



Northern Ireland Audit Office

# Road Openings by Utilities: Follow-up to Recommendations of the Public Accounts Committee







Northern Ireland Audit Office

Report by the Comptroller and Auditor General for Northern Ireland

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# Road Openings by Utilities: Follow-up to Recommendations of the Public Accounts Committee



This report has been prepared under Article 8 of the Audit (Northern Ireland) Order 1987 for presentation to the Northern Ireland Assembly in accordance with Article 11 of that Order.

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Comptroller and Auditor General

Northern Ireland Audit Office  
15 October 2008

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## Abbreviations

COP	Code of Practice
DFP	The Department of Finance & Personnel
DRAUC	Divisional Roads and Utilities Committee
DRD	Department for Regional Development
GoCo	Government owned Company
HAUC	Highways Authorities Utility Committee
NIA	Northern Ireland Assembly
NIAO	Northern Ireland Audit Office
NIRAUC	Northern Ireland Roads and Utilities Committee
NISRANS	Northern Ireland Streetworks Register and Notification System
NIW	Northern Ireland Water (previously Water Service)
PAC	Public Accounts Committee
SWAG	Street Works Advisory Group

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# Executive Summary



## Executive Summary

### Background

1. The Northern Ireland road network is a major public asset below which runs a complicated network of pipes and cables delivering electricity, water, gas and telephone services to local residents and businesses. In delivering their respective services, utilities have statutory rights to lay their equipment under Northern Ireland's network of public roads and footways.
2. There were approximately 35,000 road openings by utilities in 2006-07 and if these are not reinstated to the required standard, the service life of carriageways and footpaths can be reduced. In addition, street works can also result in considerable disruption and traffic congestion to road users. Roads Service has statutory powers to coordinate street works; to commit utilities to minimising disruption from road openings; and to ensure they reinstate roads to a high standard.
3. In November 2001, the Public Accounts Committee (PAC) took evidence on this subject and its report, published in April 2002, addressed a number of key areas including the need for: a fully functioning and comprehensive register of street works; a robust and effective inspection process; demanding performance targets; and significant performance improvement in the quality of reinstatement, particularly by the Water Service.
4. Our report is a follow-up, assessing the response by the Department for Regional Development and Roads Service to PAC's key conclusions and recommendations<sup>1</sup> in the period since 2002.

### Registration and Inspection of Road Openings and the Costs of Inspection

#### **The existence of a comprehensive street works register is essential to the exercise of proper control over road opening by utilities**

5. Roads Service has a computerised register of street works, and utilities must notify all road openings on this. However there is evidence that the information on it has not always been comprehensive and timely, with examples of non-notification and, in the case of Water Service, late notifications of large numbers of road openings. Roads Service also failed to inform utilities of substantial road works but told us that since 2006 all such works have been registered on the system.

#### **A robust and effective inspection process is vital to ensure that utilities carry out reinstatements to the required standard and it is pleasing that Roads Service has fully implemented the Inspection Code of Practice**

6. Roads Service undertakes large numbers of inspections, as required by the Code, but there are several areas where implementation is not strictly in accordance with it. For example, the sample distribution across the three separate inspection categories designated in the Code is at variance with the levels suggested. Furthermore, although utilities' performance statistics are available at operational level, Roads Service is not publishing an annual report of their sample inspection performance as recommended. Roads

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<sup>1</sup> key PAC conclusions/recommendations are summarised in bold text.

Service has also decided not to issue Improvement Notices, as allowed for in the Code, where performance is unsatisfactory. It indicated that it had made a considered and deliberate decision not to do so as it felt an informal route best provided the performance improvements required and was in line with the spirit of the Code.

**Where faulty reinstatements are discovered, Roads Service should make strenuous efforts to identify the utility responsible and ensure it carries out the necessary remedial works**

7. The level of follow-up on defects is low and therefore it is not possible to gauge if utilities are carrying out necessary remedial works. Roads Service stated it was aware of problems in this area and that it had received legal advice not to follow-up on outstanding warranties<sup>2</sup>, as this could leave it open to compensation claims. There are deficiencies in the computerised street works register and Roads Service indicated that it had initiated a number of changes to it which will provide reports on defects not promptly responded to by the relevant utilities.

**Roads Service's assessment of the overall quality of reinstatement is based on a sample of cores. This coring sample needs to be statistically-based to ensure that it gives an accurate reflection of performance**

8. Roads Service has increased the size of its annual coring sample from 240 cores at the time of the PAC report to 400 currently. Although this more accurately measures the

overall quality of reinstatement (with a margin of error of +/- 5 per cent for Northern Ireland as a whole), a sample of this size is unlikely to provide statistically-robust estimates of the reinstatement defect rates of individual utilities or enable comparisons among Divisional Offices.

**The Inspection Code of Practice allows Roads Service to charge utilities for each inspection carried out. It should monitor its cost of inspection and the level of income to ensure that fees are set at an appropriate level to cover full costs**

9. Roads Service does not monitor its own costs of inspection but sets fees at rates that are agreed annually at UK level by the Highways Authorities Utility Committee (HAUC) and implemented by England, Scotland and Wales as well as Northern Ireland. Roads Service told us that the costs used are similar to its staff costs and it is content that fees recover costs. It stated that there was no value for money argument in favour of regional charging rates.

**Improving the quality of reinstatement and measuring performance**

**The quality of reinstatement being carried out by utilities has been unacceptable and Roads Service's ultimate aim should be to reduce the coring failure rate to 10 per cent**

10. Since the PAC report, there has been significant progress in lowering this rate and overall standards of reinstatement have improved considerably. The current coring

<sup>2</sup> a warranty notice is a utility's acceptance of a Roads Service notified defect. There are legal obligations attaching to warranty notices which are the sole responsibility of utilities.

## Executive Summary

failure rate is 14 per cent, which is significantly improved from the 2002 rate of 35 per cent, although still above the ultimate aim of 10 per cent.

**Water Service's performance record on reinstatements has not been satisfactory and it must be expected to conform to best practice and be held fully accountable when it does not do so**

11. Performance has improved over recent years and Water Service's coring failure rate has fallen from 50 per cent in September 2002 to 19 per cent in September 2007. Nevertheless, its rate remains the highest of all utilities and there are also concerns about the late notification of road openings by Water Service and the high numbers of their works which are classified as emergency and urgent. Roads Service stressed that Water Service should be given credit for recent developments in the way it now undertakes reinstatement work, and that these developments bring many benefits including less dig, less congestion and less reinstatement. In addition it pointed out that there is regular local coordination between its local Section Offices and the Water Service to agree traffic management plans, and that this helps to avoid conflict with works planned by the Roads Service or other utilities. In Roads Service's view this partnership-based approach is delivering performance improvements more effectively than if it were to issue formal Improvement Notices and require action plans.

**There is a lack of basic management information and performance indicators to assess the performance of Roads Service**

**and utilities and a performance measurement system, including comparisons with GB, should be established**

12. Since 2004, Roads Service has reported on six indicators in their Annual Reports and Accounts. As yet, national performance indicators have not been developed for street works and consequently Roads Service has been unable to benchmark its performance with Great Britain. It told us that it will continue to monitor the GB approach and will align itself to any performance indicators that emerge. Roads Service accepts that its current set of performance indicators are somewhat limited in nature and there are a number of opportunities open to Roads Service which we consider would enhance performance measurement.

**The introduction of fines or charges would provide a means of recovering some of the cost of damage and provide an incentive to complete works more quickly. In addition, utilities could make voluntary contributions towards additional road maintenance costs**

13. Roads Service introduced new legislation in February 2007 which will permit fines and charges, but to effect this legislation the Department needs to introduce Regulations and it is likely to be 2009 before the first of these becomes operational. To date no voluntary contributions have been made by utilities as Roads Service has no basis to quantify what the utilities are costing it in terms of additional maintenance costs.

# Part One: Introduction



## Part One: Introduction

### Utilities have statutory rights to lay equipment and conduct road openings

- 1.1 The Northern Ireland road network is a major public asset below which runs a complicated network of pipes and cables delivering electricity, water, gas and telephone services to local residents and businesses. In delivering their respective services, utilities have statutory rights to lay their equipment over, under or on Northern Ireland's network of public roads and footways.
- 1.2 Road openings<sup>3</sup> of this nature result in many roads and footpaths, especially those in urban areas, being subjected to extensive trenching as equipment is installed, repaired or replaced. There are two principal costs associated with this process. Firstly, if the roads are not reinstated to the required standard by the utilities, the service life of carriageways and footpaths can be reduced. Secondly, street works can also result in considerable disruption and traffic congestion to road users. The magnitude and severity of these effects is difficult to fully quantify and Roads Service does not have estimates of either the extent to which service life is reduced or the costs of traffic delay caused by street openings by utilities.
- 1.3 There are eight utilities currently operating in Northern Ireland, who in 2007 accounted for some 35,000 road openings. The main utilities and the inspection units<sup>4</sup> available to them during 2006/07 was as follows:

• Water Service <sup>5</sup>	20,178
• Phoenix Gas	5,850
• BT	3,299
• NIE	3,041
• NTL (NI)	1,166
• BGE, Eirecom, Cable & Wireless	785
<b>Total Agreed Units of Inspection</b>	<b>34,319<sup>6</sup></b>

### Roads Service is responsible for maintaining the road network and for the safety of road users

- 1.4 The Department for Regional Development (Roads Service) is responsible for maintaining the road network and for the safety of road users. The Department is the sole authority in Northern Ireland charged with maintaining the road network. It operates through Roads Service's four Divisional Offices and twenty four Section Offices (see page 7). The Street Works (Northern Ireland) Order 1995 gives the Department powers to coordinate street works; to commit utilities to minimising disruption from road openings; and to ensure they reinstate roads to a high standard.

3 road opening is the breaking up or opening of the street, or any sewer, drain or tunnel under it.

