Streetworks IAE 2012-13

National Grid
Gas Distribution

June 2013

Contents

Key Messages

Traffic Management Act Income Adjusting Event (IAE re-opener) Notification by National Grid Gas Plc in respect of North London Network

- Following Ofgem's decision for the re-opener application in respect of additional allowed costs and revenue associated with Traffic Management Act 2004 under the first gas distribution price control review (GDPCR1), we have now completed the final two years analysis of the impacts of TMA within the North London Network. This includes costs incurred for an additional 10 authorities that have introduced permit schemes in London between April 2011 and March 2013.
- In addition, our claim includes costs arising from the increase in NRSWA S74 charges, the level of which has significantly increased over and above the levels of inflation and the cost incurred in the introduction of the first Lane Rental scheme under NRSWA S74A where payments for occupation of the highway for all work types for works promoters have been introduced.
- As part of our submission, we have considered the guidance set out by Ofgem and have provided information to demonstrate the productivity cost impacts from 2009-10 to 2012-13 are higher than our allowance by £1.004m in 20010-11 prices.
- We have included in our narrative evidence of the different approaches taken by local authorities and details of how we continue to work with the industry and local authorities to minimise costs driven by the Traffic Management Act, whilst taking positive actions to minimise the impact on congestion through our works.
- Evidence provided reflects management action to re-prioritise and hence move a substantial proportion our works under GDPCR1 in 2011-12 and 2012-13 outside of Central London to ensure costs to customers for streetworks are minimised.
- Our claim for the additional impacts in London driven by the above legislative changes for 2011-12 and 2012-13 totals £1.761m (2010/11 prices). National Grid believes there are grounds for Ofgem to consider increasing the cost allowance by £1.761m, which includes the identified productivity impacts of £0.903m in 2009-10 and 2010-11, given the work undertaken to identify the cost drivers and recognising the management actions taken in 2011-12 and 2012-13 to reduce costs to customers by working in parts of London where the productivity impacts were lower.
- Unless otherwise stated all costs are in 2010-11 prices.

Section 1: Summary

Summary

1.1 With reference to the Ofgem IAE decision document dated 20th December 2011, National Grid has now completed the final two years of analysis on the impacts of TMA within the North London Network and we have included in our analysis the additional permit schemes that have been introduced after the original submission between April 2011 and March 2013.

1.2 The total additional costs incurred in relation to incremental Streetworks Legislation exceed Ofgem's original IAE allowances is £1.761m in 2010-11 prices.

1.3 The claim reflects the actual costs incurred for the 7 out of 10 local authorities who have implemented TMA since April 2011 in the London Gas Distribution Network. The costs include all the associated fees in relation to Permit Fees and Fixed Penalty Notices, (as set out in the Ofgem original IAE decision).

1.4 In addition, our claim also includes costs arising from the increase in NRSWA S74 charges the level of which has been significantly increased over and above the levels of inflation from the 1st of October 2012.

1.5 The Introduction of NRSWA S74A (Lane Rental) charges by Transport for London (TfL) in June 2012 has seen the introduction of payments for occupation of the highway for all works types for utilities undertaking replacement, repair or new connection activities (the Lane Rental scheme). The costs incurred have been included in this submission and we have also included processes and procedures implemented to significantly reduce the impact and cost of these charges on our works.

1.6 We are now starting to gather the evidence of the impacts of the TfL Lane Rental scheme. This will allow us to propose a revenue driver or have allowances set for the remainder of the RIIO-GD1 price control at the first re-opener window (1st of May 2015) for both the charges incurred and the costs incurred in reducing our occupation of the highway at traffic sensitive times.

