong performance, although there was a slow start in NW.

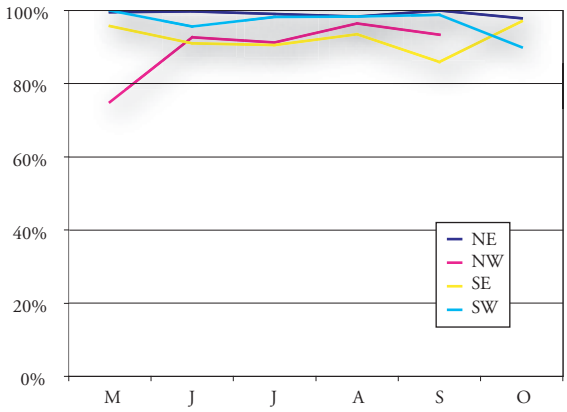

Figure 12 *Percentage of gullies clear*

Road sign condition
PAG carried out visual inspection of all road signs at the monitoring sites.

The OCs are required to keep road signs in good condition and carry out detailed inspection/ maintenance and cleaning every two years.

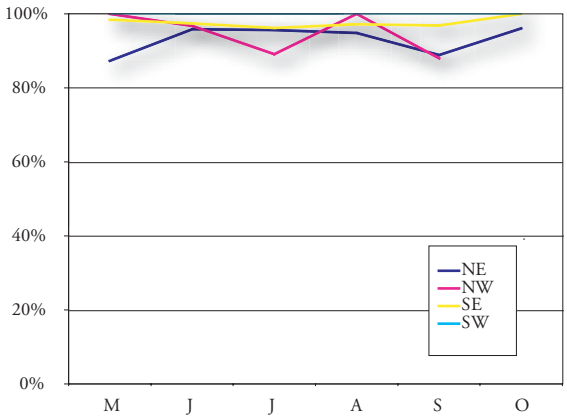

Figure 13 *Percentage of signs in good condition*

Figure 13 shows overall performance was excellent, with SW maintaining 100% of their signs on the monitoring sites in good condition.

Litter picking
PAG's visual inspections of litter levels used the Environmental Protection Act (EPA) classification system.

This grades litter levels into four categories, EPA A-D. EPA A represents the highest level of amenity, with little litter evident. EPA D is the lowest level of amenity.

The EPA specifies gradings for different types of area and a time limit within which the area should be returned to the appropriate grading if litter has accumulated. The EPA only requires action on roads if litter is at C or D.

The OCs are only directly responsible for litter on motorways and special roads (certain dual carriageways). In NW there are no motorways or special roads.

On all other roads on the network, the Local Cleansing Authority (LCA) is responsible for removing litter. Nevertheless, the OC is still responsible for advising the cleansing authority of any litter problems requiring attention.

Figures 14 and 15 show overall performance in each Unit.

There was very good performance by the LCAs and OCs keeping almost all of their monitoring sites to EPA A throughout the year.

SE had a small percentage of its monitoring sites classed as EPA C. These tended to appear after grass cutting had taken place, when previously hidden litter was revealed. However, Amey reacted to ensure they met the requirements of the EPA and removed the litter within the specified timescales.

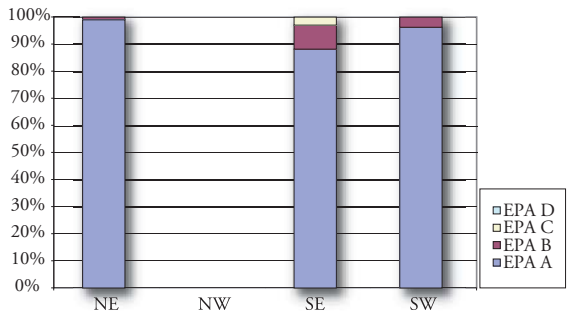

Figure 14 *Overall litter control performance by OCs on motorways and special roads (no motorways or special roads in NW)*

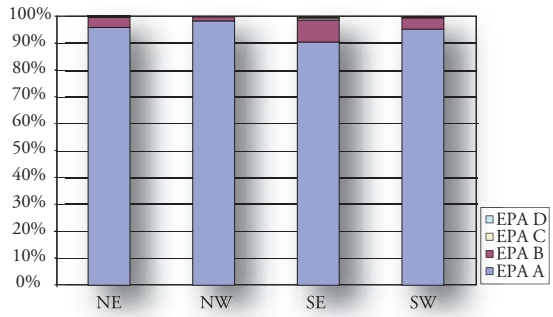

Figure 15 *Overall litter control performance by LCA on other roads*

Outwith the monitoring sites, PAG was aware of some litter blackspots, particularly on sections of urban motorway and brought these to the OCs' attention.

Amey demonstrated their commitment to the issue of litter control through their membership of the 'People and Places Programme' of Keep Scotland Beautiful.

3.1.3 Summary of Findings

From a review of performance at the monitoring site, PAG considers:

- Overall, the performance of the OCs was to a reasonable standard, indicating VFM was broadly achieved.
- Grass cutting was generally good in all Units, except NE, where there was some scope for improvement.
- Weed control was generally disappointing, particularly in filter drains.
- Maintenance of gullies and grips, as well as road signs, was good.
- Strong performance was evident in litter control in all Units.

3.2 Winter Maintenance Performance

3.2.1 Background

Winter maintenance is a high profile activity carried out by the OCs. The quality of the OCs' performance has a major influence on the availability and safe use of the network.

Winter maintenance is undertaken on a lump sum payment basis. Normal variations in treatment requirements due to weather do not therefore have a financial impact on the Department.

Payments to the OCs are factored using the Meteorological Office Open Road Index (MOORI), which is only activated during prolonged severe weather conditions. This factor is designed to share risk between the Department and the OCs. MOORI takes into account weather conditions and adjusts payments using a specifically designed formula. In 2003/04, the winter conditions did not result in MOORI-based payments.

In 2003/04, winter maintenance, at £4.5m represented around 4% of spend on the network. It is therefore important to ensure that value for money was obtained for this expenditure. Figure 16 shows A68 in SE, in typical winter conditions.

Figure 16 *SE winter conditions on A68 near Soutra*

Across the network, PAG investigated:

- Treatment routes.
- Precautionary salt usage.
- Precautionary salt application rate per road.
- Winter maintenance KPIs.

The contractual winter maintenance period runs from 1 October to 15 May. However, to ensure that data could be fully collected and analysed for this report, PAG's study covers the period 1 October 2003 to 31 March 2004. Due to the improving weather conditions towards the end of the winter maintenance period, the study therefore includes almost all winter actions.

The study covered the planned salting of carriageways, which represents a majority of treatments carried out by the OCs. Smaller-scale activities, such as footway treatment and glycol spraying on various bridge locations were not included. The study did not include additional treatments that occurred during winter patrols with loaded gritters, as there is no contractual requirement for the OCs to collect that data.

Most treatment across the network is carried out directly by the OCs. Around 30% of the network is, however, sub-contracted to local authorities. All OCs use sub-contractors to some extent and these include Scottish Borders Council, Dumfries & Galloway Council and Tayside Contracts. Figure 17 shows a gritter in NE, owned by major sub-contractor Tayside Contracts.

Figure 17 *M90 NE Tayside Contracts Gritter*

3.2.2 Findings

Treatment routes
PAG used the OCs' Winter Maintenance Plans (WMPs) to obtain information on each gritting route. This enabled the total area for treatment to be calculated for each Unit.

Unit	No of routes	Total treatment length [km]	Average treatment width [m]	Total treatment area [km²]
NE	17	1,029	7.19	7.39
NW	24	1,474	6.39	9.38
SE	18	765	9.37	7.14
SW	24	940	8.14	7.63

Figure 18 *Treatment data*

Figure 18 shows:

- NW has the longest total treatment length at 1,474km. This, however, is allied to the narrowest average treatment width at 6.39m, reflecting the nature of roads in that Unit.
- SE has the shortest length, but the wider treatment width reflects the high proportion of dual carriageways and motorways.
- Across the network, there is a broadly comparable treatment area in each Unit.
- The total treatment length is marginally longer than the carriageway length of the network. This is likely to be due to operational methods at junctions and roundabouts.

Precautionary salt usage
Precautionary salt usage was calculated by PAG using the detailed records supplied by the OCs. Treatment types can encompass a range from 10g/m² to 40g/m² for salt application:

The majority of precautionary treatments are a single 20g/m² run. Clearly treatments varied depending on conditions, with more severe weather requiring higher application rates.

Unit	Total treatment area [km²]	Salt used (tonnes)	Average salt spread rate (g/m²)
NE	7.39	9,549	1,293
NW	9.38	13,011	1,387
SE	7.14	11,522	1,614
SW	7.63	8,864	1,161
M6 DBFO	2.86	3,717	1,299

Figure 19 *Salt use and average spread rate for precautionary gritting*

Figure 19 shows the tonnage of precautionary salt used and application rate across each OC during the study. M6 DBFO figures have been included to provide a comparison for the OC spread rates. M6 DBFO uses weighbridge methods to keep records on salt usage, thus providing a detailed assessment of total salt used for the study period.

Figure 19 indicates:

- The average salt spread rate for M6 DBFO was comparable to NE and NW.
- SW had the lowest spread rate. This may be due to the extent of milder coastal routes in that Unit.
- SE had the highest average spread rate at 1,614 g/m², which is 24% higher than M6 DBFO comparison.

Precautionary salt application rate per road
Detailed analysis of the OCs' records enabled PAG to establish the total average salt spread rate across the network on a road-by-road basis. These are shown in figure 20. It should be noted that for clarity, this approach obviously does not show detailed local variations in treatment by the OCs.

Figure 20 shows:

- The spread rates in NE broadly increased towards the north of the Unit, reflecting the winter conditions referred to in **section 4.2.6**.
- In NW there was a range of treatment rates. Southern roads in the Unit, some of which are coastal, tended towards the lower rates. An exception is the inland A84, which was in the highest treatment band. The inland and more northerly routes tended to have the higher rates. This variation may reflect the differences in climate across this large Unit.
- Inland rural roads in SE were in the highest spread rate band. This may reflect the hilly nature of some of these roads. The lower lying, and in some cases more coastal routes had lesser spread rates.
- In SW, by contrast, all roads were in the lowest two bands. This may reflect the milder and wetter climate associated with that part of Scotland. Treatment of Amey's section of M74 is comparable with the adjacent M6 DBFO.

Individual severe weather events, such as those in NE in 2003/04, have a large impact on the total amount of salt used throughout the year. Each severe weather event results in a major treatment programme, where application rates can vary from 20g/m² to 40g/m² on each affected route. This could result in up to 40 tonnes of salt used on each route for a specific snow event. These events, and the OCs' reactive response are outwith the scope of this study.