4 a method of dividing-up road works for inspection based on criteria in the COP - see also paragraph 2.14.

5 responsible for 59% of all work undertaken by utilities. References are to Water Service, although it became a GoCo, Northern Ireland Water (NIW) in April 2007.

6 based on completed notices on Northern Ireland Streetworks Register and Notification System (NISRANS).

## Roads Service Divisional/Section Offices



### Northern Division

1. Antrim
2. Ballymena & Larne
3. Ballymoney & Moyle
4. Coleraine
5. Limavady
6. Londonderry

### Eastern Division

7. Belfast North
8. Belfast South
9. Castlereagh
10. Lisburn
11. N'Abbey & C'Fergus
12. North Down

### Southern Division

13. Ards
14. Armagh
15. Banbridge
16. Craigavon
17. Down
18. Newry & Mourne

### Western Division

19. Cookstown
20. Dungannon
21. Fermanagh
22. Omagh
23. Magherafelt
24. Strabane

1.5 The Order, which requires utilities to be self-policing, is supported by six Codes of Practice (COP) designed to improve traffic and pedestrian safety at street works and to ensure high quality, durable reinstatement of the openings. Part of the package of measures provided by the Order changed

Roads Service's involvement from a system of supervision to a system of sample inspection at the utilities' expense. This enables Roads Service to monitor performance through all stages of the road opening, from excavation through to the end of the guarantee period.

## Part One: Introduction

### **The Public Accounts Committee (PAC) has previously reviewed road openings by utilities and made a number of recommendations to improve Roads Service's inspection regime and the quality of reinstatement**

1.6 In November 2001, the Public Accounts Committee (PAC) took evidence on road openings by utilities. Its report, published in April 2002, addressed a number of key areas including the need for:

- a fully functioning and comprehensive register of street works;
- a robust and effective inspection process, including full implementation of the Inspection Code of Practice and full recovery by Roads Service of its inspection costs;
- demanding performance targets and significant performance improvement in the quality of reinstatement by utilities;
- action plans from utilities, detailing how performance will be improved to meet an ultimate 10 per cent defect target;
- an improvement in the performance of Water Service, which had a particularly poor record of reinstatement; and
- consideration of the introduction of fines or charges as a means of recovering some of the cost of the damage and to provide an incentive to complete works quickly.

### **Our report reviews the extent to which Roads Service has implemented the PAC recommendations**

1.7 This report examines the progress made by Roads Service in implementing the main recommendations of the PAC report *Road Openings by Utilities*<sup>7</sup>.

- Part 2 – reviews recommendations dealing with the registration of road openings; the associated inspection regime for monitoring performance and ensuring reinstatement defects are addressed; and the cost of the inspection process.
- Part 3 – examines recommendations on the quality of reinstatement by utilities and performance measurement and gives an overview on new legislation to improve control in the future.

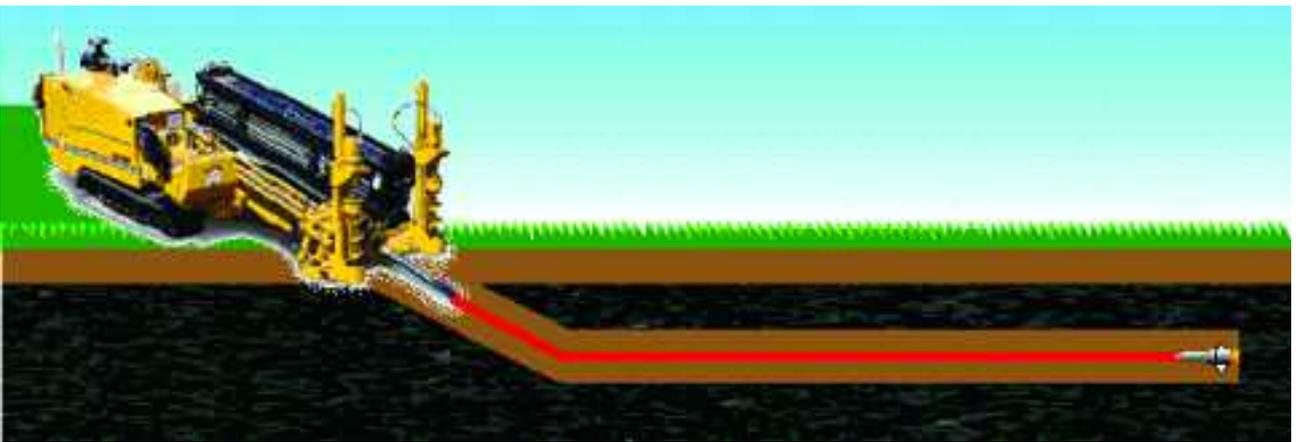
1.8 During this review, Roads Service expressed concerns that, because of our focus on the PAC recommendations, the scope of our study was narrow and did not address a number of recent developments. It told us that Roads Service and the utilities had made positive strides over recent years in areas such as:

- coordination of work to minimise disruption and delays for road users;
- the development of very effective traffic management plans;
- utilities using significantly more trenchless technology to improve their environmental performance;

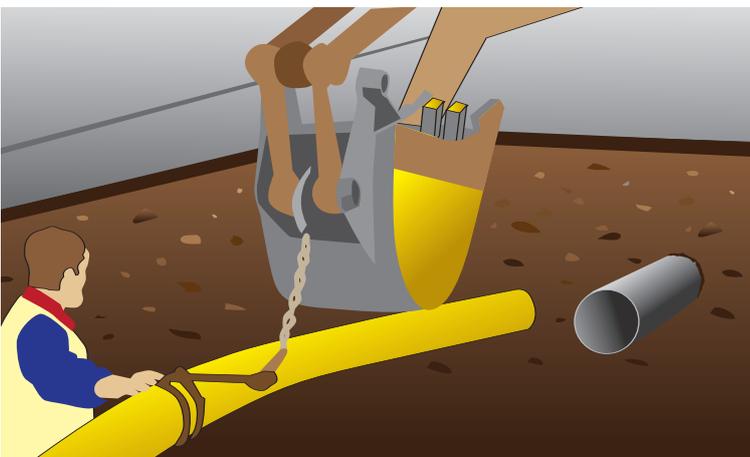
- improved safety on sites - greater use of personal protective equipment and Signing, Lighting and Guarding; and
- improving contractor performance through the NIRAUC<sup>8</sup> Quality initiative.

We welcome these developments.

### **New trenchless technology which lessens the impact of street works**



*Directional drilling.*



*Pipe Bursting – new pipes inserted into old gas pipelines.*



Part Two:  
Registration and Inspection of Road Openings and  
Cost of Inspection



## Part Two:

# Registration and Inspection of Road Openings and Cost of Inspection

### Roads Service has a computerised register of street works, but the information on it has not always been comprehensive and timely

#### PAC Finding

*The existence of a comprehensive street works register is a requirement of the 1995 Order and essential to the exercise of proper control over road openings by utilities. PAC welcomed that Roads Service had a computerised register – the Northern Ireland Streetworks Register and Notification System (NISRANS) – which was “now operational in all areas of Northern Ireland and [which] fully meets the requirements of the 1995 Order”.*

#### DFP Memorandum

*Roads Service will continue to protect the interests of the taxpayer by ensuring that utilities comply fully with their responsibilities.*

- 2.1 The Street Works (NI) Order 1995, imposes a statutory requirement on utilities to register all road openings in advance with Roads Service. Failure to do so is an offence and a utility is liable, on conviction, to a fine not exceeding £1,000. The Northern Ireland Streetworks Register and Notification System (NISRANS) is a computerised database, accessible to both Roads Service and the utilities, through which such road openings are notified.
- 2.2 If the information on NISRANS is not timely and comprehensive it creates risks that Roads Service will be unable to undertake

its inspection regime to best practice standards; that there will be a lack of coordination in road openings; or that defective work will not be identified and appropriate remedial action taken.

- 2.3 There is evidence to indicate that NISRANS has not always contained comprehensive and timely information. A review by the Department's Internal Audit (October 2006), the first since the PAC report, identified a number of important shortcomings in the way the notification of street works was being handled by both Roads Service and utilities. These findings, accepted by Roads Service, included the following:
- Utilities were failing to notify Roads Service of all street works - in 2005/06, utilities failed to notify 506 road openings;
  - Non-notification of street work had not been followed up - Internal Audit identified four out of Roads Service's twenty four Section Offices, where prompt action had not been taken to follow-up non-notification. In some cases several months had elapsed and no action had been taken;
  - Utilities had notified Roads Service but the notifications were not opened - Internal Audit reported that at one Section Office there were 326 unread notifications. They were advised that staff did not have the time to open the notification on the system;
  - Roads Service was not informing utilities of substantial road works through

NISRANS. The purpose of this notification is to restrict the execution of work during the 12 month period following completion. Internal Audit noted that Roads Service failed in 2006 to register substantial road works in six Section Offices<sup>9</sup>.