1.7 In addition, we have compiled and provided evidence within the report to demonstrate the following items;

- Information to demonstrate how local authorities are taking different approaches to operating a Streetworks and included the impact of these differences on the GDN's efficient working in the road, including;
  - Different interpretation of conditions and how different conditions are applied – inconsistency leading to additional costs etc.
  - Number of model conditions applied by Authority within the London scheme

- How National Grid has influenced and worked with Local Authorities and the National Government through the DfT throughout the development of permit schemes, their on going development and the future strategy for permit schemes and other legislation including;
  - Permits Forum
  - Future of Permits with DfT
  - Uniform approach on Model Condition for permits
  - Full responses to and engagement with future permit schemes to influence consistency of approach

- The collaborative approach to street works that National Grid has undertaken working with community groups such as ENA and NJUG to identify and influence the efficient and consistent application of permit schemes to reduce the impact and cost of permit schemes, including:
  - Collaboration examples
  - Eton 6
  - NJUG awards
  - Working with National Permits Forum and individual Highway Authorities
  - Code of Conduct

- National Grid has driven its performance throughout its Streetworks activities to reduce the costs associated with NRSWA, including Fixed Penalty Notices, Section 74 charges and Lane rental fees. These measures include:
  - Development of KPM's & KPI's within HAUC and the Permits Forum
  - Development of NJUG KPI to compare utility sector with utility sector to enable both bench marking and best practice where appropriate
  - Own performance measures – development of a PPM to drive NRSWA performance nationally in preparation for further Permit Schemes

- National Grid has introduced and is working on a number of innovations that, whilst incurring additional capital investment, operational costs and risks, have demonstrable benefits in reducing our occupation of the highways when undertaking activities, the non-exhaustive list to date, being as follows:
  - Rapid Cure Concrete
  - Core & Vac Technology
  - FPI Process
  - Change Requests for Major Works Planning
  - iPhone Application for defining Lane Rental requirement
  - Introduction of an algorithm to be utilised for teams to determine best practice on Lane Rental Streets

Section 2: Background to Streetworks

The Traffic Management Act 2004

2.1 Amongst other things, the TMA was introduced with the intention of addressing congestion and traffic delays due to utility road works. Implementation of the Act was staged between 2005 and 2008 through enabling regulations. The relevant provisions for the purposes of this document are:

- Part 2 – Places a network management duty on local traffic authorities
- Part 3 – Made provision for street authorities to implement chargeable permit schemes
- Part 4 – Contained a range of provisions which amend or augment pre-existing regulations within the New Roads and Streetworks Act 1991 (NRSWA), including changes to noticing arrangements; increases to fine levels and introduction of FPNs.

2.2 Throughout development of the Traffic Management Bill and the subsequent regulations following enactment, National Grid has been at the forefront of negotiations with government and related organisations in order to mitigate the impact of increased costs of the legislation on National Grid's operations and consumers' energy bills.

Impact of TMA on the powers of a Gas Transporter to carry out street-works

2.3 Under Schedule 4 of the Gas Act a gas transporter may execute works to:

- Place pipes, conduits, service pipes, cables, sewers and other works, and pressure governors, ventilators, and
- From time to time repairing, altering or removing any such works or apparatus placed in or under any street (whether by him or by any other person)

2.4 Where permit schemes do not apply, the powers National Grid exercises under Schedule 4 of the Gas Act are governed by the New Roads and Streetworks Act 1991 (NRSWA). Under NRSWA the gas transporter provides notice of its intention to carry out street-works to the relevant highway authority and subject to reasonable objections, would execute the works as planned. Prior to the introduction of TMA, any disputed infringements and fines arising from such works would have required the highway authority to pursue redress through legal action.

2.5 Following the introduction of permit schemes under Part 3 of TMA, where a permit scheme is implemented, this effectively nullifies the gas transporter's powers under Schedule 4 of the Gas Act in respect of any registerable (as defined in the Permit scheme) works under that scheme. It does this by introducing a legal requirement to obtain a permit to work. In order to obtain a permit to work, the works undertaker must comply with any conditions set by the highway authority for that permit. This effectively removes the powers of negotiation that a prudent operator would have previously brought to bear in order to minimise costs and fees associated with the notified works.

2.6 Part 4 of TMA also empowers highway authorities to impose Fixed Penalty Notices (FPNs) for infringements. Any dispute arising would require the gas transporter to pursue through legal action. The FPN process therefore reverses the previous situation, making it relatively straightforward for highway authorities to impose and recover Fixed Penalty charges.