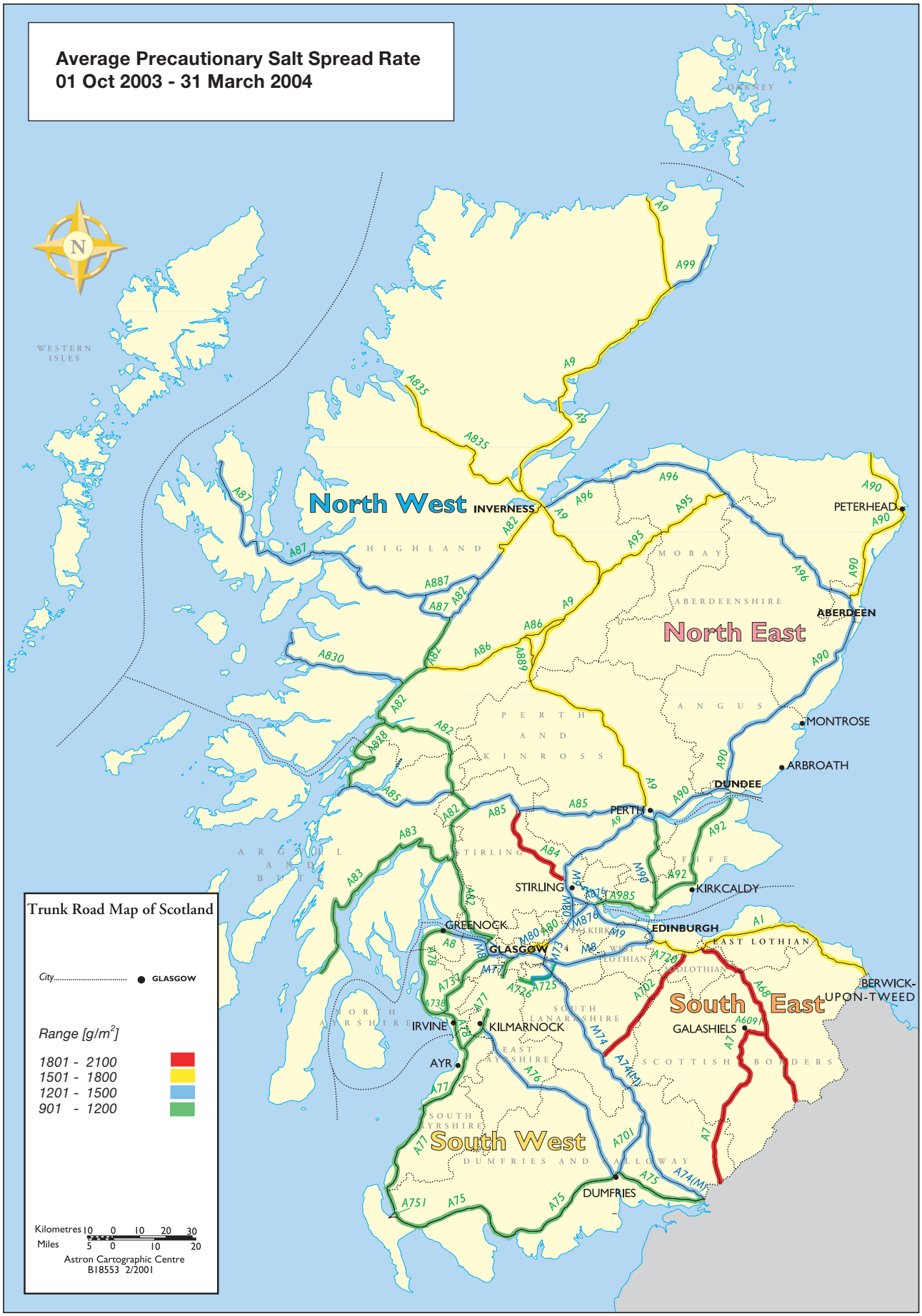

Figure 20 *Total average precautionary salt spread rate across the network*

Winter maintenance KPIs
The contract contains two winter KPIs, which run for the duration of the winter maintenance period:

- KPI 5 reports on the OC's ability to commence spreading salt on a specific route within one hour of the decision to treat.
- KPI 6 shows the OC's ability to complete treatment of a specific route within two hours of starting treatment.

Both KPIs relate directly to contract requirements.

The results for KPIs 5 and 6 are summarised in figure 21. This shows that the OCs are very close to meeting the targets. Performance in SE, however, was not as strong as in other Units. The 72% KPI 5 figure for SE was primarily due to poor performance in February on a small data sample. Amey has taken steps to improve performance. This will be monitored by PAG and the Department.

It should be noted that for KPI 5, the number of winter callouts can be low for any particular month. This is usually at the start and end of the winter period. Consequently the KPI can be based on a limited amount of data. As a result, a poor performance in any particular month can have a large effect on the final KPI value.

Unit	KPI 5	KPI 6
NE	95%	93%
NW	92%	97%
SE	72%	86%
SW	97%	93%

Figure 21 *Average of KPIs submitted over study period*

3.2.3 Summary of Findings

- Winter maintenance is paid for on a fixed lump sum basis, with potential adjustments for severe weather.
- Although there were individual severe weather events, notably in NE, there were no additional payments based on the MOORI index.
- Most salt treatment across the network is carried out directly by the OCs. Around 30% of the network is sub-contracted to local authorities.
- Each Unit has a broadly similar area of road to be treated, with NW being the largest.
- The average salt spread rate for precautionary treatments was highest in SE and lowest in SW. NE and NW were similar to each other and comparable with M6 DBFO comparison.
- Inland rural roads in SE and a single route in NW had the highest total average salt spread rate. The lowest rates tended to be coastal routes in the south and west of the network.
- KPI results were good, although Amey had to take action in SE to improve a dip in performance.
- The variations in treatment across the network, combined with generally good winter maintenance performance discussed in section 4.2.6, indicate the OCs are responding appropriately to varying weather patterns. This suggests VFM is being achieved.

3.3 Preparation, Procurement and Administration of Works Contracts

3.3.1 Background

Works contracts are stand-alone schemes that are put out to tender by the OCs on behalf of the Department. These aim to have a value between £150,000 and £3,000,000.

As part of this VFM study, PAG examined up to contract award stage, 45 works contracts, worth £32.1m which were tendered during 2003/04. This represented almost 26% of the total work done in 2003/04. 17 of these contracts were followed through to out-turn costs on completion. The remaining contracts were still being completed and costs finalised at the time of this report.

The works contracts comprised:

- Pavement structural maintenance - 29 schemes.
- Minor improvements - 8 schemes.
- Bridge maintenance - 6 schemes.
- AIP - 1 scheme.
- Damage repair - 1 scheme.

The aims of the VFM study were to:

- Examine the tender process.
- Seek trends in tenders.
- Identify any changes between tender value and out-turn costs.

3.3.2 Summary of Findings

- The highest average award value was in SE at £954k. This is 86% higher than in NE, which had the lowest average value.
- SE also had the highest single award value at £3.7million.
- All OCs invited on average, between 5 and 6 tenders for each works contract. This provided the opportunity for good competition between tenderers.

- There was a good range of tenderers in all Units.
- Tendering across all Units was competitive, with an average of 13% between the lowest and the third lowest tenders.
- In SE and SW there was a wider range of winning tenderers than in the NE and NW.
- Pre-tender estimates by the OCs varied in accuracy, but the average value tended to be conservative.
- Average out-turn costs tended to be higher than tender values. This was most prominent in NE, where the difference was 18%.
- Overall, the tender processes demonstrated VFM was being achieved, although out-turn costs tended to be higher than award values.

3.4 Lane Rental Contracts

3.4.1 Background

The aim of lane rental works contracts is to reduce delays and disruption to the travelling public. These contracts are designed to encourage contractors to undertake the works in as short a time as possible, without affecting quality or reducing safety standards. Secondary, indirect benefits are reduced pollution and congestion savings.

The incentives for contractors are bonus payments for early completion of schemes, with a charge levied if schemes are completed late. The bonus or charge for each works contract is related to the costs associated with supervising the works and delays to road users.

The Department's policy is that all works contracts should be lane rental, except schemes on routes with low traffic volumes, those with potential unforeseen conditions, e.g. structural concrete repairs, or where there is a significant period of winter working. The OCs must obtain consent from the Department if they intend not to use lane rental for a works contract.

The OCs prepare lane rental schemes and the relevant bonus or charge in accordance with Technical Memorandum SH4/91. Due to the nature of the works and the types of routes involved, the majority of lane rental schemes were carried out on the motorway and dual carriageway network in central Scotland. PAG conducted a desk study to examine the value for money aspects of these contracts.

Figures 22 and 23 show typical lane rental schemes.

Figure 22 *SW: M74 Junctions 6 to 5 northbound carriageway reconstruction*

Figure 23 *NE: A9 Aberuthven to Auchterader reconstruction*

On completion of lane rental schemes, the OCs should submit information to the Department using a designated form. This summarises the:

- Tender estimated cost.
- Contractor proposed cost.
- Actual construction costs.
- Construction periods.

The forms detail the cost savings resulting from using lane rental.

The OCs were reminded of the requirement to submit lane rental monitoring forms for this study by both the Department and PAG. The OCs eventually submitted completed forms for 17 schemes. A number of other lane rental schemes were not included in the study as the final accounts had not been agreed.

3.4.2 Summary of Findings

The information reviewed in this study suggests:

- Lane rental benefits road users by reducing the timescales for completing works and minimising delays to the travelling public. In 16 of the

17 schemes analysed bonuses were paid to the contractor as a result of the schemes being completed within the agreed programme. The remaining scheme was completed on time and as such did not attract any bonus payment.

- The highest daily bonus/charge was in SW, which reflected the more heavily trafficked routes in this Unit.
- The OCs did not submit lane rental monitoring forms promptly following completion of schemes. Monitoring forms were not submitted for all lane rental schemes carried out in NE and SE. However, all provided some information for this study.
- Significant bonuses can be paid to contractors, especially on motorway schemes, reflecting the higher traffic flows and potential delays. The bonuses, as a percentage of total scheme cost in each Unit, were 4.92% in SW, 4.53% in NE, 2.73% in NW. No bonus was paid in SE.
- A single large bonus was paid in NE as a result of the contractor utilising 24 hour working on a scheme. The bonus amounted to 9.77% of the total scheme cost. Excluding this scheme the bonuses paid as a percentage of total scheme cost in NE were 2.9%.

Lane rental contracts in the main were well-managed, providing a balance of incentivisation, reduction in delays to road users and cost control, suggesting VFM was achieved. However, more accurate estimates of pre-tender contract periods may improve VFM.

NW: A9 Killiecrankie viaduct

The OC contracts seek *"to encourage innovation and skilful management to maximise trunk road capacity and gain the best use of the network."*

Key Points

Effective Management - Financial

- The total value of work done on the network in 2003/04 of £124.5m is marginally in excess of the corresponding value for 2002/03. However, after adjusting for inflation (price fluctuation factor) of £7.3m as against £4.1m in 2002/03, there is a decrease in real terms of 2.3%.
- The OCs carried out operations to the value of £82.6m in 2003/04 (2002/03-£76.4m). This represented 66% of the total value of work done as against 62% in 2002/03. The remainder of the work was carried out by works contractors.
- There has been a general improvement in OCs' financial management over the year.
- All of the OCs have a fully operational CCMS. There is still a need to improve compliance on some controls and procedures to maximise their systems' effectiveness.
- Spend (work done excluding price fluctuation factor) for the network in 2003/04 of £117.2m represented 95% of the budget for the year of £123.4m. This is due to the OCs having difficulty in programming works to utilise the additional budget allocations made available in the latter part of the year.
- There was some improvement in the standard of financial profiling, particularly in NE and SE. All OCs are reviewing their procedures to improve their accuracy and in some cases timeliness of submission.
- There was a shortfall of 18% in OC spend against the corresponding amounts ordered for the network as a whole, during 2003/04. This was most noticeable in NW, where the shortfall was 29%. 'Order v spend' has been an issue in all of the OCs since the beginning of the contracts. Financial management in this area, therefore, has to continue to improve, particularly in using the CCMS to match amounts ordered with the budget.

Effective Management - Technical

- There was a general improvement in reporting by the OCs.
- Procurement and performance by the OCs on Structural Maintenance Operations (valued at under £150,000 per scheme) varied across the network.
- There was general good practice in supervision and workmanship of works contracts, with most schemes being carried out successfully.
- BEAR and Amey were proactive in planning and implementing AIP schemes.
- The OCs broadly met their winter maintenance contractual obligations.
- A relatively severe winter led to increased road closures (11 this winter compared to four in each of the previous two winters).
- The OCs now all have a fully functional RMMS.
- The OCs responded well to emergencies and hazard notices.

Effective Management - Quality Systems

- Amey and BEAR have progressively improved the effectiveness of their quality management systems (QMS). They demonstrate a high level of commitment in this area.
- The OCs have improved their management of environmental issues.
- The total number of default notices issued to the OCs this year was 24, an increase of eight over the previous year. Of these, 16 were issued to Amey and eight to BEAR. These tended to deal with administrative matters rather than service delivery on the network.
- An NEI process was set up this year by the Department and PAG, with the assistance of the OCs, to deal with initial concerns about performance. The process formalises and facilitates communication between PAG and the OCs.
- The partnering ethos between the Department, the OCs and PAG has continued to pay dividends in terms of a mature and constructive working relationship between the parties.