- 2.4 There is also further evidence that notifications of road openings have not always been done on a timely basis by utilities. On two separate occasions Water Service has retrospectively input large numbers of road openings to the NISRANS system which curtailed the extent of sample inspection. During 2001/2002 around 6,000 completed jobs, covering the period October 1995 to May 2000 were input. These jobs were never notified to Roads Service before commencement of the work. Subsequently, during 2003/2004, Water Service input retrospectively around 27,000 notices. These related to prior year work done but never notified before commencement of work.
- 2.5 With regard to these late notifications, Roads Service indicated that there is no way it could have known that Water Service had such a backlog of notices. It only became aware of this issue over a period of time, through monitoring of NISRANS, and it then raised the issue with Water Service. The latter pointed out that it is currently reviewing its procedures for notification and registration of road openings within its Work Control Centres.
- 2.6 Roads Service told us that since 2006 all substantial road works have been registered on NISRANS and that it provides information to utilities on resurfacing through local meetings, meetings of the Divisional Roads and Utilities Committee (see Appendix 1) and making plans known in reports to District Councils. It also pointed out that the recommendations arising from the Internal Audit review undertaken in 2006 had all been implemented.
- 2.7 Roads Service acknowledged that there are no reports on NISRANS that would determine the scale and extent of late/non-notification and it is up to individual Section Offices to monitor the activity of utilities and ensure they are notifying all their work. However it recognised that, even with this broad monitoring, it is difficult for Roads Service to provide a completely accurate picture on late/non-notifications.
- 2.8 Non-notification of street works is a prosecutable offence and utilities may be fined up to a maximum of £1000. There has never been a utility prosecuted for non-notification since the Street Works Order was introduced in Northern Ireland in 1995.
- 2.9 Roads Service told us that this was because its enforcement procedures for prosecutions focus on safety and reinstatement breaches of the Order. Due to legislative difficulties, it would be difficult to prosecute a utility for a range of minor offences e.g. failing to give advance notice. Legal advice was that the Magistrates Court prefers to see issues such as these dealt with locally between parties and not brought to Court. Each prosecution can cost as much as £2,000 and with fines for the most serious offences currently running at about £150, it could have a

9 Banbridge, Down, Newry & Mourne, Cookstown, Dungannon and Fermanagh.

## Part Two: Registration and Inspection of Road Openings and Cost of Inspection

serious impact on the public purse. Roads Service sees Fixed Penalty Notices, for which legislation will be introduced probably in 2009, as the way forward (see paragraphs 3.25 and 3.26).

- 2.10 We welcome Road Service's assurances that all substantial street works are now registered on NISRANS. However the findings of the Internal Audit Report, the experience with Water Service late notifications, the limitations with NISRANS and the lack of prosecution for non-notification, all illustrate the weaknesses in the system. We recommend that in instances of serious flouting of street works legislation regarding notification of road openings, Roads Service should be willing to prosecute or issue a Fixed Penalty Notice (see paragraph 3.25) whenever the legislation is introduced. All breaches of legal requirements by utilities should be monitored and reported on to senior management in both Roads Service and utility companies. Roads Service should also consider whether any improvement to NISRANS is possible to assist the identification of late/ non-notification by utilities.



**Roads Service undertakes large numbers of inspections, as required by the Inspection Code of Practice but there are several areas where implementation is not strictly in accordance with the Code**

### **PAC Finding**

*A key provision of the 1995 Order is that Roads Service should inspect utilities' reinstatement work to ensure it is carried out to the prescribed standards. PAC concluded that "a robust and effective inspection process is vital to ensure that utilities carry out reinstatements to the required standard and we are pleased that Roads Service has now fully implemented the Inspection Code of Practice."*

### **DFP Memorandum – No comment**

#### **PAC (Minutes of Evidence, paragraph 216)**

*Under the guidelines in the Inspection Code of Practice we are supposed to be doing 30% of a random sample of inspections. However, we are doing more than that. Thirty per cent of random sample inspections are carried out on the small openings but 100% are carried out in areas...involved in major new builds.*

- 2.11 Utilities have a statutory responsibility for signing, lighting and guarding of street works and for reinstating the road to the prescribed requirements on completion of their works. The Department has powers to inspect, investigate and report on utilities' works and reinstatements.

2.12 To support the legislation, a Code of Practice (the Code) for Inspections was introduced in February 2001 and subsequently revised and reissued in September 2003. Among other things, the Code sets out a specific procedure for **sample inspection**. This involves a visual inspection of a random sample of works throughout all stages from excavation to the end of the guarantee period. The objective of sample inspection is to enable Roads Service to monitor the level of compliance with prescribed standards and is the procedure by which Roads Service can regularly establish the overall performance of each utility.

2.13 The following three key stages (categories) have been identified for the purposes of inspection:

- **Category A** – Progress Inspection (undertaken during the progress of the reinstatement works);
- **Category B** – Reinstatement Inspection (undertaken within the six months following interim or permanent reinstatement);
- **Category C** – End Inspection (undertaken within the three months preceding the end of the two year guarantee period).

**(a) Roads Service undertakes high levels of inspection but the sample is at variance with the levels recommended in the Code of Practice**

2.14 The number of sites to be inspected at each stage is calculated following the

categorisation of road openings into “units of inspection”. This ensures that the number of inspections reflects the number and scale of works – for example, large works will generate more than one unit of inspection. Under the Code, Roads Service can levy fees for inspecting up to 30 per cent of all units of inspection. The levels of sample inspection, undertaken by Roads Service in the five years to 2006/07, based on available inspection units, is set out at Figure 1.

2.15 Over this period, Roads Service planned to undertake 61,000 sample inspections. It actually undertook approximately 58,000, which represents an overall sample rate of 28.6 per cent over the five year period. Although slightly lower than the 30 per cent permitted under the Code, this represents an extensive level of sample inspection. Indeed, over the three most recent years, Roads Service has actually sampled 33 per cent of completed notifications.

2.16 The Code recommends that the overall sample be subdivided into the three inspection categories as set out at paragraph 2.13 above, so that 10 per cent (target) is inspected for each category. Figure 1 compares the level of inspection undertaken in each of the three categories with the target, and shows that over five years, Roads Service has been sampling more than recommended by the Code for Categories B and C, and less for Category A.

2.17 **Category A:** Inspection in this category is undertaken during the progress of the reinstatement works and covers such important matters as signing, lighting and

## Part Two:

## Registration and Inspection of Road Openings and Cost of Inspection

Figure 1 : Level of Sample Inspection



Source: Roads Service (NISRANS)

Note: The target is 30 per cent of the annual units of inspection and is spread equally (10 per cent) over Categories A,B,C.

Category C inspections in 2002/03 were 34 and do not register on the bar chart.

The figures in 2003/04 do not take account of non-notifications, see paragraph 2.4.

guarding of the works; how the excavation is opened; backfill materials and their compaction etc. Roads Service planned to undertake some 12,088 Category A inspections in the period 2004/05 to 2006/07 but actually undertook 9,115. Relative to the Code of Practice, this represents an under-achievement in total of about 25 per cent.

2.18 Roads Service told us that the main reason for the under-achievement in Category A inspection was due to difficulties in the timing of visits to coincide with the opening of the road by utilities. It can also be

affected by late notifications of road openings (paragraphs 2.3/4) and the impact of high levels of emergency and urgent notices (paragraph 3.16). The latter can result in the work on openings being completed by utilities before receipt of the notice thus ruling out an inspection. Although utilities are required to notify Roads Service of openings, the practical difficulties of undertaking inspection often results in Roads Service turning up to carry out the inspection only to find that the work has already been completed; or the work had not commenced; or is at a stage where, for example, backfill can not be inspected.

- 2.19 According to Roads Service this is a problem for Highway Authorities across the United Kingdom and, whilst it has been difficult to achieve the maximum target for Category A inspections, it does not affect the overall assurance of sample inspection results. It added that the levels of inspection currently undertaken were sufficient to provide statistically significant results and a highly accurate picture of utility performance.
- 2.20 Roads Service told us that in light of the difficulties on under-sampling, particularly with the timing of visits in undertaking Category A work, it had issued a policy<sup>10</sup> in 2005 for carrying out street works inspections. This contained guidance for its Divisions on how to deal with the low level of Category A inspections. Inspectors can now carry out inspections on any road openings they encounter while travelling to or carrying out other duties.
- 2.21 **Category B and C:** Inspections are carried out respectively up to six months after reinstatement and in the three month period preceding the end of the guarantee period. In 2002/03, and 2003/04 (see Figure 1), Roads Service told us there were difficulties with the bedding-in of the new NISRANS and that it had problems with the classification of inspections.<sup>11</sup> In the last three years it has met the target recommended in the Code of Practice but we note it has consistently done more sampling than required. Roads Service told us that the additional sampling in 2004/05 to 2006/07 was due to exceptional circumstances connected with a major injection of late notifications from Water Service in 2003/04 (see paragraph 2.4), which resulted in distorted monitoring figures.
- 2.22 We welcome the significant level of sampling undertaken, which enables Roads Service to monitor the quality of utilities' reinstatement work, and we note that the difficulties in undertaking Category A inspections appear to be reducing. To ensure that it achieves the required level of sampling for this category in the future, it needs to address the problems outlined at paragraph 2.18 arising from the late notification of openings; and the impact of high levels of emergency/urgent work, all of which can contribute to under-sampling. It is also important that it has an appropriate system in place to collate information, monitor and report on progress to the appropriate committees dealing with these issues, and to ensure it manages to undertake an even sample across the three inspection categories.
- (b) **Although statistics are available at operational level, Roads Service is not publishing an annual report of utilities' sample inspection performance as recommended by the Code of Practice**
- 2.23 The Inspection Code of Practice advises that the Department should send quarterly performance reports to the utilities and also produce an annual summary of utilities' performance for publication and that a copy should be forwarded to the Northern Ireland Roads and Utilities Committee (see Appendix 1). The Code recommends that the report should include a specific section showing the results of the 30 per cent

10 Director of Engineering Memorandum (DEM 89/05).

11 Sample Inspections were input as routine inspections and visa versa.

## Part Two:

# Registration and Inspection of Road Openings and Cost of Inspection

sample inspection for each category. We saw no evidence that Roads Service had produced a published annual report of this nature.

2.24 Roads Service told us that the Northern Ireland Streetworks Register and Notification System (NISRANS) does provide summarised reports on utility performance on an ongoing basis, that these reports can be configured by each utility to gather information on its own work, and can be broken down by each utility for each Section Office throughout Northern Ireland. These reports are available online to both Roads Service and utilities. Roads Service considered that this represented the most effective method of managing utility performance on the ground. It also recognised, however, that NISRANS did not have the reporting facilities of more modern systems but indicated that it was at an advanced stage of procuring a new 'state of the art' street works reporting system.