The London Permit Scheme (LoPS)

2.7 Although some behavioural changes in local authorities across National Grid's geography have been observed by National Grid, the most significant impact has arisen with the introduction of the LoPS in January 2010; the first scheme to be formally introduced under the TMA. The scheme presently comprises Transport for London (TfL), responsible for major highways in the capital, and thirty three central London boroughs.

2.8 Implementation of the LoPS and the associated powers for highway authorities to specify the conditions for any permit triggered a marked sharpening of focus on the application of streetworks regulations and associated charging. This, together with the increasing constraints on public budgets, has precipitated a general hardening of approach in the application of NRSWA across streetworks authorities. TMA driven changes to noticing had a significant impact on programmed mains replacement work even before permits were introduced, because of the constraining effect it had on planning and short-term flexibility in resource allocation to projects.

2.9 Of the thirty-four authorities now comprised in LoPS, twenty six of these are located within the London Distribution Network. Since National Grid's London Network covers all but eight of the active boroughs within the LoPS and also includes the commercial heart of London and the bulk of the Transport for London (TfL) Strategic Road Network, the impact on National Grid's operations has been significant.

National Grid's experiences to date

2.10 Every aspect of National Grid's operations in London has been affected by the TMA. The operational and cost burden has manifested itself most significantly through longer-cycle works such as the mains replacement programme activities due to the impacts on planning, preparation and productivity, the work on repair, emergency, maintenance and connections has also been affected, as have all activities on the public highway (including footpaths) that require notices and permits and which may attract FPNs for infringements of the LoPS.

2.11 In addition to the formal requirements of LoPS, the application by individual highway authorities varies, such that each may stipulate different approaches to carrying out works as well as differing views on appropriateness of FPNs and permits. As a result National Grid spends considerably more management and administrative time liaising with local authorities and TfL in order to secure permits and negotiate the timing, phasing and conduct of engineering activities than was the case prior to TMA.

TMA Income Adjusting Event Procedure

2.12 Part C of Special Condition E7 sets out the framework for an IAE relating to TMA costs. Specifically, it relates to the inclusion of reasonable costs within the following categories incurred as a result of any order or regulation made pursuant to Part 3, or any provision of the New Roads and Streetworks Act 1991 amended by Part 4 of the Traffic Management Act 2004 (TMA) within an IAE notice:

- Permit costs;
- Fixed penalties;
- Ongoing administration; or
- Other costs that the Authority directs should be treated as TMA costs which have not already been deemed by the Authority to be included in the GDN's allowed revenue.

2.13 Part C also states that the Authority will consult with the parties it considers likely to be affected by its determination and will then determine whether any or all of the TMA costs claimed by the GDN actually qualify as such and whether the proposed adjustment will enable the GDN to recover efficient TMA costs between the adjustment date and the end of the present price control period.

2.14 Paragraph 19 in Part E of the Condition also states that notice of an income adjusting event must be made as soon as reasonably practicable and in any event, no later than three months after the end of the Formula Year in which the IAE occurred.

2.15 On this occasion, National Grid and Ofgem agreed that, in the light of the RIIO GD1 review process, any IAE subsequent to that submitted in June 2011 could be deferred until June 2013.

Section 3: Overall Cost Claim and Justification

Approach to costing between the 1 April 2011 to 31 March 2013

3.1 The approach utilised by National Grid is based on the categories outlined in the Special Condition E7 and in agreement with the Authority, namely:

- Permit Costs
- Fixed Penalties (FPNs)
- On-going administration
- Other costs that the authority so directs, including a material change in S74 charges and the introduction of S74A (Lane Rental scheme)