4.1 Financial

As can be seen from figure 24, the total value of work done on the network for the financial year 2003/04 (after deducting amounts omitted from payment) was £124.5m. While this is almost identical to the corresponding value for 2002/03 of £124.1m, it included a much higher price fluctuation factor, i.e. £7.3m as against £4.1m for 2002/03.

Included in the work done for 2003/04 are works contracts (discrete schemes with a value of over £150k put out to tender) to the value of £41.9m (2002/03 - £47.7m). This represents 34% of the total value of work done, whereas in 2002/03 it was 38%. The largest percentage reduction is in NE, where works contracts dropped from £12.1m in 2002/03 to £8.5m in 2003/04, as a result of some major schemes being postponed during the year and a reduction in its budget.

4.1.1 Contract Control and Management System (CCMS)

A fully operational CCMS has always been seen as critical to the smooth running of the contracts. For this to be achieved, it is essential that the system is rigorous in its approach to delivering the controls set out in the contract. Also, those operating the system must be trained to be fully conversant with how it works.

Although all four OCs have a fully operational CCMS, there has been a need to improve compliance with controls and procedures to maximise the systems' effectiveness. The specific issues relating to BEAR and Amey were:

BEAR

- In last year's report it had been noted that BEAR's senior management was giving a higher priority to resolving the few remaining concerns the Department and PAG had about its CCMS. This has been successful and the CCMS for NE and NW remains stable.
- Improved controls within the CCMS for preventing spend exceeding amounts ordered are at present being discussed with the software supplier.
- Procedural weaknesses in dealing with the processing of OIs, scheme completion and authorisation of costs were identified during the year by PAG audits. These are currently being addressed by the OCs through the issue of revised procedures. BEAR recognised that for these procedures to be effective they have to be rolled out to its staff, with the appropriate level of training. This should result in a more efficient use of the CCMS.
- There has been a delay in BEAR introducing the proposed CCMS training for the Department and PAG. However, this is now underway with some training having been given to PAG in April 2004. It is understood that there has been ongoing training in BEAR.

Amey

- Regular CCMS progress meetings, involving Amey, the Department and PAG, have taken place to build on the progress made last year.
- Reconciling the CCMS statements to the interim financial system used in the first year of operations has been time consuming and resource intensive. It is therefore pleasing to note that this has now been resolved.
- The programming glitches in calculating statement totals, referred to in last year's report, continued into 2003/04. However, these have now been identified and the totals adjusted as necessary.
- Procedural weaknesses identified during the year have compromised the effectiveness of the CCMS. The areas of weakness, which included the processing of OIs, scheme completion and authorisation of costs (SE only), are currently being addressed by the OCs through the issue of revised procedures.

	2003/04			2002/03		
	OC	Works Contracts	Total	OC	Works Contracts	Total
	£m	£m	£m	£m	£m	£m
NE	14.0	8.5	22.5	15.0	12.1	27.1
NW	17.1	10.2	27.3	15.6	10.8	26.4
BEAR Total	**31.1**	**18.7**	**49.8**	**30.6**	**22.9**	**53.5**
SE	17.9	8.8	26.7	15.7	7.6	23.3
SW	33.6	14.4	48.0	30.1	17.2	47.3
Amey Total	**51.5**	**23.2**	**74.7**	**45.8**	**24.8**	**70.6**
Network Total	**82.6**	**41.9**	**124.5**	**76.4**	**47.7**	**124.1**
%	66	34	100	62	38	100

Figure 24 *Comparison of work done year on year*

- Since achieving a fully compliant status for its CCMS, Amey has been pro-active in providing training to its staff, the Department and PAG.
- Although much work has been carried out in producing 'user-friendly' reports from the CCMS, these have still to be made available to the Department and PAG. This area has benefited from the input of the CCMS users group.

Summary
The CCMSs in all of the OCs are fully operational and relatively stable, i.e. providing a basic level of control and an acceptable standard of information. This has helped to give a general improvement in the OCs' financial management over the year.

The emphasis now is for each of the OCs to:

- Improve its procedures to assist in the more effective use of the CCMS.
- Continue to train its staff in using the CCMS and following procedures.
- Develop the CCMS functionality, particularly in providing meaningful reports, to help its business.

4.1.2 Budgets/Orders/Spends

Budgets and profiles
Although PAG assists the Department in the monitoring of spend against budgets and expenditure profiles, it is not involved in the setting of budgets for the OCs. This is carried out by the Department.

Budgets are allocated excluding price fluctuation factor. To have a like for like comparison with the corresponding work done, operations carried out by the OCs are also shown net of price fluctuation factor. This, together with work carried out by the works contractors, is referred to as spend.

Spend for the network in 2003/04 of £117.2m was 95% of the budget of £123.4m. The shortfall was partly due to the difficulty of programming works to utilise the additional significant budget allocations made available to them from central funding in the latter part of the financial year. This should be taken into account when considering the following analysis of the OCs' performance in 2003/04 as shown in figure 25.

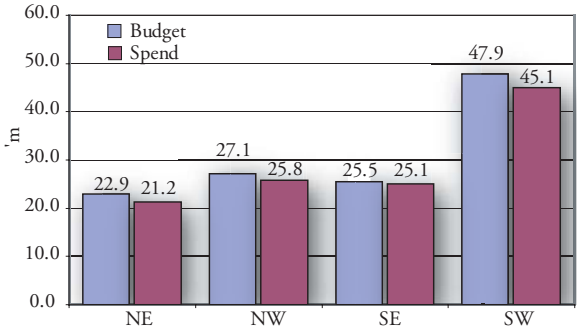

Figure 25 *Budget v spend in 2003/04*

BEAR
Slightly less than half of the overall shortfall was attributable to BEAR, and at £3.0m, this represented 6.0% of its total budget. £1.7m of the shortfall related to NE. All of the budget headings in NE showed spend to be less than budget; the main difference being in routine/structural bridges £720k (45% of budget).

The most significant difference in NW was in minor improvements of £1,169k (53% of budget), where two substantial schemes were put on hold by the department.

Amey
The shortfall in Amey of £3.2m was equivalent to 4.4% of its budget. This was mostly attributable to SW, where the spend fell short of its budget by £2.8m. The differences making up the shortfall in SW were primarily routine/cyclic roads £2,150k (10% of budget) and minor improvements £1,214k (38% of budget), offset by an overspend in routine/structural bridges £914k (24% of budget).

Expenditure profiles
Comprehensive and accurate expenditure profiles are essential for the effective financial management of the business.

In last year's report it was noted that although there had again been a delay in agreeing some of the programmes for 2003/04, the OCs appeared to be better prepared for submitting profiles and re-profiling them monthly as required by the contract.

The anticipated improvement in profiling was evident in both NE and SE during the year. However, problems continued in both NW and SW to the extent that the Notice of Emerging Issues (NEI) process had to be initiated. This process is explained in section 4.3.3.

Having recognised the need for improvement, NW has reviewed its procedures and introduced changes which hopefully will result in a more reliable expenditure profile during 2004/05. In SW, the possibility of an NEI was for the late submission of its expenditure profile. Although this has since improved, the OC has had to recently address a problem with the profile's accuracy.

It has been noted the OCs, in general, have encountered technical difficulties in fully utilising the CCMS for producing their expenditure profiles. As this can lead to inconsistencies, the OCs are actively reviewing their procedures to improve the accuracy of the profiles.

Orders, operations instructions and spend
For work to be carried out on the network it has to be ordered/instructed. The method of doing this varies for operations carried out by the OCs and work carried out by works contractors as follows:

- The Department orders the work as necessary in response to bids submitted by the OCs. The OCs then issue operations instructions (OIs) to allow the work to proceed. On completion of the work, the costs are collated by the OCs and a charge is raised through their monthly statements.
- Work carried out by works contractors, is instructed under another mechanism based on agreed programmes. The work is certified in stages by the OC, acting as engineer, and is invoiced directly to the Department by the works contractors.

Operations instructions
It has been clear since the beginning of the contracts that OIs are a critical link between work being ordered by the Department and the operations being carried out effectively by the OCs. Although improvements had been seen in the processing of OIs by the OCs, a number of issues were still being raised in audits, some of which had resulted in default notices. This prompted PAG to carry out a process audit in each of the OCs during the year to identify the underlying reasons for the problems. The outcome of these audits is more fully discussed in section 4.1.3.

Having given consideration to the practical difficulties involved in recording operations, the Department agreed to the OCs' request to have the contracted timescales relaxed for updating site changes to OIs and logging the information into the CCMS. The OCs' adherence to these revised timescales is being closely monitored by PAG.

Orders v spend
The spend used for comparison against orders is restricted to operations carried out by the OCs and their sub-contractors. Work carried out by works contractors is not included, as it is not ordered by the Department.

For the purposes of this comparison the spend for the network during 2003/04 was therefore adjusted to £75.3m, which is £16.0m less than the total order value of £91.3m. As shown in figure 26, the shortfall was contributed to by all of the OCs. This was partly due to the difficulty they had in programming works to fully spend the additional budget allocation ordered in the latter part of the year. This was referred to earlier under 'budget and profiles'.

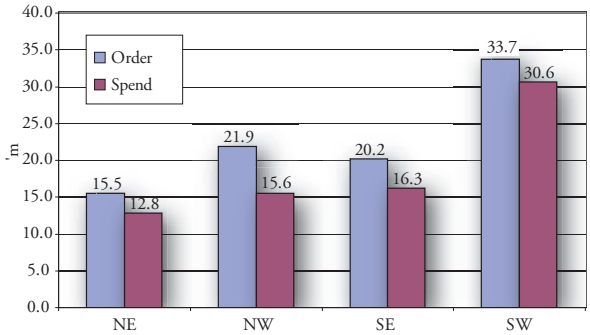

Figure 26 *Order v spend in 2003/04*

Although the average shortfall is 18% (2002/03 14%), the largest contributor is NW with £6.3m (29%). This is offset by SW with the lowest contribution of £3.1m (9%).

Despite the order v spend situation being monitored monthly, there were instances during the year where the spend exceeded the value of the order. This problem has been addressed by the OCs as follows:

Amey
After promptings from the Department and PAG, Amey addressed the issue towards the end of the year and succeeded in reducing the excesses in SE and SW to nominal amounts.

BEAR
The problem, however, continued in BEAR, where the excesses, prior to processing accruals, amounted to £360k in NE and £309k in NW at the year end. BEAR is currently working with its software supplier to introduce further CCMS controls to eliminate the problem.

Comparison with budget v spend
In last year's report, attention was drawn to the apparent conflict between the 'budget v spend' and 'order v spend' comparisons in 2002/03. Figures 27 and 28 show that this observation can again be made in 2003/04.

Although spend (OCs and works contractors) amounts to 95% of the budget, that part of the spend attributable to the OCs represents only 80% of the amounts ordered (OCs only as works contracts are

not ordered). It would have been expected that if the OCs' financial management had been carried out in accordance with the contract, the percentages would have been similar.

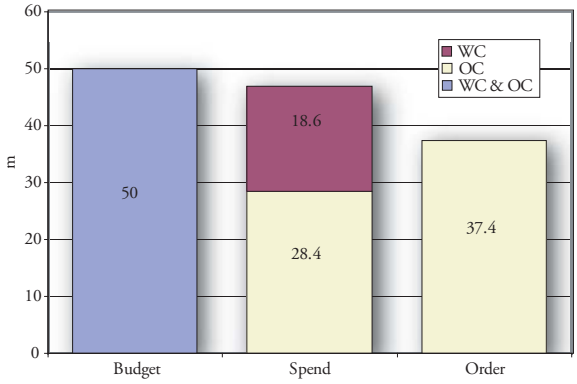

Figure 27 *Comparison of budget v total spend against order v OC spend for BEAR in 2003/04*

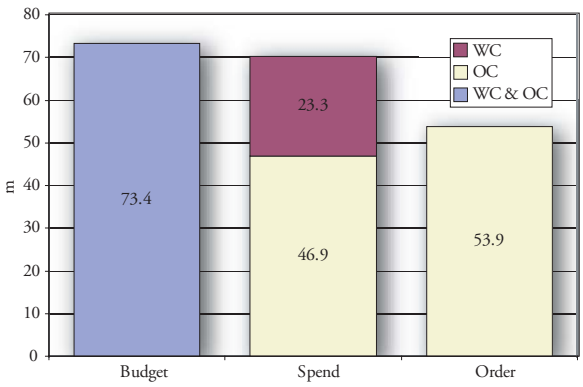

Figure 28 *Comparison of budget v total spend against order v OC spend for Amey in 2003/04*

While it is acceptable for operational reasons to order work slightly in excess of anticipated spend to allow for variations on site, it is necessary for good budget management that the OCs re-bid work as soon as they are aware of a shortfall in final costs. By doing this, and also re-bidding work where costs exceed the amount ordered, the OCs should have orders that are more closely aligned to the corresponding amount of spend.