2.25 We welcome the proposed development of a new NISRAN system. In our view there is scope to improve the current reporting arrangements to ensure greater transparency and public accountability. In particular, we consider that there would be benefit in an annual report on the overall outcome of sample inspection; publication of results for each inspection category; and formal quarterly reporting of summary results to each utility. Such reporting would also help Roads Service gauge the overall performance of individual utilities.

### (c) Roads Service has decided not to issue Improvement Notices as called for in the Code where performance is unsatisfactory

2.26 The Code of Practice states that, where more than 10 per cent of the sample inspection results of a utility's work in a three month period reveal either a reinstatement defect or inadequacies in the signing, lighting and guarding of street works, the Department should issue an Improvement Notice. Utilities are expected to verify and analyse the defect data, establish appropriate improvement objectives and prepare, and finalise with the Department, an Improvement Plan. If there is no improvement after three months from the issue of the Improvement Plan, then the road authority should consider the involvement of more senior level management within both the utility companies and the Department, and, failing this, prosecution should be pursued.<sup>12</sup>

2.27 Our analysis of sample inspection data indicates that, if Roads Service had followed the recommended best practice in the Code, it should have issued 79 Improvement Notices to utilities since 2002-03. We noted that no Improvement Notices were issued over the period, nor did Roads Service exercise the power to carry out additional sample inspection associated with Improvement Plans. We further noted that there were some utilities who consistently failed to achieve the 10 per cent target defect rate for both sample inspection and signing, lighting and guarding.

2.28 Roads Service told us that it had made a considered and deliberate decision not to

<sup>12</sup> Noted that 17 prosecutions were undertaken by Roads Service during the period March 2000 to March 2007

adopt the formal arrangements of issuing Improvement Notices. It indicated that it considered an informal route best provided the improvements required by Roads Service and was in line with the spirit of the Code, which recommended discussion with the utility as a first option. Where problems had been identified, it indicated that it had held 'interviews of concern' with utilities. Roads Service also told us that, at national level, a working group is reviewing the usefulness of Improvement Notices as a tool for controlling the performance of utilities as part of sample inspection. As yet, no formal decision has been taken on this matter.

- 2.29 To determine whether an Improvement Notice is necessary it is essential to have in place a system to monitor each utility's performance on a quarterly basis. Our examination showed that Roads Service has not been producing summary sample inspection performance results and therefore has not been in a position to take an informed decision whether or not Improvement Notices were necessary. Issuing of Improvement Notices has the potential to act as a deterrent against poor performance. We consider that Roads Service should be prepared to use them, or some other formal approach, where there is repeated failure by utilities to meet the 10 per cent defect target.



*Example of the use of unbound material in a reinstatement.*

## **The level of follow-up on defects is low and therefore it is not possible to gauge if utilities are carrying out necessary remedial works**

### **PAC Finding**

*Where utilities responsible for faulty reinstatement cannot be identified due to inadequate records, the cost of making good this damage may ultimately be borne by the taxpayer. PAC recommended that, "where faulty reinstatements are discovered, Roads Service should make strenuous efforts to identify the utility responsible and ensure it carries out the necessary remedial works".*

### **DFP Memorandum**

*Roads Service accepts the recommendation that it should make strenuous efforts to identify the utility responsible and ensure that it carries out the necessary remedial works. Roads Service will continue to protect the interests of the taxpayer by ensuring that utilities comply fully with their responsibilities.*

- 2.30 When a defect is identified as a result of an inspection the utility is informed and the defect is noted on NISRANS. In response, the utility is required to issue a warranty notice<sup>13</sup> to Roads Service when they have accepted a failed inspection and before commencing repair (or, if the remedial work is minor in nature, the utility can choose to revisit under the original notice). This process can trigger up to three inspections.

<sup>13</sup> Utilities acceptance of Roads Services defect notice.

## Part Two:

# Registration and Inspection of Road Openings and Cost of Inspection

2.31 It is important that Roads Service has a proper system to track that utilities follow-up and repair defects. This is necessary to ensure that utilities deal effectively with defective reinstatements; that the method and extent of the repair to defective reinstatements is agreed; that guarantee periods are reset as necessary; and the risk of damage/disruption to the roads infrastructure is managed.

2.32 The Department's Internal Audit raised concerns in October 2006 that there was not adequate and timely monitoring at some Section Offices to ensure that defects were being repaired within the agreed timeframes. In particular it reported that defects at a number of Section Offices<sup>14</sup> had not been repaired. The defects had been recorded on NISRANS, but the utility had not notified Roads Service that it had made good the defect. Roads Service had not instigated any action, even though many months had elapsed since the road openings were made. In one case the

Section Office admitted it did not follow-up on some failures.

2.33 We noted that the Northern Ireland Roads and Utilities Committee (NIRAUC) (see Appendix 1) in December 2007, was informed of deficiencies in the system and that action to address these in line with the Code was being considered. Roads Service told us that, if utilities fail to issue a warranty notice, there is no tracking facility on NISRANS, and therefore no means of ensuring that defects are completed by the relevant utility. It told us that the existing legislation does not require it to have a tracking system and that this is a national problem that is being considered by a UK wide protocol; the new NISRANS (see paragraphs 2.25/2.26) will take account of this in its specification (a new system is expected to be introduced in 2009).

2.34 Our analysis of the outcome of sample inspection, extracted from NISRANS for the five years to 2007, showed that of the

**Figure 2: Analysis of Failed Inspections – 2006/07**

Inspection Category	Aborted	Utility not accepting fault	Utility accept but warranty notice not raised	Warranty raised but Roads Service did not re-inspect	Warranty raised and Roads Service re-inspected	Total failed inspections
Category B	53	39	425	104	35	656
Category C	45	9	205	59	24	342
<b>Total</b>	<b>98</b>	<b>48</b>	<b>630</b>	<b>163</b>	<b>59</b>	<b>998</b>

Source: Roads Service

Note: Category A failed inspections not included in Roads Service analysis as they mostly involved signing lighting or guarding defects or workmanship defects which should be addressed at the time of inspection.

<sup>14</sup> Newtownabbey and Carrickfergus, Antrim, Cookstown, Newtownards.

7,489 failed inspection units identified in this period, only 10 per cent (759) follow-up inspections were undertaken. Roads Service accepts this is particularly low since up to three defect inspections for each defect is permitted by the Code. It told us it could not confirm whether its information on NISRANS was reliable. In light of our evidence Roads Service undertook a more detailed analysis for 2006/07. This indicated a low rate of defect inspection (see Figure 2). Out of a total of 998 failed inspections, only 6 per cent (59) were subject to defect inspection. Utilities had not issued warranty notices in a significant number of cases, and consequently Roads Service failed to follow-up reinstatement defects.

2.35 Roads Service stated it was aware of problems in this area. Legal advice was that it should not follow-up on outstanding warranties<sup>15</sup>, as that approach would not be legally sound and could leave Roads Service open to more compensation claims. The legal view was that it was important that utilities retain liability for all defects until a warranty notice was issued and Roads Service accepted that the reinstatement had been properly carried out. It accepted however, that more could have been done to manage the situation.

2.36 Roads Service indicated that it had initiated a number of changes to NISRANS which will provide reports on defects not promptly responded to by the relevant utilities, and would propose monitoring these on a regular basis. This monitoring is intended to pick up on those instances of defect notices not followed up by utilities, and where warranty notices had been issued, but where Roads Service failed to re-inspect.

2.37 In our view, this is an area that Roads Service needs to address; systems must be sufficiently robust to ensure that defects are followed up by utilities, and Roads Service must be in a position to monitor and track that utilities are undertaking the necessary remedial work.

**Roads Service has increased the size of its coring sample to more accurately measure the overall quality of reinstatement. However the sample may not be sufficient to give assurance on the performance of individual utilities**

#### **PAC Finding**

*Roads Service's assessment of the overall quality of reinstatement was based on a sample of some 240 cores which was not statistically based. PAC was not convinced that such a sample was acceptable as a measure of the quality of reinstatement of some 46,000 road openings. Accordingly it recommended "that Roads Service establish a statistically based approach to coring, to ensure that it gives an accurate reflection of the level of performance".*

#### **DFP Memorandum**

*The Department agrees with the Committee's view that an assessment of reinstatements based on 240 cores was not satisfactory and accepts the Committee's recommendation of the need for a statistically based approach that gives a more accurate reflection of the overall quality of reinstatements.*

<sup>15</sup> A warranty notice is a utility's acceptance of a Roads Service notified defect. There are legal obligations attaching to warranty notices which are the sole responsibility of utilities.

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- 2.38 As part of the sample and defect inspection process, the Code permits Roads Service to carry out such investigatory works that it considers necessary in order to determine whether a utility has complied with its duties in respect of reinstatement work. This can include **coring**, which enables the depth and layers of a road to be measured and gives a broad indication of compaction. This process provides a measure of the overall compliance rate by utilities with the reinstatement standard<sup>16</sup>. The coring exercise carried out by Roads Service lies outside, and is in addition to, the sample and defect inspection process.
- 2.39 Following professional advice from the departmental statisticians, Roads Service adopted a sampling rate of 400 cores per year. Roads Service told us that this sample results in a margin of error of +/- 5 per cent, for Northern Ireland as a whole.
- 2.40 Roads Service has emphasised that the current level of sampling is more than adequate to provide an appropriate level of confidence in the results. Indeed, their professional statisticians have indicated that a sample size of 256 cores would actually be sufficient to provide statistically-robust results.
- 2.41 NIAO accepts that the enhanced sample of 400 enables Road Service to assess the overall quality of reinstatement by utilities for Northern Ireland as a whole. We note, however, that a sample of this size is unlikely to provide statistically robust estimates of the reinstatement defect rates for individual utilities, or enable comparisons among Divisional Offices.
- 2.42 In Scotland, road authorities undertake a 2 per cent sample of the agreed inspection units in any year and, in England, a 5 per cent sample is being considered. In determining the sample size in both Scotland and England, account is taken of the level of accuracy required for individual utilities.
- 2.43 While recognising that neither the Scottish nor English approach may be directly applicable in the specific circumstances of Northern Ireland, we consider there is merit in Roads Service re-examining its approach to its coring sample. This should include a review of the methodologies used in Scotland and England to determine if they are appropriate to Northern Ireland. In our view, Roads Service should assure itself that the coring sample size is large enough to provide assurance on the reinstatement performance of individual utilities and for each of its Divisional Offices.