3.2 Figure 3.1 provides a summary of the total submission for 2011-12 and 2012-13 against allowances.

Figure 3.1 – Total Submission for 2011-12 and 2012-13 against allowances

Summary Table	2010-11 Allowances			2012-13 Submission		
	2011-12	2012-13	Total	2011-12	2012-13	Total
2010-11 prices (£m)						
Category						
Permit Costs - New HAs	0.142	0.205	0.347	0.074	0.242	0.316
Fixed Penalties - New HAs	0.013	0.016	0.029	0.015	0.026	0.041
On-going Admin - New HAs	0.388	0.535	0.923	0.388	0.535	0.923
Sub Total	**0.543**	**0.756**	**1.299**	**0.477**	**0.803**	**1.280**
Productivity + Other Costs - All HAs	2.850	2.923	5.773	4.049	1.821	5.870
2009-10 and 2010-11 True-up*					1.060	1.060
Total Productivity			**5.773**			**6.930**
S74 - Overstay charges	0.000	0.000	0.000	0.000	0.071	0.071
S74A - Lane Rental	0.000	0.000	0.000	0.000	0.552	0.552
Sub Total S74 and S74A charges	**0.000**	**0.000**	**0.000**	**0.000**	**0.623**	**0.623**
Totals		**(A)**	**7.072**		**(B)**	**8.833**
Total claim above allowances					**(B) - (A)**	**1.761**

* Includes £0.903m true up for 2009-10 and 2010-11 and £0.157m other costs (See section 'Productivity Impact')

3.3 The approach taken to each of these above items is detailed within this section.

Permit Costs

3.4 Permit schemes were enabled through provisions in Part 3 of TMA. A permit scheme is described as "a scheme which is designed to control the carrying out of specified works in specified streets in a specified area". Figure 3.2 shows the timing and distribution of LoPS across the 34 borough authorities which comprise London. This shows the additional local authorities that have implemented a permit scheme since the December 2011 Ofgem IAE decision document, which covered costs incurred until April 2011.

Figure 3.2 – Distribution and timing of LoPS boroughs

Highway Authority	Scheme Name	Permit Go live	GDN
Transport for London (TfL)	London Permit Scheme (LoPS)	Jan-10	NL
City of London	London Permit Scheme (LoPS)	Jan-10	NL
Westminster City Council	London Permit Scheme (LoPS)	Jan-10	NL
The Royal Borough of Kensington and Chelsea	London Permit Scheme (LoPS)	Jan-10	NL
Barnet	London Permit Scheme (LoPS)	Jan-10	NL
Brent	London Permit Scheme (LoPS)	Jan-10	NL
Bromley	London Permit Scheme (LoPS)	Jan-10	SGN
Camden	London Permit Scheme (LoPS)	Jan-10	NL
Croyden	London Permit Scheme (LoPS)	Jan-10	SGN
Ealing	London Permit Scheme (LoPS)	Jan-10	NL
Enfield	London Permit Scheme (LoPS)	Jan-10	NL
Hackney	London Permit Scheme (LoPS)	Jan-10	NL
Hammersmith & Fulham	London Permit Scheme (LoPS)	Jan-10	NL
Haringey	London Permit Scheme (LoPS)	Jan-10	NL
Hounslow	London Permit Scheme (LoPS)	Jan-10	NL
Islington	London Permit Scheme (LoPS)	Jan-10	NL
Lewisham	London Permit Scheme (LoPS)	Jan-10	SGN
Redbridge	London Permit Scheme (LoPS)	Jan-10	NL
Wandsworth	London Permit Scheme (LoPS)	Jan-10	NL
Harrow	London Permit Scheme (LoPS) Ph 2	Sep-11	NL
Lambeth	London Permit Scheme (LoPS) Ph 2	Sep-11	NL
Greenwich	London Permit Scheme (LoPS) Ph 2	Sep-11	SGN
Newham	London Permit Scheme (LoPS) Ph 2	Sep-11	NL
Richmond	London Permit Scheme (LoPS) Ph 2	Sep-11	NL
Southwark	London Permit Scheme (LoPS) Ph 2	Sep-11	NL
Waltham Forest	London Permit Scheme (LoPS) Ph 2	Sep-11	NL
Hillingdon	London Permit Scheme (LoPS) Ph 3	Nov-11	NL
Barking & Dagenham	London Permit Scheme (LoPS) Ph 3	Nov-11	NL
Tower Hamlets	London Permit Scheme (LoPS) Ph 4	Jan-13	NL
Havering	London Permit Scheme (LoPS) Ph 4	Apr-13	NL
London Borough of Kingston	London Permit Scheme (LoPS) Ph 4	Mar-13	SGN
London Borough of Merton	London Permit Scheme (LoPS) Ph 4	Mar-13	SGN
London Borough of Sutton	London Permit Scheme (LoPS) Ph 4	Mar-13	SGN
Bexley	London Permit Scheme (LoPS) Ph 4	Apr-13	SGN