For orders to be matched to budget for the OCs, it is essential that the management of the whole process is controlled through the CCMS.

The above issues would appear to be a problem for both BEAR and Amey. PAG's monitoring would suggest this is more of a problem within BEAR. The Department and PAG are currently liaising with BEAR on this matter and a significant improvement is expected in 2004/05.

4.1.3 Operations Instruction Process

Background

The process audits, referred to in section 4.1.2 examined the effectiveness of the key controls in the following areas of the OI process:

- Scoping of operations.
- Issuing of OIs.
- Recording of measurements.
- Closing out of OIs.
- Processing of the measurements through to the statements.

Comments

The audits highlighted the following:

- The controls the OCs had in place for the front end of the process, i.e. generating OIs, were found to be satisfactory.
- The issuing of OIs operated well in SW. This was not the case, however, in the other OCs where problems included:
  – Forms for recording measurements were sometimes missing (NW).
  – Detail on OIs were not always sufficient to identify nature and location of works (NE/SE).
  – OIs on occasions were issued without formal consent (SE).
- The recording and verification of measurements were not being carried out effectively in NW and SE. Positive changes had been recently introduced in NE, but there was still room for improvement. Although this part of the process was working effectively in SW, its record keeping was open to improvement.
- The controls in place to ensure measurements are accurately controlled in the CCMS and transferred to the statement were satisfactory in all of the OCs apart from SE, where there was an issue with the accuracy of estimates used.

Following the issues of PAG's audit reports, the OCs have undertaken a revision of their financial procedures to take on board the audit comments where appropriate. These have been submitted to the Department for final approval.

Feedback from all of the OCs was very positive and the unanimous view was that they had derived considerable benefit from the process audit approach.

4.2 Technical

4.2.1 Reporting by Operating Companies

The OCs are required to prepare comprehensive monthly reports and weekly programmes of intent (WPIs). The monthly reports provide the Department and PAG with information on the OCs' activities and progress. The WPIs provide information on completed, current and planned works. These are circulated to the Department, PAG and other interested parties, such as the police and media.

Monthly reports

- As required, all the OCs submitted twelve monthly reports covering March 2003 to February 2004.
- There was an improvement in all of the OCs' submissions of reports, with nearly all now being delivered on time.

WPIs

- WPIs should be issued by the OCs no later than noon on Thursdays. There were significant improvements by all the OCs in delivering accurate WPIs within the agreed timescales.
- The OCs are also required to enter the WPI information into the NADICS roadworks diary on a daily basis. As this information is then passed on to the road user, either via the media or the NADICS website, accuracy is particularly important.
- PAG's monitoring showed there were a significant number of instances across the network of works being carried out without NADICS being informed. PAG is to carry out process audit on this issue 2004/05 to investigate opportunities for improvement. Early indications are that the OCs' performance has improved.
- PAG continued to monitor the OCs' operations against the content of the roadworks diary, advising the OCs of inconsistencies where appropriate.

4.2.2 Structural Maintenance Operations

Structural maintenance operations valued at under £150,000 per scheme are carried out by the OCs. Their payments are based on tendered rates and prices, set at the start of the OC contracts in 2001 and adjusted for inflation. Occasionally work is required that is not covered by the original contract items. In these instances new rates are developed and agreed.

These operations typically comprise areas of overlay, reconstruction, resurfacing, surface dressing, anti-skid, specialist concrete carriageway repairs, road markings and studs, as well as bridge maintenance, including: concrete, masonry and parapet repairs; steel painting; joint replacement and waterproofing.

Procurement and performance varied across the OCs during the year. PAG found that:

Procurement

- Structural maintenance operations were carried out by the OC in NE, with traffic management occasionally being undertaken by sub-contractors.
- In NW, work was undertaken by both the in-house OC team and sub-contractors.
- All of the work in SE was sub-contracted. The OC carried out traffic management for the sub-contracted schemes and also constructed minor civil works.
- In SW, all work was also sub-contracted. Traffic management was normally provided by the sub-contractor, but in some cases this was by the OC.

Workmanship

- The standard of workmanship in NE was generally good, with some remedial work required due to problems with materials. The OC has improved on last year's performance by updating procedures and training personnel.
- In NW, workmanship was fair. On sites where there was less supervision, poorer performance was noted. The Department expects the OC to address this issue over the next year.
- In SE, the standard of workmanship varied between the different sub-contractors. On some occasions PAG had to highlight the requirements of the specification. Again, the Department expects the OC to address this issue over the next year.
- Overall workmanship in SW was good, but minor remedial works were required in some instances.

Supervision

- There were instances of poor supervision in NE throughout the year. This lack of supervision led to poor coordination of traffic management and white lining.
- Supervision levels in NW were similar to last year, with an OC supervisor overseeing work in the south of the Unit. Further north, the OC relied on sub-contractors to supervise their own works, which led to variable performance.
- In SE, the supervision by the OC has substantially improved during the course of the year and this was particularly noticeable on bridge schemes.
- Supervision of sub-contractors was good in SW, with a supervisor on site in most instances. Overall,

OC representatives were seen more frequently on site than in previous years.

Completion of works and records

- There has been a similar trend to last year in NE, with unacceptable delays to the laying of markings and studs. The maximum delay was five months. The OC has put procedures in place to rectify the problem. The situation will be monitored in the coming year.

  Records are being completed on some sites, but several sites did not have any evidence of laying records or supervision records when audited. A new procedure is being implemented by the OC to improve record keeping on all sites.

- In NW, the completion of works was broadly satisfactory, except for long delays in installing white lining following surfacing works. Assurances from the OC to remedy the situation will be closely monitored in the coming year.

  Site record keeping was generally poor over the year. The OC has acknowledged this and has instigated a procedure on all sites to improve record collection.

- In SE, performance was variable. The tidy completion of schemes was a recurring concern, with debris from the works being left on adjacent embankments. In some instances, permanent reinstatements to ironworks after the completion of surfacing works and sign works took some time to complete.

  The OC has taken on more supervisory staff to improve their performance in completing works to a satisfactory standard. PAG will monitor this.

  Records submitted by the sub-contractors to the OC on completion of schemes were of inconsistent standard.

  Where record keeping has been poor, the OC has met with the relevant sub-contractors with the aim of improving performance. Again, this will be monitored by PAG.

- Performance in SW continued to be good. Road markings and studs continued to be installed promptly on the completion of resurfacing works.

  Record keeping was good.

4.2.3 Works Contracts

Works contracts are discrete schemes of work with a value of more than £150,000. These are authorised by the Department, designed by the OCs and let to third-party contractors through competitive tender. The Department is the Employer and the OC is the Engineer.

Works contracts typically comprise roads structural maintenance, but can also include packages of specialist work such as bridge maintenance and safety fence renewal.

Tender documents

PAG received 66 sets of tender documents in 2003/04 compared with 87 sets received in 2002/03. PAG continued to review a sample of the documents submitted with an overall target of 25% of the documents received to be checked. Details on the number of documents received and reviewed for each Unit are given in figure 29. As can be seen in this figure, 29% of the documents received this year were reviewed.

	NE	NW	SE	SW	Total
Number received	16	18	14	18	66
Number reviewed	3	6	5	5	19
% reviewed	19	33	36	28	29

Figure 29 *Draft tender documents reviewed by PAG (target 25%)*

	NE	NW	SE	SW	Total
April	0	0	0	1	1
May	1	0	0	1	2
June	1	2	1	1	5
July	2	0	2	1	5
August	1	1	1	0	3
September	2	1	0	1	4
October	3	3	3	3	12
November	1	5	1	2	9
December	2	1	0	4	7
January	2	3	3	4	12
February	1	1	1	0	3
March	0	1	2	0	3
Total	**16**	**18**	**14**	**18**	**66**

Figure 30 *Monthly tender document receipt by PAG*

Programme/progress

From figures 30 and 31 it can be seen that 70% of tenders were issued in the second half of 2003/04. The release of additional funding by the Department in the second half of the year contributed to this. This is a similar pattern to that of 2002/03, when 60% of tender documents were received in the second half of the year.

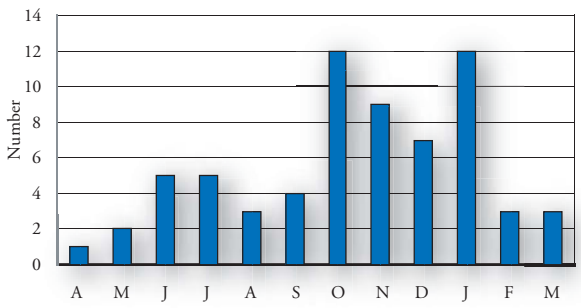

Figure 31 *Total monthly tender document production by all OCs*

In NW, SW and SE work started slowly, with a large proportion of work tendered in autumn and winter. This may have been due to additional budget being made available in the latter part of 2002/03. This resulted in the OCs putting schemes out to tender in late 2002/03 that had originally been intended for 2003/04. In NE, there was a more regular rate of tender document issue throughout the year.

Structures - bridges
In NE, one bridge works contract was tendered during 2003/04. This was A95 Granish to Keith Tormore Bridge, which combined road and bridge works.

One tender was received for bridge works contracts in NW. This related to A9 Cromarty Bridge deck refurbishment.

In SE and SW, there were five bridge works contracts tendered:

- Bridge repair works were carried out in conjunction with the major road maintenance contract on M8/ A706 East of Whitburn Junction.
- A726 Lindores Drive footbridge replacement.
- A works contract was tendered and carried out for phase 3 of the painting work on A876 Kincardine Bridge.
- A726 Birniehill Roundabout refurbishment.
- Strengthening works at Deans Bridge and Starlaw Road on M8. This contract was originally programmed for completion in 2003/04 but has continued into the next financial year due to a delayed start on site.

In SW, works were carried out on phase 4 of A898 Erskine Bridge structural refurbishment contract. The time for completion of this work has been extended into 2004/05. A75 New Ramhill Bridge refurbishment and bearing replacement scheme was tendered and successfully completed.

Supervision and workmanship
In NE, full-time site supervision was noted on all sites. This was a notable improvement on last year. PAG inspections indicated site diaries and testing records were being kept on a daily basis. On the larger sites, the OC's supervision resources were stretched. In general, good workmanship was evident for the works contracts.

Site supervision of works contracts in NW has been satisfactory. All major schemes had full-time supervision consisting of an engineer's representative, supplemented by an inspector/clerk of works on larger schemes.

In SE, site supervision has substantially improved over the course of the year, but there is still some room for improvement. PAG will continue to monitor this. The standard of workmanship varied from poor to good. Amey is taking steps to deal with this.

In SW, site supervision on the works contracts sites and overall workmanship was good.

Works contracts execution
Most schemes in NE were well resourced by the contractors undertaking the work, with realistic programming of activities.

In NW, works contracts were satisfactorily completed.

In SE, out of the nine contracts successfully undertaken during the year, six were carried out on a lane rental basis which minimised disruption to traffic.

In general, the execution of the works contracts was successful in SW, with schemes being completed to programme.

4.2.4 Accident Investigation and Prevention (AIP) and Minor Improvements

AIP
The OCs assist the Department in monitoring trunk road safety. They also assist in identifying sites and routes on the network that would be suitable for treatment with accident prevention measures (AIP schemes).