### **Roads Service does not monitor its own costs of inspection but sets fees at rates that are agreed at UK level**

#### **PAC Finding**

*PAC noted that one of the advantages of the Inspection Code of Practice is that it allows Roads Service to charge utilities a fee for each inspection carried out and recommended "that it monitors the cost of inspection and the level of income to ensure that fees are set at an appropriate level to cover full costs".*

<sup>16</sup> as prescribed in the Reinstatement Code of Practice.

**DFP Memorandum**

*The Department can confirm that Roads Service will monitor the cost of inspections and the level of income to ensure that the fees are set at an appropriate level to recover full costs.*

- 2.44 The Department indicated to the Committee that procedures were in place and being developed further to collate and monitor the costs associated with the inspection regime and the income received. This would allow the fees to be reviewed at appropriate intervals and to be based on the full cost of providing the service.
- 2.45 Roads Service carried out a costing exercise for 2001/02 to determine the cost of its inspection process and the fees to be charged in order to recover its costs. Since 2002, however, the fees charged for inspections undertaken are not based on the cost of inspection within the Agency. Instead, they are based on the inspection fees which are agreed annually by the UK-wide Highways Authorities Utility Committee (HAUC) and implemented by England, Scotland and Wales as well as Northern Ireland. Roads Service told us that:
- the PAC recommendation was made at a time when Roads Service operated its street works regime independently from the rest of the United Kingdom;
  - Roads Service is now part of a national charging regime and, as part of the HAUC (UK), abides by the fees set by its working groups which reflect regional differences in pay. Staff costs used in fee

calculations are very similar to Roads Service staff costs and it is content that it is recovering its cost through inspection fees charged;

- both Scotland and Wales also adopt the fees agreed in this approach;
  - regional differences in pay are taken account of when deriving regional inspection fees; and
  - there is no value for money argument in favour of regional charging rates.
- 2.46 Roads Service does not monitor the cost of its inspection process and cannot clearly demonstrate that the level of annual income derived from its inspection fees is sufficient to fully recover the costs of its inspection process; or whether utilities are being either overcharged or undercharged.

### **Roads Service has explored the promotion of a road condition hotline but this has been superseded by other developments**

**PAC Finding**

*Given the high cost of inspection, information supplied by the public in the form of complaints is a potentially valuable source of management information which could be used constructively to complement the inspection process. PAC recommended that "complaints should be positively encouraged as a source of information and would like Roads Service to consider promoting a road condition hotline with a freephone number".*

## Part Two:

# Registration and Inspection of Road Openings and Cost of Inspection

### DFP Memorandum

*Roads Service is presently considering how it might improve contacts with its customers. One area being developed is the creation of a Customer Contact Centre that will, amongst other things, facilitate the reporting of faults and registration of complaints through a single telephone number. Consideration is being given to whether this facility should be a freephone number.*

- 2.47 Roads Service has in place a general complaints procedure under its Customer Charter. However, currently there is no specific information produced on street works complaints or the extent of road users' satisfaction with street works.
- 2.48 Roads Service told us that, in 2004/05, it established a pilot study on the development of contact centre facilities for fault reporting. This study aimed to identify possible benefits to the Agency and its customers, through the introduction of such facilities, on the reporting of faults including road defects and street lighting. The idea was abandoned in January 2005 after an evaluation concluded that it did not meet customer or business needs.
- 2.49 An alternative scoping study was commissioned in 2005 to explore the use of a single telephone number for external customers. In November 2005, however, the announcement of the Review of Public Administration indicated that responsibility for over 23,700 km of road network and over 2,000 Roads Service staff would transfer to local councils. In light of these very significant developments Roads Service took the decision not to continue with the scoping study.
- 2.50 Roads Service told us that the Programme for Government 2008-2011 has a Public Service Agreement (PSA) objective to 'Promote and improve access to public services and information in Northern Ireland'. This includes targets to introduce a single telephone number point of contact to all Northern Ireland Civil Service Departments and Agencies on a phased basis from October 2009 onwards.
- 2.51 We also note that, following the PAC hearing in 2001, Roads Service commissioned attitude surveys among road user groups, focusing on work done by utilities. These highlighted increasing levels of dissatisfaction about the quality of reinstatement work, and the need for improved benchmarking, coordination and planning to minimise disruption.
- 2.52 In 2005, Roads Service decided that the feedback from the surveys confirmed views, which they were already aware of, in relation to utility work. Consequently, it concluded the issues could be better addressed by new legislation - the Street Works (Amendment) (Northern Ireland) Order 2007 - and discontinued future surveys. The developments through legislation (see paragraphs 3.25/3.26) are intended to give the Department greater controls over the management of street works.

Part Three:  
Improving the Quality of Reinstatement and  
Performance Measurement



## Part Three: Improving the Quality of Reinstatement and Performance Measurement

**Overall standards of reinstatement have improved considerably, although the current coring failure rate of 14 per cent remains above the Roads Service’s ultimate aim of 10 per cent**

### PAC Finding

*PAC noted that “the quality of reinstatement being carried out by utilities is unacceptable”.*

### DFP Memorandum

*Roads Service accepted this and indicated the ultimate aim was to reduce the coring failure rate to 10 per cent as speedily as possible.*

- 3.1 The coring sample is representative of the greater population of street works. A high failure rate is an indicator of poor compliance with reinstatement standards which, in the long term, could result in damage to the infrastructure of the road network.
- 3.2 At the time of the PAC Report, Roads Service indicated that its coring failure rate was 35 per cent. Since then, it has made significant progress in lowering this rate, as illustrated in Figure 3. The latest overall coring failure rate stood at 14 per cent in September 2007. Water Service accounts for some 60 per cent of road openings and consequently impacts significantly on results. Excluding Water Service, the latest average

**Figure 3: Coring Failure Rate All Utilities**



Source: Roads Service (NISRANS)

performance for all the other utilities stands at 11 per cent, only marginally above the target agreed with PAC.



Measuring a core.

- 3.3 Roads Service told us that there was no statistical data available at the time of the PAC hearing on which to base this target. It indicated that the 10 per cent failure rate represented a figure that it felt utilities could aspire to achieve, but that it was extremely challenging.
- 3.4 We welcome the significant improvement made in coring performance over recent years. Nevertheless, 7 years after the PAC hearing, the failure rate is still above the target set in the Memorandum of Response. It is therefore important that Roads Service continues to monitor this closely and identifies and reports on any persistent poor performance by individual utilities.

## Roads Service called for action plans to improve coring performance

### PAC Finding

*PAC recommended that "Roads Service should require action plans from utilities, detailing how performance will be improved to meet the 10 per cent target within a reasonable timescale".*

### DFP Memorandum

*Roads Service accepts the Committee's recommendation that action plans should be required from utilities where improvements are necessary.*

- 3.5 The results of coring are reported on at six monthly intervals, with summary results (pass/fail) of performance sent to the Northern Ireland Road Authority and Utilities Committee (NIRAUC), the Street Works Advisory Group (SWAG) and the Divisional Road Authority and Utilities Committee, (DRAUC) (see Appendix 1). Utility companies also receive a detailed report on the test results of each core.
- 3.6 In October 2002, Roads Service decided to ask utilities to produce 'Action Plans' to demonstrate the quality improvements that were required to achieve the 10 per cent coring failure rate. To implement this, it requested Generic Action Plans<sup>17</sup> in 2003 from utilities requiring them to demonstrate how the 10 per cent coring target rate would be achieved. Five of the utilities<sup>18</sup> submitted plans, giving a broad indication of the processes they would undertake to improve the quality of their reinstatement work.

<sup>17</sup> Generic Action Plan is a template plan with standards to which all utilities are expected to comply.

<sup>18</sup> Water Service, British Telecom, NTL, Phoenix Gas, NI Electricity.

## Part Three: Improving the Quality of Reinstatement and Performance Measurement

3.7 Roads Service told us that in its view these plans met the PAC recommendation and were 'fit for purpose'. It also noted that the coring results for 2004-2007 show a downward trend and, in its view, this reflects that some benefit has been gained from the plans which were put in place. All the private sector utilities are close to meeting the target on a consistent basis, but Water Service has not as yet achieved this consistency.

3.8 Roads Service told us that the Northern Ireland Road Authority and Utilities Committee was tasked in March 2006 with revisiting the Generic Action Plans. It told us that revised plans were requested in September 2007 and that plans had been received from all the major utilities except Water Service, whose plan, at May 2008, remains outstanding.

3.9 Roads Service also told us that it is aware from discussions with utilities that they have introduced business improvement processes to improve their coring performance. It pointed out, by way of example, that Water Service holds off payment to contractors on its capital works projects until a satisfactory core result is achieved. Roads Service also indicated that coring performance is given a high priority at NIRAUC and DRAUC meetings (see Appendix 1).

3.10 The achievement of the 10 per cent defect target for coring is an important goal for Roads Service and the recent improvements and performance in this area are welcome. At current levels of performance, with the exception of Water Service, there would be limited need for detailed action plans. We

recommend that if the performance of individual utilities deteriorates, or there is a persistent failure to achieve the 10 per cent target, Roads Service should be prepared to use action plans where necessary. In such cases, it should agree clear plans with utilities, set out a timescale for the achievement of the target and identify the quality improvements that need to be made by individual utilities to meet it.