Permit Schemes implemented post April 2011 within GDPCR1 period ending 31 March 2013

3.5 Our claim for 2011-12 and 2012-13 reflects the actual permit costs incurred in the additional boroughs that implemented permit schemes from April 2011.

3.6 Permit costs have been quantified directly from National Grid accounting systems. However, adjustments have been made to reattribute permit costs from default Opex codes to Capex, Opex and Repex, as appropriate.

3.7 The actual costs incurred for Permit Fees for the remaining period of GDPCR1 are £0.316m.

Fixed Penalty Notices

3.8 Our claim includes the Fixed Penalty Notices incurred against the permit schemes that have been introduced from April 2011. Whilst National Grid has accepted the decision made with reference to Fixed Penalty Notices in the letter dated the 20th of December 2011 from the Authority (extract in Figure 3.3) for future costs, we believe the actual level of reasonable costs should be paid for when new schemes are introduced. This allows for some adjustment whilst we are working with each specific local authority to bed in the specific scheme requirements, when we know a standard approach, as evidence in this document, does not always mean a comparable level of performance across boroughs. Once schemes are in place we would expect to be able to achieve a reduction in line with the Ofgem proposals.

3.9 Our claim for Fixed Penalty Notices for the additional costs incurred for new permitting boroughs is £0.041m.

Figure 3.3 – Extract from Ofgem letter dated 20 December 2011

With regard to increasing the level of unit costs from £80 for fixed penalty notices, it should be noted that in SGN Southern's submissions, the unit cost for penalties for 2010-11 onward is circa £80. Additionally, all fixed penalties attract a discount for early settlement and we would expect an efficient company to take advantage of this discount and any costs above this should not be passed to the customer. We are aware that Code 08 (working without a permit) discounted penalty is £300 for early settlement, but we do not consider that a GDN should at any time be working in the road without a permit. Therefore, we will not be increasing this unit cost.
'We recognise the local authorities' view that we should not allow the GDNs to recover any costs associated with fixed penalty notices. They consider that GDNs should aim for zero penalties, but we have to consider the efficient investments and the ongoing costs that are required, which would ultimately be passed to the customer, for the GDNs to achieve zero penalties. We have also noted in NGG's business plan for RIIO-GD1 that since the introduction of TMA they have improved their noticing compliance performance from 70% to 97% over a four year period, but to achieve performance levels of greater than 97% they would require a large amount of additional resources. We have therefore allowed the proposed costs in the minded-to position for the first three years of the current price control. For the final two years we have decided to reduce the level of fixed penalty notices allowed from 6% to 3%.

Administration Costs

3.10 National Grid have accepted the decision made with reference to the Administration Costs in the letter dated the 20th of December 2011 from the Authority in respect to Administration Costs and therefore there will be no re-opening submission within this category, as the additional resource identified in our submission remained in place for the remainder of GDPCR1.