In October of each year, the Department provides data to the OCs to enable objective assessments of accident clusters. This enables the OCs to identify and prioritise suitable AIP schemes. These can include new signing and road markings, anti-skid treatments, traffic signals including pedestrian crossings, and route accident reduction plans.

A number of studies were carried out by BEAR in NE, with a large proportion targeted on A95. Anti-skid texturing and micro-surfacing works were carried out across the Unit, but again with an emphasis on A95. Two micro-surfacing trials were also successfully completed on A96 and M90. This new material is expected to be used in the 2004/05 programme.

In NW, BEAR strengthened its AIP team during the year. A number of road safety improvements were carried out at various locations. This included bend improvements on A835 at Tarvie, and the erection of speed-activated signs at North Kessock junction on A9. The team also carried out a number of studies on routes within the Unit.

In SE, Amey has a dedicated resource, which successfully completed reports on all the schemes identified in the programme. A number of these schemes are programmed for construction next year. Eleven AIP schemes were also installed on the Unit this year.

Amey's dedicated team in SW investigated 34 schemes this year. 29 were individual AIP sites, with the balance being Route Accident Reduction Plan (RARP) sites. Amey also developed and successfully trialled a fatal accident register in close cooperation with Strathclyde Police. Amey has increased its resources to further develop the register and liaise with Strathclyde Police and Dumfries & Galloway Constabulary.

Minor improvements
Minor improvements are non-maintenance schemes, either identified by the OCs or the Department, that improve network infrastructure. These can include road realignments, junction improvements, new bridges, provision of new lighting, and new safety barriers.

The OCs are responsible for the investigation, design and supervision of minor improvement schemes, with the construction being carried out by works contractors. Delivery of these schemes can include factors outwith the OCs' direct control, such as land purchase, other statutory procedures, and public consultations.

BEAR

- In NE, BEAR progressed design and construction of three large schemes on A95 at Craigellachie Tunnel Brae and Cromdale phase 2 and A92 New Inn to River Eden Bridge scheme. BEAR also undertook additional studies. The large Hatton Bends minor improvement scheme had to be delayed due to new procedures associated with new legislation and unresolved issues with some parties directly affected by the scheme.
- A number of schemes were completed in NW including bilingual road signing for A87, A830 and A887, footway and lighting improvements. Some schemes were removed from the programme due to factors outwith BEAR's control.

Amey

- In SE, Amey has a dedicated team available to carry out the minor improvement programmes. Schemes undertaken included the completion of a programme of new safety fencing and a new pedestrian crossing in Pathhead. However, two out of the four schemes in the original programme for construction this year were not completed within the anticipated programme. Amey has increased its resources to improve delivery of next year's programme. PAG and the Department will monitor progress.
- In SW, the roads design team undertakes the investigation of minor improvement schemes, as well as structural maintenance. The investigation and design programme included junction improvements and route strategy studies. A roundabout was constructed on A78 at Cloch Road, with completion expected early in 2004/05. There were two other schemes in the original programme for construction this year. Both of these schemes were delayed either to allow statutory procedures or additional design work to be completed.

4.2.5 Materials and Workmanship Testing

There are various contractual requirements for materials and workmanship testing. PAG's activities have confirmed each OC has procedures in place to ensure these requirements are met.

PAG continued to audit materials testing across the four Units and to verify certification of bituminous suppliers accredited under the QA sector scheme. Under the scheme, defined testing of bituminous material is carried out at source by the supplier, with the remainder carried out on site by the OC.

Scheme compliance by suppliers was verified by PAG, either using the OCs' online quality systems, or by examining the relevant certificates. With minor exceptions, subsequently dealt with by the OCs, appropriate certificates were in place.

The provision of inspection and test plans, which describe site-specific testing requirements for operations, varied between OCs, as did the level of testing. Where PAG found areas for improvement, each OC carried out corrective actions, as required by their quality systems.

Where examined, the testing of non-bituminous materials such as sub-base, aggregates or kerbs on maintenance works involving minor quantities was not always carried out. Suppliers' certificates were however available to verify compliance of the materials with the specification. On larger schemes, materials testing was carried out by specialist testing consultants.

4.2.6 Winter Maintenance

The OCs' winter maintenance performance has continued to attract close public interest and scrutiny over the past year. This was particularly true in NE and NW, where there were a number of periods of severe adverse weather.

The OCs undertake precautionary salting, as well as clearing ice and snow. The contracts require the OCs to *"allow the safe movement of users of trunk roads and to keep to a minimum delays caused to users by adverse winter weather (ice and snow)"*. As in previous years, PAG has reviewed the OCs' compliance with these contractual obligations, as well as undertaking the value for money exercise reported in section 3.2.

PAG's auditing and monitoring confirmed all four OCs broadly met their contractual obligations, continuing to develop and enhance their performance.

Weather conditions

Winter came early to north east Scotland on 21 October 2003, when ice and snow led to hazardous driving conditions on A96 at the Glens of Foudland. This weather pattern set the trend for the winter period, with a total of 11 winter-related major incident road closures. These were predominantly in NE, affecting A96 and A90. This year, SE and SW had a minimal amount of snow by comparison with the northern Units. Details of the closures are shown in figure 32 below.

Date	Unit	Location	Route
28/12/2003	NW	Snowgates at Catlodge	A889
31/12/2003	NE	Glens of Foudland	A96
31/12/2003	NE	Brideswell	A96
31/12/2003	NE	Newtongarry	A96
31/12/2003	NW	Drumochter	A9
31/12/2003	NE	Snowgates at Catlodge	A889
28/01/2004	NE	Colpy	A96
28/01/2004	NE	Toll of Birness	A90
29/01/2004	NE	Hatton Bends	A90
29/01/2004	NE	Huntly to Keith	A96
27/02/2004	NE	Glens of Foudland	A96

Figure 32 *Winter-related major incident road closures*

Winter Period	No. of winter-related major incident road closures
2003/04	11
2002/03	4
2001/02	4
2000/01	12

Figure 33 *Number of winter-related major incident road closures over the last four years*

These 11 closures compare with four closures in each of the first two winters of these contracts, in 2001/02 and 2002/03. This indicates the comparative severity of this winter period.

Further evidence of the north-easterly exposure and relative severity of the 2003/04 winter period is the average number of precautionary treatments per route across the network, compared to the previous winter. These are shown in figure 33 and relate to 10g/m^2 and 20g/m^2 precautionary salting treatments carried out by the OCs.

Unit	NE	NW	SE	SW
No of routes	17	24	18	24
Average no. of treatments per route in 2002/03 winter period	55	70	72	60
Average no. of treatments per route in 2003/04 winter period	80	83	85	57
Change in 2003/04 from previous winter	+45%	+19%	+18%	-5%

Figure 34 *Average number of precautionary treatments in winter period*

Figure 34 also shows that the highest average number of treatments was in SE. This broadly correlates with the information in section 3.2.2, where figure 20 shows inland SE rural routes had the highest total average salt spread rate.

A general characteristic of 2003/04 winter was two- to three-day periods of cold weather, with blizzard conditions mainly across the NE. These periods of high winds, during or following periods of snow, led to poor visibility on parts of the network, often causing accidents and subsequent tailbacks.

Figures 35 and 36, show conditions on A90 south of Aberdeen during one of these periods.

Figure 35 *NE – winter conditions on A90 Muchalls on 25 February 2004*

Figure 36 *Winter conditions on A90 Laurencekirk on 25 February 2004*

In NW, additional winter patrols were undertaken on A835 in the latter part of 2003/04. These were carried out on a trial basis, following discussions between the Department, BEAR and local bodies.

PAG audits and investigations into winter operations
PAG undertook ten winter maintenance compliance audits, four process follow-up audits and a network VFM investigation in 2003/04. This reduction in compliance auditing from 19 in 2002/03 reflected the generally positive results from the previous winter's audits.

This year's PAG audits showed:

- The OCs continued to broadly meet their contractual responsibilities.
- All OCs had conscientiously acted on issues identified by PAG's 2002/03 process audits.
- Revised procedures for ice warning sensors and data logger downloads were adopted by the OCs. This, coupled with improved quality system development and adoption of GPS arrangements, showed the OCs carried out their responsibilities in a competent and professional manner.
- Eight specific cold weather events affecting both NE and NW were examined. PAG's findings indicated that satisfactory performance was generally achieved.

In NW, PAG was asked by the Department to examine operational rotas at a particular depot. The rotas were found to meet the appropriate regulations, with three occasions of extended working in emergency conditions in the 348 shifts examined. They also met BEAR's internal guidelines on all but one of the shifts.

Summary
Across NE there were distinct periods of blizzard conditions, which led to hazardous driving conditions and road closures. Relatively milder conditions, with fewer instances of snowfall, prevailed across SE and SW, causing no real issues.

PAG's auditing and monitoring again indicated winter maintenance duties were carried out professionally by the OCs. Amey and BEAR continued to develop their winter maintenance service.

4.2.7 Cyclic Maintenance

Activities such as grass cutting, weed control, gully cleaning and litter picking are classified as cyclic maintenance. They are carried out across the network on a regular basis.

As in previous years, PAG has carried out a detailed investigation of the OCs' cyclic maintenance activities as part of its value for money studies (see **section 3.1**).

PAG considers that cyclic maintenance was carried out to a reasonable standard across the network.

4.2.8 Routine Maintenance Management System (RMMS)/ Repair of Defects

The OCs are required to provide, operate and maintain an RMMS to record details of their maintenance operations on the network.

The main factors influencing assessment of the OCs' RMMS were:

- RMMS hardware and communications links.
- System compliance and operation.
- OC performance.

RMMS hardware and connections
The hardware and communication links for all OCs worked throughout the year. This enabled PAG to access remotely the OCs' RMMSs when required.

System compliance and operation
BEAR
NE and NW continued to use separate RMMS and street lighting software which both linked to the CCMS.

During 2003/04, BEAR:

- Resolved the remaining minor issues with its street lighting database to ensure all software met the requirements of the contract.
- Continued to utilise the RMMS and street lighting databases to record the data required by the contract.

- Continued to work with PAG to ensure its RMMS data is supported by a rigorous inspection and record-keeping regime.

These actions have ensured the RMMS is able to operate in accordance with the contract.

Amey
In SE and SW, Amey utilised a software package in the RMMS which was integral with the CCMS.

Amey made the following progress during 2003/04:

- Implemented an action plan to deliver the remaining RMMS functionality required by the contract. This included new cyclic maintenance and street lighting modules.
- Worked to ensure the new modules were populated with back-dated data.
- Implemented training programmes for all appropriate staff to increase the use of RMMS.
- Implemented a detailed inspection programme to ensure it would meet contract requirements by the end of March 2004.

These actions ensured the RMMS could function correctly, but there remain some serious issues regarding its use, as discussed in section 2.3.

OC performance recorded in RMMS

Safety inspections
- All OCs had a safety inspection programme in place. PAG audits indicated that over 95% of safety inspections were carried out on time.

Detailed inspections
- During the year, PAG identified that BEAR had not carried out some detailed inspections. BEAR reacted quickly to rectify the problem. PAG audits also indicated almost all of its detailed inspections programme had been completed.

- PAG audits showed Amey did not complete its detailed inspections programme, implemented as part of its action plan, notably in SE. Investigations by PAG are continuing to determine the extent of Amey's compliance with its programme and the necessary action required.

Cyclic maintenance
- Cyclic maintenance has been carried out and recorded in the RMMS by all OCs.

Summary
- BEAR is actively utilising its RMMS to manage and record routine maintenance operations.
- Amey still has room for improvement to ensure it meets its contract requirements regarding inspections.

4.2.9 Emergencies

Emergency response
The OCs are required to deal with numerous emergencies on the network, frequently in conjunction with the emergency services. These can include:

- Road traffic accidents.
- Flooding.
- Landslips.
- Serious carriageway defects.
- Bridge strikes.
- Incidents due to adverse weather.