### Water Service's performance has improved, but its coring failure rate remains the highest of all utilities

#### PAC Finding

*PAC noted that Water Service had a particularly poor record of reinstatement and widespread failure to notify road openings to Road Service. It indicated that "Water Service must be expected to conform to best practice and be held fully accountable when it does not do so."*

#### DFP Memorandum

*The Department accepts that Water Service's performance record on reinstatements has not been satisfactory. Roads Service will closely monitor the performance of Water Service, which will be directly answerable to the DRD Accounting Officer for the quality of the work.*

3.11 Water Service is by far the largest utility in terms of street works (see paragraph 1.3). Roads Service told PAC that there had been a "sea change" in Water Service's attitude,

with improvements in reinstatement performance and a new willingness to co-operate with Roads Service.

3.12 There are two main means of measuring the performance of the Water Service in this area. These are, respectively, the results from Roads Service’s **sample inspection** process and also the results from its **coring** investigations. Figures 4 and 5 confirm that there has been a significant improvement in Water Service’s performance in all these measures since the time of the PAC Report:

- defects on signing, lighting and guarding have been below 10 per cent for the last five years;

- the defect failure rate on reinstatement work has reduced from 21 per cent to 11 per cent over the same period (although it still remains above 10 per cent) - see Figure 4;

- coring failure rates have fallen from 50 per cent (September 2002) to 19 per cent (September 2007) - see Figure 5.

3.13 Roads Service stressed to us that Water Service should be given credit for recent developments, (see paragraph 1.8) in the way it now undertakes reinstatement work, and that these developments bring many benefits including less dig, less congestion and less reinstatement. In addition it pointed

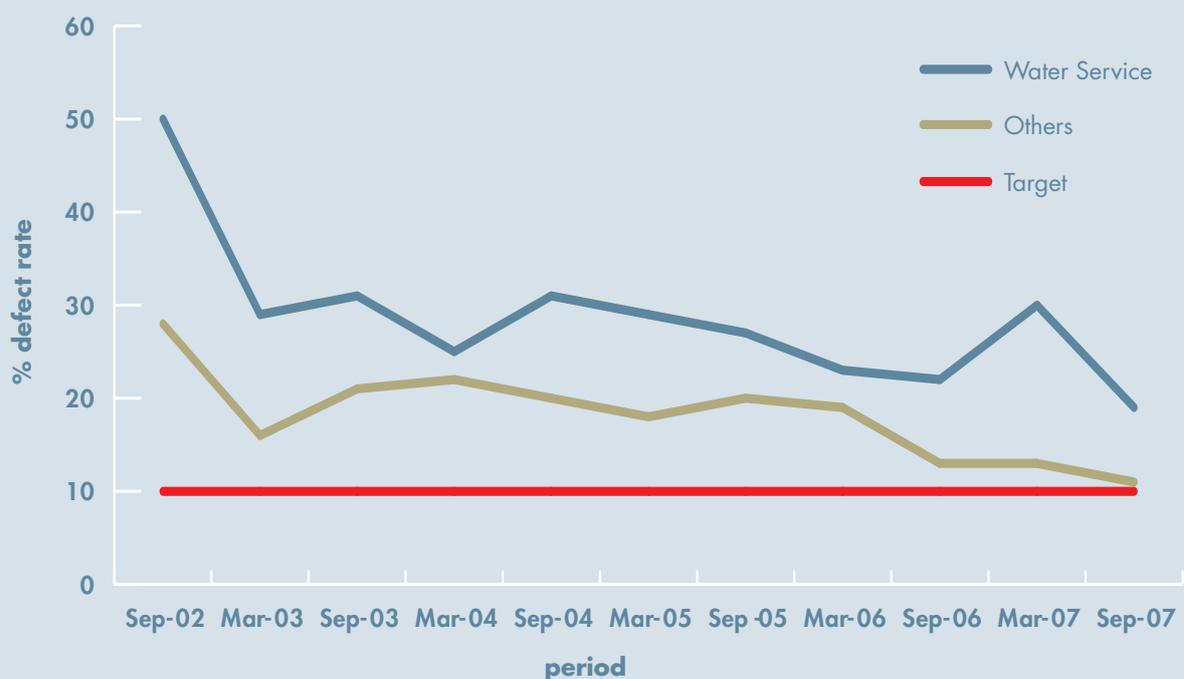
**Figure 4: Sample Inspection Results for Water Service**



Source: Roads Service (NISRANS)

## Part Three: Improving the Quality of Reinstatement and Performance Measurement

Figure 5: Coring Results for Water Service Compared with Other Utilities<sup>19</sup>



Source: Roads Service (NISRANS)

out that there is regular local coordination between its Section Offices and the Water Service to agree traffic management plans, and that this helps to avoid conflict with works planned by the Roads Service or other utilities. In Roads Service's view this less formal, partnership-based approach, is delivering performance improvements more effectively than if it were to issue formal Improvement Notices and require action plans.

3.14 Nevertheless we note that Water Service's coring failure rate still remains well outside the target failure rate of 10 per cent which Roads Service told PAC was its ultimate aim,

and would progress towards as speedily as possible. The coring failure rate for the year 2006/07 was 26 per cent, and 19 per cent for the 6 months ended September 2007 (see Figure 5). Moreover Water Service's performance over the last five years, whilst improving, has consistently been the poorest of all the utilities in Northern Ireland.

3.15 Water Service was one of the five utilities (see paragraph 3.6) which submitted a Generic Action Plan to Roads Service in 2003. The plan sets out measures to improve the coring failure rate through random testing; monthly review of

<sup>19</sup> seven utilities (see paragraph 1.3) – based on the combined cores taken and number of fails.

contractors' performance and the follow-up action to be taken which could result in poorly performing contractors being removed. Performance was discussed at six monthly joint meetings between Roads and Water Service attended by the Chief Executives of both agencies. Water Service withdrew from these meetings in December 2004 due to pressure of work in preparing for the creation of the new Government owned Company<sup>20</sup> (GoCo). Roads Service told us that Water Service was asked to amend and resubmit a revised action plan in September 2007. We noted, at May 2008, that a revised plan was still outstanding.

3.16 In addition over the last three years Water Service has had a very high proportion, (68 per cent to 94 per cent), of emergency and urgent works (see Appendix 2), which can cause difficulties for Roads Service in its inspection process. The restricted notification arising from such works may result in disruption to road users particularly where road or lane closure is required. Such high levels may also be an indicator of poor forward planning of works by Water Service and a potential abuse of the notification system. Water Service pointed out that emergency reinstatement levels are higher than in GB and that this reflects the state of the Northern Ireland water and wastewater infrastructure. The poorer the condition of water mains and sewers, then the more numerous unplanned and urgent actions become. Also among the needs and expectations of Water Service stakeholders now sits higher speed of response targets, and there is also a need to react quickly for

public health reasons. All of this it indicated influenced the level of reinstatement activity.

3.17 Water Service admitted that there had been problems in the management of reinstatements and that improved training, better management information, monitoring and notification procedures are being examined in the new Water Service environment to improve on past/current practices. It stated it will continue to work in partnership with Roads Service to improve the management of these activities.

3.18 Overall Water Service performance has improved and this is to be welcomed. However, the coring failure rate remains a concern and is well above the target agreed with PAC. It is also a concern that on two occasions Water Service has submitted large numbers of late notification of road openings to NISRANS (see paragraph 2.4).

3.19 In our view, all the issues identified at paragraphs 3.14/16 need to be more closely monitored and addressed at high level meetings between Roads Service, the new GoCo and the Department and formal high-level channels should be established. We also consider that Water Service needs to produce a detailed action plan as soon as possible, specifying how and by when it is going to improve its performance to reach the target coring failure rate of 10 per cent.

<sup>20</sup> which came into existence 1 April 2007.

## Part Three: Improving the Quality of Reinstatement and Performance Measurement

### There are no separate arrangements for inspecting high amenity surfaces in town centres

#### PAC Finding

*Roads Service local offices investigate cases where reinstatement is not to the original standard. While welcoming this, PAC emphasised that Roads Service must "ensure that reinstatements are carried out to the proper standard first time".*

#### DFP Memorandum

*The Department has noted the Committee's emphasis that reinstatements should be carried out to the proper standard first time. Roads Service will continue to monitor utility performance to ensure compliance with the Reinstatement Code and will use all available powers to enforce this requirement.*

3.20 The Committee was concerned that high quality paving in town centres was being replaced with tarmacadam, or different materials from that originally used to repair the surface. The Reinstatement Code requires utilities to reinstate high amenity surfaces to their original standard and the Code encourages first time reinstatements. It is a well accepted principle with street works that utilities should 'get it right first time' as this helps to reduce disruption to road users and to ensure town centres are aesthetically pleasing.

3.21 Roads Service told us that there are no specific arrangements within the Inspection Code for inspecting reinstatements of high amenity surfaces in town centres. These are

notified/classified along with all other reinstatements, whatever the surface materials, and are inspected through the normal random sample inspection regime stipulated in the Code of Practice.

3.22 In 2006/07 Roads Service sampled 36 per cent of all utility work, including high amenity surfaces. It told us that this provided it with adequate assurance that reinstatements are being carried out in accordance with the Code of Practice or alternatively highlighting those cases where remedial action is required.

### Roads Service introduced new performance measures

#### PAC Finding

*PAC noted a lack of basic management information and performance indicators to assess the performance of Roads Service and utilities. It recommended that "performance measurement should include a comparison with performance in Great Britain and should cover the full range of indicators listed in the C&AG's report".*

#### DFP Memorandum

*The Department stated that the range of indicators in the C&AG's Report could be monitored only at disproportionate resource cost and its preference was to select six key performance indicators to benchmark both Roads Service and utility performance with comparable GB standards. It further stated that the indicators would be monitored quarterly and the outcome would be included in the published Annual Reports of Roads Service and Water Service.*

3.23 Since 2004, Roads Service has reported on six indicators in their Annual Reports and Accounts. These indicators, and the results recorded over the last five years, are outlined in Appendix 3. As yet, national performance indicators have not been developed for street works in England, despite the fact that street works legislation has been in place since 1991. Consequently, Roads Service has been unable to benchmark its performance with Great Britain. It told us that it will continue to monitor the GB approach and will align itself to any performance indicators that emerge.