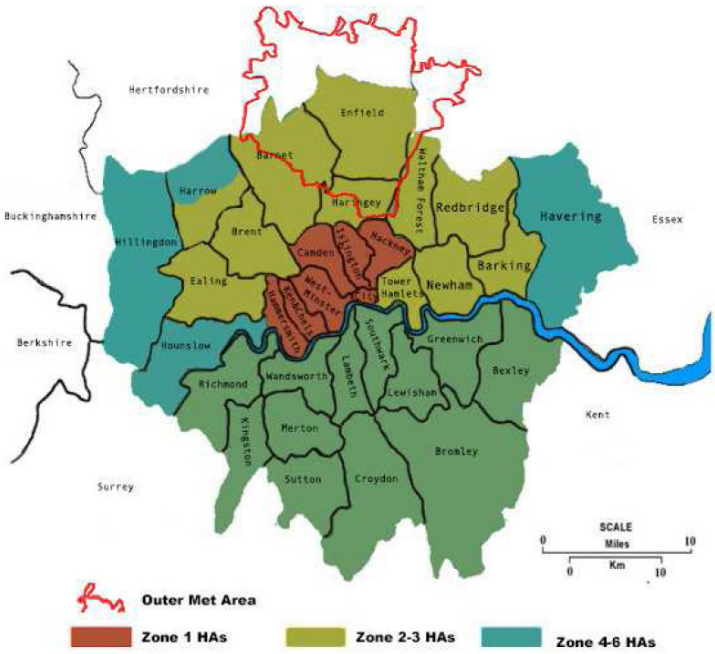
Productivity Costs

3.11 Based on Ofgem's requirements set out in Appendix 2 of the TMA reopener decision document issued in December 2011, we have undertaken a review of our productivity cost impacts over the four years from financial year 2009-10. As part of this exercise we used an external consultant EC Harris to independently identify the cost impacts on our productivity (See Independent Assurance section below). The analysis and outcomes of their findings are summarised below and set out in the EC Harris report within appendix A.

Independent Productivity analysis – Data Sources

3.12 To undertake our productivity analysis we have aligned our North London network into Zones (as depicted in Figure 3.4) as groups of Local Authorities with similar geographic characteristics. This is a sensible approach given our workload in each Local Authority can differ significantly year on year and at a Local Authority level it would be difficult to identify any particular trends.

Figure 3.4 – Extract from Ofgem letter dated 20 December 2011



3.13 The analysis undertaken uses data across four years and, in addition, project data from 2012/13 covering 52% of the total length abandoned with 73% of the length being below 180mm measured against the actual year split of 83% below 180mm mains.

3.14 Using Zones, we have been able to separate out cost drivers, such as Parking Bay, Bus Stop Suspensions & Road Closures that have been driven directly by the conditions imposed under the permit scheme from the other productivity Cost impacts we have experienced.

Parking Bay, Bus Stop & Road Closure cost drivers

3.15 Our analysis has identified that a significant part of the cost incurred in managing Streetworks under permit schemes is the level of enforced Parking Bay and Bus Stop suspensions required by the Local Authorities. Prior to the permit scheme, we would manage our works to avoid suspending the Parking Bays and Bus Stops; however, this is a permit condition we must now accept, due to the effective removal of our powers under Section 4 of the Gas Act to occupy the highway and our resulting inability to negotiate works requirements in areas where TMA permits apply.

3.16 The analysis from the 2012/13 data set shows the additional incurred cost per zone as set out in Figure 3.5. This is a significant cost driver in Zone 1 due to the volume of Parking Bays within this Central London Zone, which has a cost per metre impact of £15.05 per metre. This demonstrates National Grid's view that the incremental impact of TMA is exacerbated within the centremost areas of the capital by the built environment, as described in our response to Ofgem's Minded To statement on 24 November 2011.

Figure 3.5 – Enforced Parking Bay, Bus Stop Suspensions and Road Closures

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
Total Additional cost (£)	324,789	96,017	70,415	57,665	56,266	0
Length Abandoned (m)	21,585	68,030	81,072	16,152	28,451	53,812
£/m	£15.05/m	£1.41/m	£0.87/m	£0.28/m	£0.51/m	£0.00/m

Productivity Impact

3.17 Where possible we have compared data collected for 2012/13 with pre Permit scheme data to determine the impact. We have made direct comparisons to the Average metres per man per week split between above 180mm pipe and below 180mm pipe and by Zone (Productivity Rates) both pre and post Permit Schemes. The Productivity Rates pre-permit schemes, provides a reliable source to compare with the Productivity Rates driven by permit schemes. We have not assumed any underlying Productivity Rate efficiencies year on year from the pre permit Productivity Rates, however, this will result in our findings being under-estimated as we would expect underlying efficiency gains over GDPCR1, such as 1% year on year efficiency.