Road traffic related incidents made up the majority of emergencies occurring across the network in 2003/04. Incidents of note were:

- 48 hours of heavy rainfall and resulting wash out of debris resulted in flooding on A83 at the Rest and be Thankful in NW in November 2003. The severity of the incident was reduced by the recently constructed culvert retaining debris and helping to re-direct much of the water flow from the carriageway, see figure 37. BEAR subsequently cleared the debris successfully.

Figure 37 *A landslide requiring emergency work due to flooding on A83 Rest and be Thankful*

- In January 2004, torrential rain resulted in several locations on A77 being flooded with the consequential closure of the road. Amey in SW responded well in dealing with these events, using the standard diversion routes it had developed.
- In February 2004, Amey in SE responded well to the bridge strike on A80 near Haggs junction. This did, however, result in unavoidable major traffic delays.

Hazard notices
PAG issued 122 hazard notices during the year, a reduction on last year's 151. These report serious problems on the network, such as hazardous traffic management or a dangerous carriageway defect. Figure 38 shows a typical hazard.

Figure 38 *A hazardous carriageway pothole on M90 near Kelty in NE*

Overall, the OCs responded well to emergencies and hazard notices, dealing with issues raised promptly and professionally. However, there were some problems in NE with BEAR not communicating to PAG its responses to hazards in the first half of the year. This may have partly been due to the adoption of a new response procedure by the OC. BEAR took action to address this and an improvement in prompt replies to PAG was recorded in the latter half of the year.

4.2.10 Management Tasks

The tasks allocated to the OCs under the contract include general management tasks, such as:

- Development control/planning applications.
- Abnormal load routing.
- Signing.
- Specific tasks related to bridges inspections.

General management tasks
As in previous years, PAG has not generally examined these management tasks in any technical detail. However, these areas have been addressed in PAG's audits of the OCs' quality systems. (see section 4.3).

4.2.11 Structures Management and Maintenance

Principal and general inspections
PAG carried out a series of audits in the OCs to examine their performance in carrying out these duties. Across the network over 850 bridges and structures were programmed for principal inspections by the OCs during this period.

The findings from PAG's audits were:

- All OCs demonstrated good management of the principal inspections and general inspections processes and continue to react positively to suggested improvements.
- Reporting performance and consistency has improved from the previous year, largely due to increased numbers and consistency of the staff involved. Further improvement in meeting the reporting dates is still possible.
- In NE and NW, lodging of records was not fully completed by the due dates.
- The inspections programme has been satisfactorily completed and reported in SE and SW.

In NW, a default notice was issued due to delays in execution of the ordered maintenance programme. Following submission of detailed proposals to complete the programme by end of March, this notice was closed.

Bridge assessments
An audit was carried out by PAG in NW at the Department's request. This recorded some minor observations relating to the documentation and certification, which have been addressed by BEAR.

4.3 Quality Management Systems (QMS)

4.3.1 Quality Management

A fundamental of the TRA contracts is the obligation on the OCs to maintain records which demonstrate compliance with the contract requirements. All of the activities by the OCs under the contracts are therefore covered by their QMSs.

The contract also requires each OC to appoint an independent Contract Quality Manager (CQM) whose principal duty is to report on the effectiveness of the QMS.

In addition to their contractual obligations, the OCs have facilitated open access to their QMSs which has allowed PAG to closely monitor the operation of the systems. PAG has observed that Amey and BEAR have progressively improved the effectiveness of their systems and demonstrated commitment at the highest level. Nevertheless there were activities and procedures which failed to achieve the required results. The OCs had to take remedial actions.

Working towards sector scheme quality management certification, the OCs have developed parts of their QMSs for specific operations which are currently being carried out by their sub-contractors.

During the year, the following innovations were introduced to PAG auditing:

- Process audits, which identify potential improvements to procedures, in addition to checking compliance with the contract. These were enthusiastically received by both the OCs and the Department.
- Quarterly follow-up audits, which examine actions taken by the OCs in response to issues arising from PAG audits.

BEAR
BEAR re-structured its organisation during 2003, streamlining many of its operations to achieve efficiency improvements and expanding the role of the quality management department. The disciplines of quality, environment and health & safety were brought together under one umbrella of the Integrated Management System. Close monitoring of performance by the use of contract and internal KPIs, has allowed BEAR management to demonstrate improvement and to take action when appropriate.

The Business Improvement Plan (BIP), introduced in 2002 to rectify process failures within the organisation, brought about substantial improvements in performance. This was reflected in a significant reduction in default notices to those issued in 2002/03, see section 4.3.3. The BIP appears to have been substantially replaced by more effective use of the QMS.

Use of the Q-Pulse computerised data management system, shown in figure 39, has been extended. In addition to controlling access to quality and operational procedures and management of the audit programme and the NCR register, it is now used to manage various quality records, registers and forms.

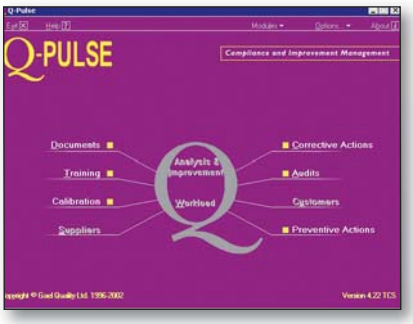

Figure 39 *Q-pulse data management system used by BEAR*

Last year PAG reported that the evaluation and management of sub-contractors and suppliers did not meet the requirements of the contract. As part of BEAR's reorganisation, responsibility for the procurement of suppliers and sub-contractors was separated and a full review of their procedures was undertaken.

The PAG process audits of sub-contracting activities, in NE and NW, found that expected improvements arising from audits in 2001 and 2002 had not materialised. BEAR acknowledged that the procedures were still inadequate and undertook to implement immediate action to resolve this.

Process audits were also carried out on the SERIS and OI processes. The SERIS audit found that good practice in the use of SERIS to justify schemes in NE had not been adopted in NW. The process in NW was improved to remedy this.

The OI audit found that overall the generation of OIs was working effectively, but improvements were required in the description of the operation for site staff and in ensuring accuracy of measurements. Also, the documented procedure did not reflect the current practices and this was therefore revised to include all the improvements identified (see section 4.1.3 for details).

Amey
Early in 2003/04 PAG reported that Amey's internal auditing was not effective. Consequently its QMS

was not being implemented in accordance with the requirements of the contract. Default notices were issued to SE and SW in July 2003. These required the OCs to provide detailed reports on the management of the QMS. Amey re-structured its quality, environment and health and safety disciplines under one department, the Performance Management Group. This, together with a more proactive approach to internal auditing and ad hoc reporting, has significantly improved the effectiveness of the QMS. The default notices were closed out in late October and early November 2003.

In addition, Amey established an intranet site dedicated to SE and SW, see figure 40. This has links to the Amey Group high level management systems. This was a significant improvement on the previous system. Copies of the intranet site are provided to the Department and PAG on CD Rom and updates are issued as required.

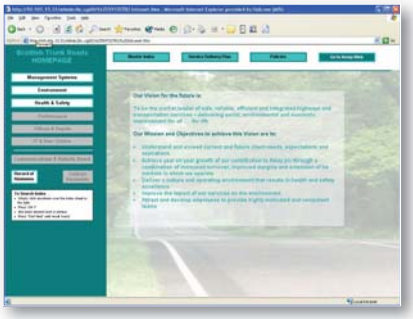

Figure 40 *Intranet site established by Amey*

PAG carried out process audits of SE and SW procedures for sub-contracting work. These found that significant improvements had been made, with revised procedures and more staff now allocated to monitor the work of their sub-contractors. However, administrative improvements are still required to ensure each sub-contractor has been fully assessed as competent to carry out the specific activities.

The process audits on SERIS found that overall, the process worked well. Areas for improvement included a review of training of design staff and provision of a QMS procedure for the process.

The OI process audit found that overall the generation of OIs was working effectively. Improvements were required in SE in the description of the operation for site staff, ensuring accuracy of measurements and entering accurate data in CCMS. The documented procedure did not reflect the current practices and this was therefore revised to include all the improvements identified at the audit (see section 4.1.3 for details).

Traceability of materials incorporated in the works has also much improved since last year.

4.3.2 Environmental Management

The OCs are required to operate an Environmental Management System (EMS) in accordance with BS EN ISO 14001. An EMS requires an organisation to formulate a policy, to identify aspects of its operations that could have a significant impact on the environment, and to set objectives taking into account legislative requirements.

BEAR and Amey have progressively improved the effectiveness of their EMSs. Frequent auditing and monitoring indicated compliance with legislative and contractual requirements.

BEAR

Both PAG and the CQM reported there was a significant improvement in the management of environmental issues and BEAR is developing good controls over its processes. The EMS will take time to be fully implemented, but with the resources currently employed by BEAR, the required improvements should be achieved.

Improvements identified include a review of the OCs' activities to ensure that current operational works do not impact on the environment and that where risks are recognised, objectives are set and programmed. A greater awareness of environmental issues also needs to be conveyed to sub-contractors, particularly where they are not registered to ISO 14001.

Environmental audits were performed at the central office, depots and site works.

Amey

Audits by PAG and the CQM indicated Amey was implementing an effective EMS. Controls were good, although tightening up of procedures for handling special wastes was required. Regular monitoring using Amey management system monitors in addition to internal audits ensure operations conform to the contract requirements and legislation.

Improvements identified include ensuring that environmental awareness training is provided to all sub-contractors, especially where the sub-contractor is not registered to ISO 14001.

Audits were performed at the central offices and depots.

Amey has made good progress in encouraging Scottish Borders Council (SBC), to adopt its environmental management procedures at the depot in Newton-St-Boswell. SBC, which is a sub-contractor to Amey, was reported by PAG in 2002/03 to be failing in its

obligations to comply with relevant environmental legislation. A subsequent PAG audit found that it had made substantial improvement by implementing controls and eliminating some of the potential risks to the environment.

4.3.3 Notification of Emerging Issues (NEI) and Default Notices

Where the OCs do not meet contractual requirements, it is important that action is taken to improve performance.

The NEI process was set up this year by the Department and PAG, with the assistance of the OCs, to deal with initial concerns about performance.

Under the contracts there is provision for the Department to issue default notices when the OCs do not meet their obligations. These require the OCs to undertake remedial actions within a specified period.

NEIs
Early in the year, there were discussions between senior managers of the Department and PAG, on how monitoring OC performance could be enhanced. This resulted in the introduction of the NEI process.

This is an extension of PAG's role which formalises the discussions it already has with the OCs. It gives PAG a more proactive role in resolving problems and improving performance. It replaced the previous emerging issues report.

In effect, the NEI process lies between ORIs/audit findings and default notices. It effectively escalates an issue to focus attention on its resolution. If PAG's involvement with the OC fails to achieve a satisfactory outcome, then a recommendation for further action is made to the Department. The NEI process also assists the Department in formally raising issues of concern at an early stage, before a default notice is required.

The NEI process was launched in early December 2003. Figure 41 shows the number of NEIs issued by the end of 2003/04.

Unit	Number of NEIs issued
NE	4
NW	2
SE	8
SW	7
Total	**21**

Figure 41 *NEIs issued in 2003/04*

Topics covered by NEIs included:

- Detailed inspection records.
- Supervision of operations.
- Scheme closure details.

In some instances, NEIs picked up issues that had been discussed for some time, without being satisfactorily resolved.

Progress on resolving NEIs was variable, with many being closed in early 2004/05, although some are taking longer than expected to resolve. The process has been welcomed by all parties and it is important the initial momentum is maintained.

Default notices
Default notices are formal notifications issued by the Department under the contracts where the OC commits a default. Where a remedy is possible, this may require the OCs to undertake remedial actions within a specified period. Further sanctions are available under the contract when the remedy is not completed within the remedial period. The contracts also provide a mechanism to withhold money from OCs against default notices.