3.24 We welcome this commitment to adopt new indicators that emerge as a result of work undertaken in Great Britain. This will help to benchmark performance and provide a useful measure of the effectiveness of Roads Service in managing street works. Roads Service accepts that its current set of Performance Indicators are somewhat limited in nature, and we note that they have not as yet been validated by Internal Audit. In our view, there are a number of opportunities which we consider would enhance performance measurement and we recommend that Roads Service considers the following proposals:

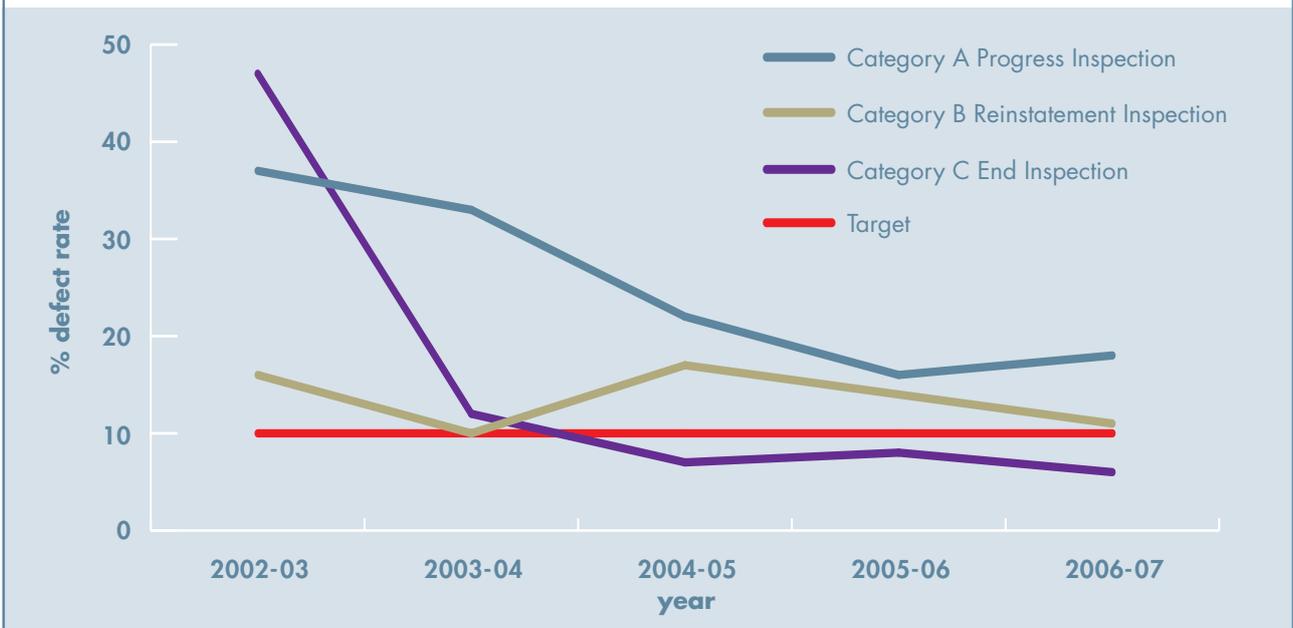
- i. There are currently no formal targets for sample inspection results. This is Roads Service's main process for monitoring the quality of utility reinstatement work. We consider there would be merit in setting targets for each Category and reporting

this information in summary form on a regular basis. As illustrated in Figure 6 (overleaf), there is a significant degree of variability in performance by Category of inspection, and currently this is not being formally reported and assessed at NIRAUC.

- ii. Our analysis of sample inspection results indicates that there is significant variation in the relative results of individual Divisions (Figure 7 overleaf). In our view, it would be useful to formally benchmark the performance of Divisions and Section Offices and report variances to DRAUC, NIRAUC (see Appendix 1) and the Roads Service Board. Roads Service told us that performance of utilities was routinely discussed at Divisional level, Section Engineer meetings etc. and if an issue required to be reported to the Board this would be done through working groups such as Street Works Advisory Group (SWAG) (see Appendix 1) and committees such as the Network Maintenance Committee and the Network Services Board.
- iii. Roads Service should consider including the annual defect failure rate of its coring results as a performance indicator. This would measure outcome against the accepted target recommended by PAC.

## Part Three: Improving the Quality of Reinstatement and Performance Measurement

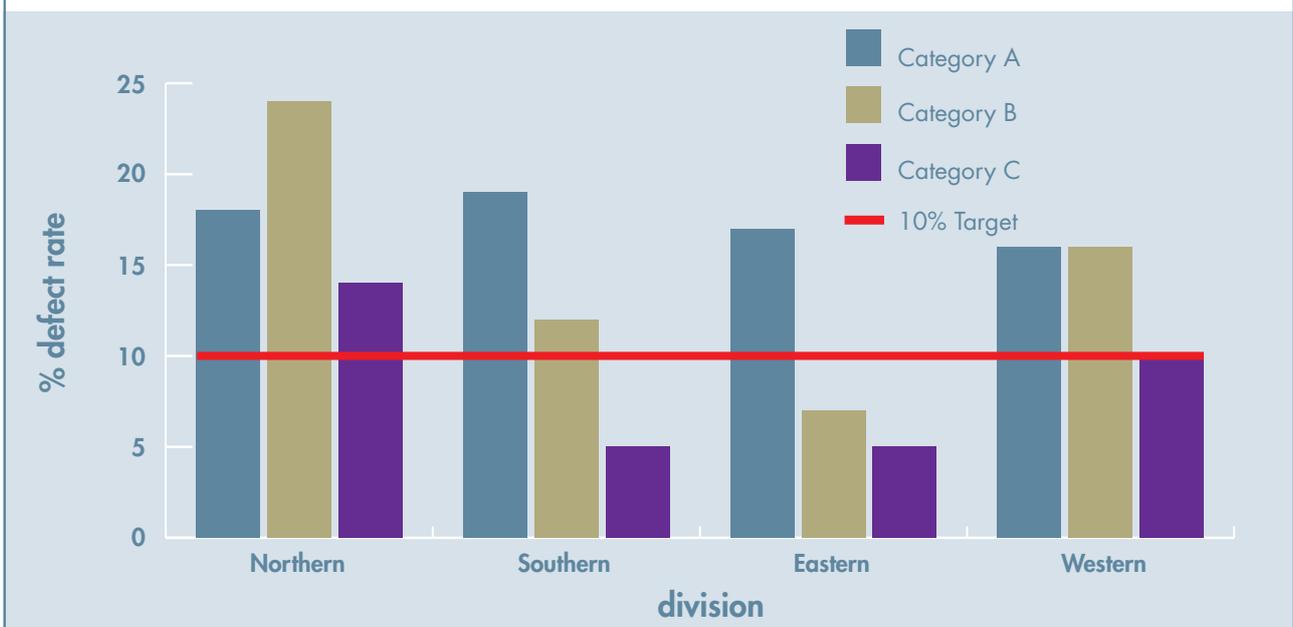
**Figure 6: Sample Inspection Failure Rates by Category**



Source: Roads Service (NISRANS)

Note: For description of Categories A, B and C see paragraph 2.13.

**Figure 7: Sample Inspection Failure Rates by Division – 2006/07**



Source: Roads Service (NISRANS)

Note: For description of Categories A, B and C see paragraph 2.13.

- iv. There has been a long delay in introducing in GB an agreed set of performance indicators. In the interim, Roads Service might usefully liaise with a number of local road authorities in England or Scotland to determine what performance indicators are being used, and whether there is scope to benchmark performance.
- v. The NISRANS system is primarily a notification system to compile a register of street works. Its database may well be capable of providing information for the operation of the Register, but we are not convinced that it provides appropriate management information reports to enable Roads Service Headquarters to monitor and report on compliance with all aspects of the Inspection COP and the performance of utilities, in areas such as sample inspection, coring and follow-up of defects. Roads Service told us that the procurement of a new NISRANS is at an advanced stage, and that the replacement system will have many more features such as a Geographic Information System; improved reporting tools; better user functionality and hand-held devices for operatives recording inspections etc.

### **New legislation has been introduced which will permit fines and charges, but it is likely to be 2009 before it becomes operational**

#### **PAC Finding**

*PAC noted from the national press that some local authorities in Great Britain were fining companies £2,000 a day for every day they go beyond an agreed deadline for completion of road works and recommended that "the Department gives consideration to the introduction of fines or charges in Northern Ireland as a means of recovering some of the cost of damage and to provide an incentive to complete works more quickly". PAC had also recommended that, in a spirit of cooperation, the Department "should explore the possibility of utilities making voluntary contributions towards additional maintenance costs".*

#### **DFP Memorandum**

*The Department accepts the Committee's recommendation and will give consideration to the introduction of fines for utilities that go beyond an agreed deadline for completion of road works (overstaying) or a daily charge for the duration of road works (lane rental) in Northern Ireland.*

*Roads Service is exploring the possibility of utilities making voluntary contributions towards additional maintenance costs, such as full or half width reinstatements.*

- 3.25 Roads Service introduced new legislation, Street Works (Amendment) (NI) Order 2007, in February 2007 which provides

## Part Three:

### Improving the Quality of Reinstatement and Performance Measurement

the Department with greater controls regarding the management of street works. The Order introduces a number of new measures including:

- a **permit scheme** to control specified street works in specified streets. Utilities will be required to pay for and obtain permits to carry out certain works. Conditions may be attached to the permits in order to minimise disruption;
- **direction-making powers** enabling the Department to direct utilities as to the dates and times at which they may or may not carry out street works and a requirement for utilities not to use particular streets for their works;
- a requirement that utilities **resurface entire lane widths** or contribute to the costs of carrying out the works;
- a **restriction on the execution of street works** for a prescribed period following completion of substantial street works;
- **increases in maximum levels of fines** for certain street work offences and a **Fixed Penalty Noticing system** will also be introduced for seven noticing offences;
- **overrun charging** – the Department will be empowered to charge utilities for the entire duration of any overrun;
- **new or amended Code of Practice** – the existing Records and Inspection Code will be modified and placed on a statutory footing while others will be amended to reflect the new measures.