The status of default notices is closely monitored by the Department and PAG and regular reports are circulated to the highest levels within the Scottish Executive. A total of 24 default notices were issued to the OCs this year, an increase of eight over the previous year. These 24 default notices were issued in the period from April to December, prior to the introduction of the NEI process. Details are shown in Figure 42

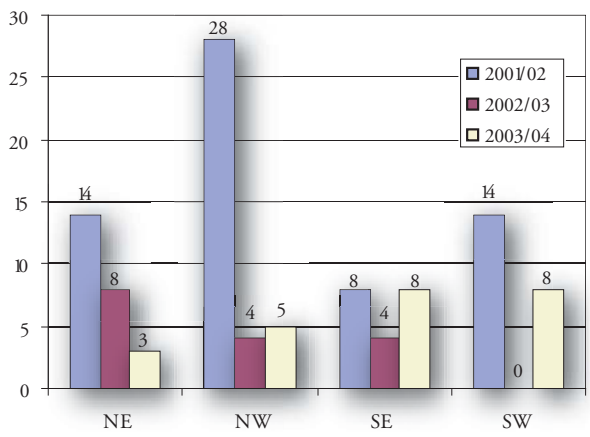

Figure 42 *Default notices issued each year*

From Figure 42 it can be seen that:

- NE has shown a consistent reduction in the number of default notices issued, from eight in 2002/03 to three in 2003/04.
- NW has increased by one from last year.
- SE has increased from four default notices issued in 2002/03 to eight in 2003/04.
- SW has increased from no default notices last year to eight issued in 2003/04.

BEAR

After a poor performance in the first year of the contracts and a subsequent improvement in the second year, BEAR has maintained the improved level of performance this year. Default notices issued this year in NE have included:

- Two relating to inadequacies in completion of two-yearly inspections.
- One on design and supervision of roadworks.

All of the default notices in NW have been management related issues. These were:

- Two for not completing required two-yearly inspections.
- Two others for failures in management and inspection of bridges.
- One for inadequacies in safety inspections.

Amey

In SE and SW, many of the default notices resulted from a lack of progress on issues which had been the subject of discussions over prolonged periods.

Default notices relating to failures in the QMS were issued to both SE and SW, see **section 4.3.1** for details. The remaining seven defaults notices in SE comprised:

- Three for inadequacies in routine and cyclic works.
- Three for default notices in financial management.
- One for a failure to carry out a required two-yearly task.

In SW, the other seven default notices issued were all management issues with:

- Two for failure to carry out two-yearly tasks.
- Three for failures to provide information to the Department.
- Two were financial issues.

The number of default notices open at the end of each year gives an indication of how effective the OCs were dealing with the issues. However, it is affected by the complexity of the issues and the time of year when they are raised.

At the end of the second year of the contracts, a total of 18 default notices had not been resolved and remedial actions continued into 2003/04. With some notable exceptions, most of these issues have been resolved.

At the end of this year, 20 default notices remained open from a total of 104 which have been issued since the start of the contracts.

Figure 43 shows a comparison of the number of default notices remaining open at the end of each of the contracts' three years.

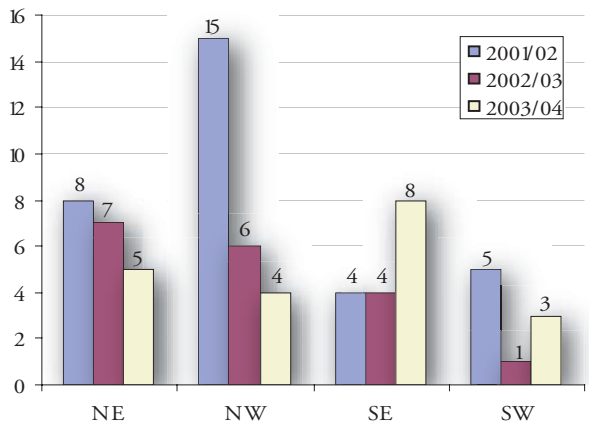

Figure 43 *Default notices open at end of each year*

An analysis of the default notices which remained open each year indicates that:

- In NE, the number of default notices open at the end of each year has reduced consistently, indicating resolution of issues is effectively managed. Of the five default notices remaining open at the end of this year, three were open at 1 April 2003 and two were issued during 2003/04.
- NW had by far the largest number of outstanding default notices at the end of the first year, with good progress being made to reduce this figure to six by the end of the second year. The OC has continued to act effectively when default notices are issued, with only four being open at the end of 2003/04. Despite this good progress, one default notice remains outstanding from the first year and one from the second year.
- SE had the largest number of default notices open at the end of 2003/04. These comprised three from the first two years of the contract and five from 2003/04.

- In SW, the OC took effective action when default notices were issued with six of the eight issued in 2003/04 being closed during the year. One from the first year and two others remained open at the end of 2003/04.

In SE and SW the default notices relating to their RMMS, raised during the first year of the contract, have not been closed. The RMMS and CCMS are closely linked. Delays in implementing the CCMS have affected the full development of the RMMS. Further details are given in section 4.2.8.

The Department and PAG continue to actively pursue outstanding default notices and monitor the OCs' actions to confirm they are effective.

4.3.4 Key Performance Indicators

Introduction
The OC contracts specify 30 Key Performance Indicators (KPI) which are reported to the Department at stated intervals. These are not used as a contractual performance measure, but may indicate areas where the contract requirements are not being met.

Over the three years of the contracts a significant amount of data has collected and this is regularly reviewed as part of a monitoring process.

PAG assessment for reasonableness
All OCs continue to calculate most KPIs manually, although more automated calculation is being introduced as the recording systems become more mature.

BEAR
Availability of KPI data were generally good. There were a couple of omissions. For KPI 18 and 25, both NE and NW had data missing.

Some data from KPI 05 and 06 relating to winter maintenance were not reported. This is a result of there being no unplanned callouts or treatments due to less severe weather conditions.

NW was consistently slow in providing KPI data for the 3rd quarter of the year.

Amey
Both OCs had some missing data. This was most evident in KPI 03 detailed inspections and KPI 17 site operations cost estimates.

Amey had the same problem as BEAR for KPIs 05 and 06, winter maintenance response and treatment times, respectively.

OC performance
Comments on significant performance issues, from the data submitted, are noted below.

- KPI 01 – permanent repair of Category 1 defects.

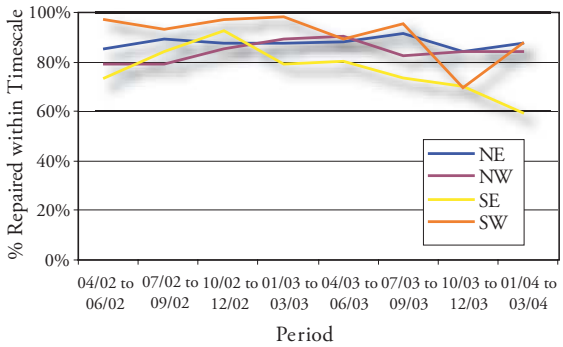

Figure 44 *KPI 01 – permanent repair of Category 1 defects*

Detail provided by all OCs for this KPI was not consistent with the results of PAG auditing (see section 2.3 for details).

-This data shows that performance in SE declined consistently during the year.

-In SW, Amey's performance showed an uncharacteristically poor performance during the last quarter of 2003 but recovered in the following period.

-In NE and NW, BEAR maintained a consistent performance.

- KPI 03 – detailed inspections completed.

Figure 45 *KPI 03 – detailed inspections completed*

-BEAR in NE and NW achieved 100% of their detailed inspections.

-Amey in SE and SW provided no data. See section 4.2.8 for further explanation.

- KPI 05 and 06 – winter maintenance response and treatment times.

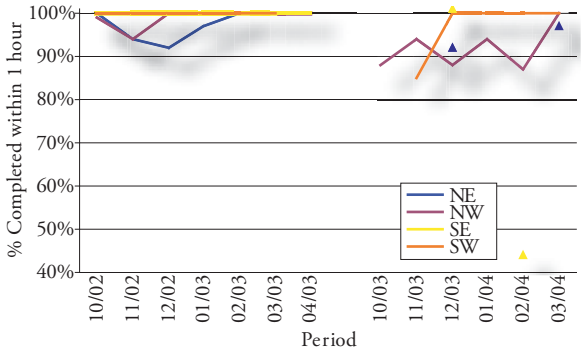

Figure 46 *KPI 05 – winter maintenance response times*

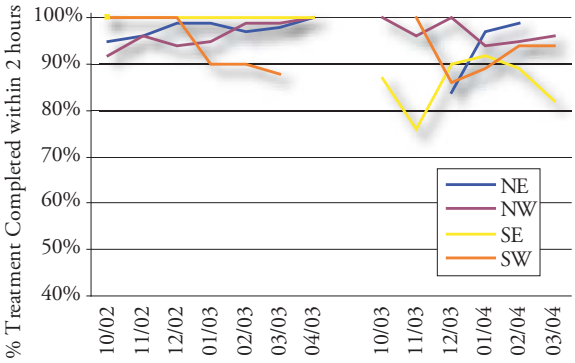

Figure 47 *KPI 06 – winter maintenance treatment times*

KPI 05, response times, is a measure of the OCs' response to call out, which is required within one hour. KPI 06, treatment time, is a measure of the OCs' performance in then completing the treatment within the required two hours from commencement.

- Where data is available this indicates that response times are not as good as last year.

- In SE, treatment times are significantly poorer than last year.

- Winter KPIs are further discussed in section 3.2.

- KPI 07 – Emergency response.

Figure 48 *KPI 07 – emergency response times*

-All OCs' performance showed an improvement over last year.

-Another significant improvement by NE is also noted.

- KPI 18 – operations completed.

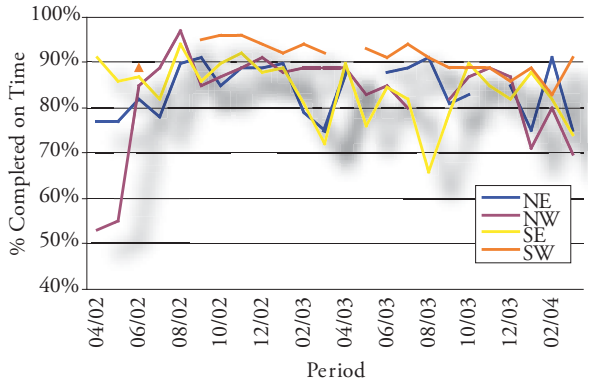

Figure 49 *KPI 18 – operations completed*

This KPI covers all operations carried out by the OC.

-Performance by NE and NW is similar to last year.

- SE and SW show a small decline in performance.

- KPI 25 – planning applications.

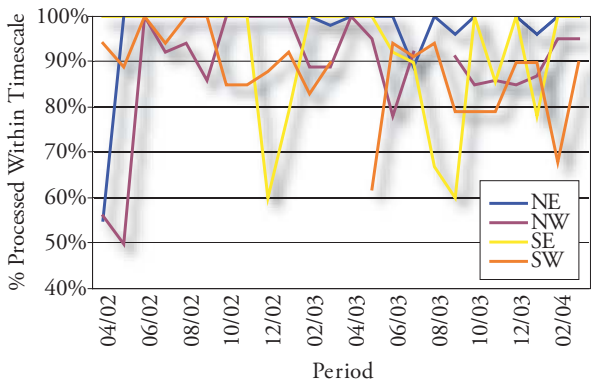

Figure 50 *KPI 25 – planning application processed on time*

This KPI relates to the OCs' comments on planning applications being submitted to the Department within the required timescale.

-A lack of consistency in performance is evident from the data. This may be due in part to the small number of applications in some Units.

-On average, performance in NE and NW improved, while performance in SE and SW declined.

- KPI 26 – submission of reports, programmes and minutes.

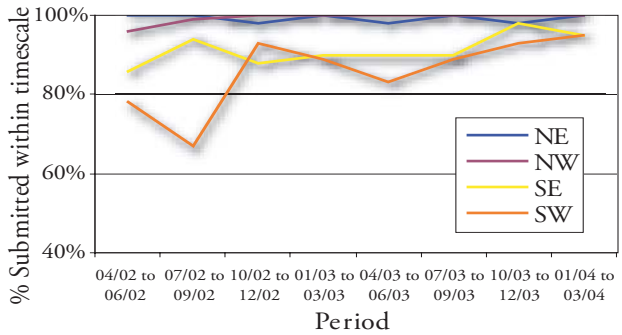

Figure 51 *KPI 26 – submission of reports, programmes and minutes*

This KPI relates to reports and other documents prepared by the OCs being submitted to the Department within the required timescale.