3.26 To give effect to this legislation, the Department will have to introduce Regulations. Work is under way to develop these Regulations but it will be 2009 before the first of them is introduced.

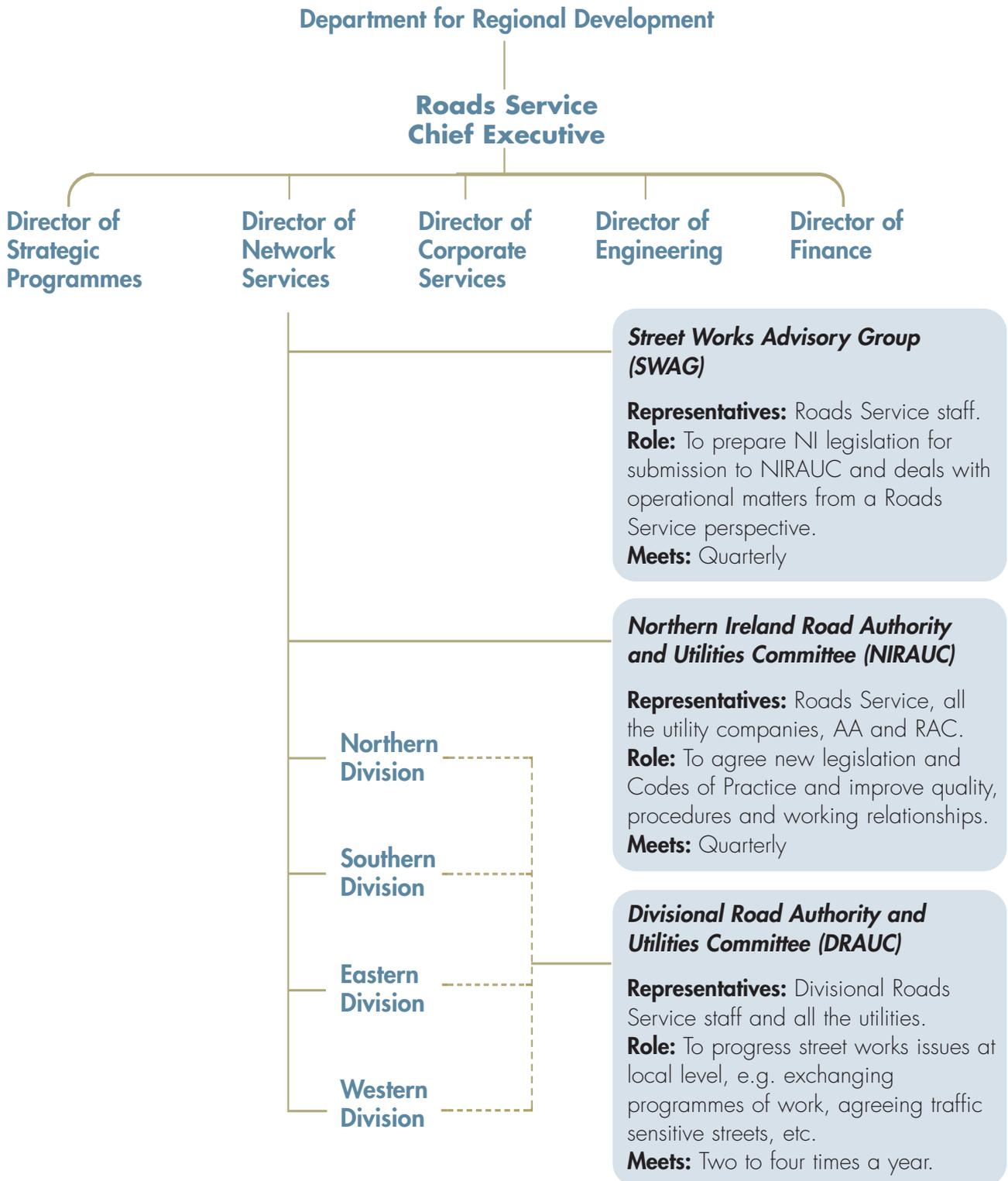
3.27 Roads Service is also seeking amendment to the Street Works (Qualifications of Supervisors and Operatives) Regulations (NI) 1998. This will enhance its powers to demand from supervisors, undertaking utility works, evidence of their qualifications. We understand the legislation may not be in place until 2010.

3.28 In relation to the PAC recommendation that utilities might consider making voluntary contributions towards additional maintenance costs, we noted that Roads Service told the Committee at the time that it was exploring this possibility. The current position is that no voluntary contributions have been made by utilities. Roads Service told us that it had no basis as yet to quantify what utilities were costing it in terms of additional maintenance costs. The Transport Research Laboratory and the County Surveyors' Society are currently undertaking research in the UK into long term damage caused by utilities, but this has not been completed. The outcome of this research work may provide a framework for determining such costs.

# Appendices



# Appendix One: Roads Service Organisation Chart



## Appendix Two: Levels of Emergency/Urgent Street Works by Water Service

Year	Notifications created by Water Service	Emergency/Urgent street works in Year	Emergency/Urgent work as a percentage of notifications created
2004/05	27,421	25,876	94%
2005/06	29,006	19,629	68%
2006/07	21,167	15,219	72%

*Source: Roads Service (NISRANS)*

## Appendix Three: Key Performance Indicators for Street Works

Key Indicator	What Indicator measures	2003/04	2004/05	2005/06	2006/07	2007/08
1. Number of times a notice is reissued	% of proposed utility works notified to Roads Service that were properly processed – provides a measure of the correct use of the system.	95%	92%	94%	92%	89%
2. Number of emergency notices	% of new notices issued by utilities that were emergency notices. Utilities can start street works prior to issuing a commencement notice. A high percentage of emergency notices may indicate misuse of this procedure.	16%	13%	10%	4%	5%
3. Non-compliance with Article 18 of Street Works (NI) Order 1995	The Order permits Roads Service to place restrictions on utilities digging up the road in the wake of substantial work on the road. The indicator shows the number of times the restriction has been broken without prior approval.	0	0	0	0	0
4. Public Liability Claims	The number of street works liability claims that were initially received by the Department and referred to utilities during the year.	4	4	25	17	1
5. Defect Rate of permanent Reinstatement	Shows the total number of times a defect has been identified/ recorded on street works sites and on earlier reinstatement or ironwork. In these cases the Department has asked for remedial work to be carried out and this has been completed.	14,681	13,351	13,252	11,524	11,855
6. Inadequate signing, lighting and guarding	To ensure the safety of road users, Roads Service inspect the temporary signing, lighting and guarding at street works sites. The indicator identifies the number of sites where remedial actions were required and utilities have completed this work.	323	405	486	447	391

Source: Roads Service Annual Report and Accounts

## NIAO Reports 2007-08

Title	HC/NIA No.	Date Published
<b>2007</b>		
Internal Fraud in Ordnance Survey of Northern Ireland	HC 187	15 March 2007
The Upgrade of the Belfast to Bangor Railway Line	HC 343	22 March 2007
Absenteeism in Northern Ireland Councils 2005-06	-	30 March 2007
Outpatients: Missed Appointments and Cancelled Clinics	HC 404	19 April 2007
Good Governance – Effective Relationships between Departments and their Arms Length Bodies	HC 469	4 May 2007
Job Evaluation in the Education and Library Boards	NIA 60	29 June 2007
The Exercise by Local Government Auditors of their Functions	-	29 June 2007
Financial Auditing and Reporting - Health Sector: 2003-04 and 2004-05	NIA 66	6 July 2007
Financial Auditing and Reporting: 2005-06	NIA 65	6 July 2007
Northern Ireland's Road Safety Strategy	NIA 1/07-08	4 September 2007
Transfer of Surplus Land in the PFI Education Pathfinder Projects	NIA 21/07-08	11 September 2007
Older People and Domiciliary Care	NIA 45/07-08	31 October 2007
<b>2008</b>		
Social Security Benefit Fraud and Error	NIA 73/07-08	23 January 2008
Absenteeism in Northern Ireland Councils 2006-07	-	30 January 2008
Electronic Service Delivery within NI Government Departments	NIA 97/07-08	5 March 2008
Northern Ireland Tourist Board – Contract to Manage the Trading Activities of Rural Cottage Holidays Limited	NIA 113/07-08	28 March 2008
Hospitality Association of Northern Ireland: A Case Study in Financial Management and the Public Appointment Process	NIA 117/07-08	15 April 2008

Transforming Emergency Care in Northern Ireland	NIA 126/07-08	23 April 2008
Management of Sickness Absence in the Northern Ireland Civil Service	NIA 132/07-08	22 May 2008
The Exercise by Local Government Auditors of their Functions	-	12 June 2008
Transforming Land Registers: The LandWeb Project	NIA 168/07-08	18 June 2008
Warm Homes: Tackling Fuel Poverty	NIA 178/07-08	23 June 2008
Financial Auditing and Reporting: 2006-07 General Report by the Comptroller and Auditor General	NIA 193/07-08	2 July 2008
Brangam Bagnall & Co Legal Practitioner Fraud Perpetrated against the Health & Personal Social Services	NIA 195/07-08	4 July 2008
Shared Services for Efficiency – A Progress Report	NIA 206/07-08	24 July 2008
Delivering Pathology Services: The PFI Laboratory and Pharmacy Centre at Altnagelvin	NIA 9/08-09	3 September 2008
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