-In NE and NW, the required timescales were met in almost all cases.

-SE and SW improved significantly during the year.

- KPI 27 and 28 – correspondence and draft responses.

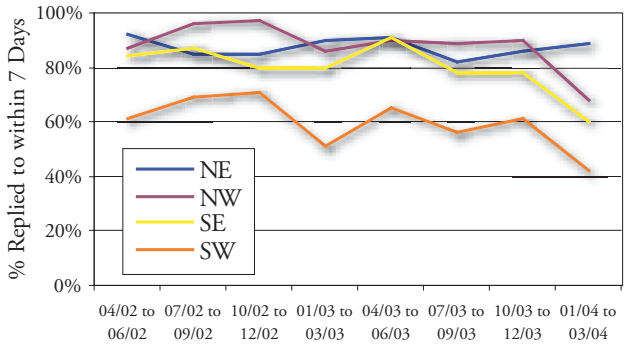

Figure 52 *KPI 27 – response to public correspondence, enquiries and complaints*

KPI 27 relates to the time taken for OCs to reply to public correspondence.

-All OCs continued to perform at a similar or poorer level to last year.

-With the exception of NE, all OCs' performance declined sharply in the first quarter of 2004.

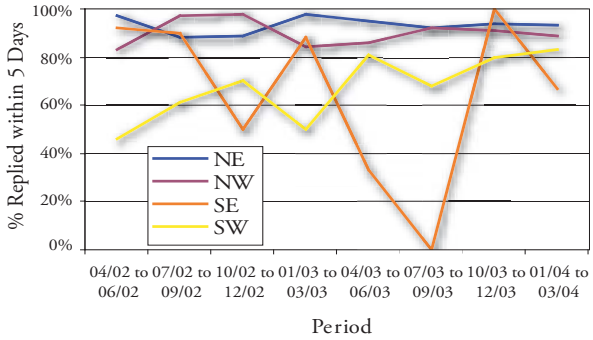

Figure 53 *– KPI 28 – draft responses for the Department*

KPI 28 relates to the time taken for OCs to submit briefings to the Department on ministerial and general correspondence.

-NE and NW continued to perform at a similar level to last year.

-In SW, a default notice issued in April 2003 was followed by a significant improvement in performance which is generally being maintained.

-In SE, the large variations between reporting periods are likely to be due to the small number of responses during each period.

4.3.5 Project Partnering

Background

The partnering ethos between the Department, the OCs and PAG has continued to pay dividends in terms of a mature and constructive working relationship between the parties.

The aim of this informal partnering approach is to encourage:

- The recognition of common goals.
- The recognition of individual goals for each team.
- The achievement of mutual success.

While partnering can be taken forward through formal initiatives, working relationships and attitudes can be equally important. These should all contribute to the success of the contracts and a move away from the traditional adversarial approach associated with the construction industry.

Progress
In BEAR, there was some further progress in formal partnering arrangements during the year. Task groups looked at:

- CCMS.
- Customer knowledge.
- Scheme delivery, programme and budget control.
- Communication and quality of information.

These were set up early in the year, but the momentum has been lost. A strategic partnering board was set up early in 2004, with a plan for quarterly meetings. Nevertheless, working relationships continued to be strong and professional.

Positive progress was also made by Amey. A strategic network board was set up and met on a quarterly basis throughout the year. This comprised senior management from the Department, Amey and PAG and looked at strategic issues that would influence the running of the contract.

In addition, Amey set up a partnering and innovations forum with managers from all three organisations plus an independent facilitator. This forum met quarterly to look at improving partnering at operational level and to encourage innovation across the contract.


Roundabout
Partnering in Action
JUNCTION UPGRADE IMPROVES SAFETY
Welcome from the partnering team

The forum was active, carrying out a partnering survey across the three organisations. The results of the survey were encouraging and were disseminated to staff via a series of joint presentations. The forum also brought forward a partnering newsletter.

The first issue of *Roundabout* was published in spring 2004 and publication of future issues is planned to be on a quarterly basis. The spring issue covered news about people in the three organisations, as well as an update on technical issues.

The culture of continuous improvement across the contracts has been assisted by the further development of process auditing by PAG. These audits look at key processes used in running the contracts and identify potential improvements.

Overall, the relationships between the parties continue to be strengthened, to the benefit of service delivery.

SW: A737 Clerksbridge

Chapter 5

M6 DBFO Project – Service Delivery

Key Points

- The project road is relatively new. As a result, most of the work currently undertaken is routine, cyclic and winter maintenance. However, major structural maintenance will increase as the road progresses through its design life.
- Autolink continued its excellent record of maintaining availability of the motorway.
- Works requiring the motorway to operate with less than two lanes open took place only in off-peak periods, with the exception of emergency situations.
- Major snowfalls occurred on eight occasions, and Autolink maintained traffic flow throughout these events.
- Autolink is effectively managing its Quality Management System.
- No default notices were issued during 2003/04.

5.1 Operations and Maintenance

This section comments on the performance of Autolink on the 91km section of M74/A74(M) between Junction 12 (Millbank) and the Scottish border operated under M6 DBFO project. This section of road, referred to as the project road, is a vital link between central Scotland and the English border.

M6 DBFO contract was awarded to Autolink Concessionaires (M6) plc for a 30 year period from 29 July 1997. Following completion of the 'new works' sections in spring 1999, Autolink is responsible for the operations and maintenance of this section of the network. Included in its remit is routine, cyclic, structural and winter maintenance.

Autolink's reporting year runs from the anniversary of the Project Agreement, ie from 29 July to 28 July annually. However, for consistency, this report will discuss performance during the period April 2003 to March 2004.

The project road is relatively new, with the first section of the upgraded route being opened in 1992. As a consequence, the majority of the operations and maintenance work is currently routine, cyclic and winter maintenance. However, major structural maintenance will increase over the years, as the road progresses through its design life.

The agreement between the Scottish Ministers and Autolink differs in several significant ways from the contracts with Amey and BEAR. These differences primarily relate to the remit of design-build-finance and operate (DBFO) and the payment mechanisms. The physical operations of routine, cyclic and winter maintenance and inspections are specified to similar standards.

Figure 54 *M6 DBFO: wet weather at Cowdens*

Routine and Cyclic Maintenance

As part of their routine and cyclic maintenance obligations, Autolink carry out works such as:

- Safety fence repairs.
- Boundary fence repairs.
- Grass cutting.
- Landscape maintenance.
- Litter picking.
- Gully cleaning and sweeping.

These works are planned and carried out throughout the year. All activities were carried out to a high standard during the year.

Inspections
Autolink carries out a range of inspections under the agreement. These cover:

- Carriageway and hard shoulders.
- Roadmarkings and studs.
- Signs.
- Drainage systems.
- Cutting and embankments.
- Culverts and small span bridges.
- Principal and general inspections of more major structures.

Of the nine detailed inspections required, all were achieved on time except one.

Winter maintenance
Winter maintenance is a high profile activity, particularly on this important, and in parts high level, route and it has a direct impact on the safety of Autolink road users.

Autolink operated winter maintenance from two depots, one at Crawford and another at Eaglesfield. During the winter period, it monitored forecast and actual road conditions and carried out treatments as set out in its agreed winter maintenance plan, which is lodged annually with the Department.

The 2003/04 winter season was relatively mild, without prolonged periods of heavy snow. However, marginal temperature conditions occurred more frequently and Autolink carried out the necessary precautionary salting. Major snowfalls occurred on eight occasions, and Autolink maintained traffic flow throughout these events. Figure 55 shows winter conditions on the route.

Figure 55 *M6 DBFO: winter conditions near Junction 13 southbound*

Traffic management
Given the nature of the motorway, with high traffic flows and speeds, as well as a large percentage of heavy goods vehicles, the safety of road users and the contractor's workforce is paramount. Only certain limited maintenance operations can be carried out without lane closures.

Autolink maintained its excellent record of maintaining availability of the motorway. The agreement requires Autolink to consult on proposed lane closures and to seek the approval of the Scottish Minister's Agent (PAG) when works will require the motorway to operate with less than two running lanes. Other than under emergency situations, such closures only occurred during off-peak periods. With detailed advanced planning of the work, delays to traffic were kept to an absolute minimum.

Measurement of traffic volumes along the length of the project road is an important requirement under the agreement, particularly as Autolink is paid under a complex financial model based on traffic volumes using the route. A significant part of their ongoing work is the repair and maintenance of these automatic counters.

Emergencies
Autolink is obliged to deal with the various types of emergencies that occur on the motorway. These normally relate to road traffic accidents where Autolink had to work under police control. The carriageway was only fully closed on eight occasions, all following traffic incidents. Autolink's emergency response times were all well within the required timescale.

Customer contact service (CCS)
In common with the other parts of the trunk road network, Autolink operates a CCS for complaints and enquiries. Calls are routed to Autolink's main office at Lockerbie. During the period 264 calls, many of which related to debris or animals on the road, were received. All calls were dealt with promptly.

QMS
Under the agreement, Autolink and its contractors, principally the M6 Joint Venture, are required to institute and maintain a QMS complying with the requirements of BS EN ISO 9001, and to ensure it is regularly reviewed. Under the review procedure, if significant changes are proposed, then Autolink must submit these for assessment by PAG. During the year, Autolink submitted 105 separate procedures and method statements under this review process. This shows Autolink is effectively managing its QMS.

Audits to check compliance with the QMS were performed by PAG, Autolink and the M6 Joint Venture, as either external or internal audits. A joint audit schedule

was agreed every six months to avoid duplication. During this period PAG carried out ten audits of Autolink, M6 Joint Venture and Golden River Traffic. In addition, regular meetings are held with Autolink's Project Quality Director. No default notices were issued during the period.

As part of the quality plan for the operations and maintenance of the project, Autolink have agreed 18 KPIs which are reported to the Department at quarterly intervals and monitored by PAG. These cover the main operating areas, such as routine maintenance, winter maintenance, quality system and customer care.

During the period, Autolink reported all the KPI data accurately and on time.

Autolink achieved a consistently high performance during the year, maintaining the strong trend established in previous years. Comments on the significant performance issues are:

- Over the year Autolink achieved the target performance for 12 out of the 18 indicators.
- This included 100% for repair of defects, safety inspections, surveys of lamp outages and winter maintenance response and treatment times.
- Autolink also achieved 100% for responses to planning applications, replies to customer enquiries and replies for briefings to the Department.
- Autolink carried out 25% more bridges inspections than programmed.
- Autolink showed strong performance in closing out corrective actions and non-conformances in their quality system.

NE: A95 Tormore Distillery

List of Acronyms

Acronym	Title
AIP	Accident Investigation Prevention
BIP	Business Improvement Plan - BEAR
BS	British Standard
CAR	Corrective Action Request terminology for non-conformances used by Amey. See NCR
CCMS	Contract Control and Management System
CFBR	Competing For Better Roads
CQM	Contract Quality Manager
DBFO	Design, Build, Finance and Operate contract
EMS	Environmental Management System
EN	European Norm
EPA	Environmental Protection Act 1990
ISO	International Standards Organisation
IT	Information technology
KPI	Key Performance Indicators
LA	Local Authority
MOORI	Meteorological Office Open Road Index
NADICS	National Drivers Information and Control System
NCR	Non conformance Report terminology for non-conformances used by BEAR. See CAR
NE	North East Unit
NNCC	National Network Control Centre
NRSWA	New Roads and Street Works Act
NW	North West Unit
OC	Operating Company
OI	Operations Instructions
ORI	Observation Resulting from Inspection
PAG	Performance Audit Group
QMS	Quality Management System
SE	South East Unit
SERIS	Scottish Executive Road Information System
SMA	Scottish Minister's Agent (for M6 DBFO Project)
SW	South West Unit
TRA	The Road Ahead
TRBDb	Trunk Road Bridges Database
VFM	Value for Money
WMP	Winter Maintenance Plan
WPI	Weekly Programme of Intent

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List of Figures

A PAG field engineer inspects a parapet replacement

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