3.18 From the analysis of the 2012/13 data set reviewed by EC Harris we have been able to identify the cost per metre abandoned for the works together with the actual Productivity Rate being experienced in each Zone driven by Permit schemes. A simple formula has been used to identify the productivity shortfall, where we can demonstrate Permit schemes have reduced the overall level of productivity. Figure 3.5 shows the equation used and the shortfall in productivity. Figure 3.6 calculates the cost to deliver the shortfall and once combined with the Parking Bay & Bus Stop Suspensions provides the total productivity impacts.

3.19 The data shows the Zones that have seen an increase in the costs driven by permitting schemes, namely Zones 1, 2, with some impact in Zones 3 and 4. In other Zones we are unable to provide an increase in costs, however as stated in paragraph 3.16 it is likely the impacts in these outlying Zones have been understated.

Figure 3.6 – Shortfall in lengths due to Permit scheme productivity constraints

$$Abandoned\ Length - \frac{Abandoned\ length}{Original\ Productivity}\ x\ New\ average\ productivity = Shortfall$$

		Pipe size	Abandoned	Original Productivity	New average productivity	Shortfall
2009/10	Zone 1	< 180mm	11,170	27	16	4,551
		> 180mm	17,098	17	11	6,035
2010/11	Zone 1	< 180mm	11,311	27	16	4,608
		> 180mm	14,394	18	11	5,598
	Zone 2	> 180mm	33,492	18	16	3,721
2011/12	Zone 1	< 180mm	15,286	27	16	6,228
		> 180mm	12,357	19	11	5,203
	Zone 2	> 180mm	25,608	19	16	4,043
	Zone 3	> 180mm	47,384	19	17	4,988
	Zone 4	> 180mm	25,365	19	17	2,670
2012/13	Zone 1	< 180mm	11,866	28	16	5,085
		> 180mm	9,674	19	11	4,073
	Zone 2	> 180mm	20,620	19	16	3,256

Figure 3.6 – Additional Productivity costs by Zone

		Pipe size	Abandoned	Original Productivity	New average productivi	Shortfall	Average unit rate	Total extra cost	extra over cost /m	plus car parking bays etc	2009 figures	sub-total	less £18	TOTAL
2009/10	Zone 1	< 180mm	11,170	27	16	4,551	71.39	324,877	29.08	15.05	1.050	46.32	28.32	316,378
		> 180mm	17,098	17	11	6,035	153.92	928,844	54.32	15.05	1.050	72.82	54.82	937,239
2010/11	Zone 1	< 180mm	11,311	27	16	4,608	84.17	387,871	34.29	15.05	1.000	49.34	31.34	354,503
		> 180mm	14,394	18	11	5,598	170.33	953,451	66.24	15.05	1.000	81.29	63.29	910,988
	Zone 2	> 180mm	33,492	18	16	3,721	170.33	633,855	18.93	1.41	1.000	20.34	2.34	78,222
2011/12	Zone 1	< 180mm	15,286	27	16	6,228	79.47	494,910	32.38	15.05	0.954	45.25	27.25	416,613
		> 180mm	12,357	19	11	5,203	192.14	999,694	80.90	15.05	0.954	91.56	73.56	908,938
	Zone 2	> 180mm	25,608	19	16	4,043	192.14	776,893	30.34	1.41	0.954	30.29	12.29	314,821
	Zone 3	> 180mm	47,384	19	17	4,988	192.14	958,354	20.23	0.87	0.954	20.13	2.13	100,885
	Zone 4	> 180mm	25,365	19	17	2,670	192.14	513,014	20.23	0.28	0.954	19.57	1.57	39,725
2012/13	Zone 1	< 180mm	11,866	28	16	5,085	87.90	447,009	37.67	15.05	0.926	48.80	30.80	365,460
		> 180mm	9,674	19	11	4,073	159.22	648,545	67.04	15.05	0.926	75.98	57.98	560,923
	Zone 2	> 180mm	20,620	19	16	3,256	159.22	518,387	25.14	1.41	0.926	24.57	6.57	135,570
													TOTAL	5,440,265

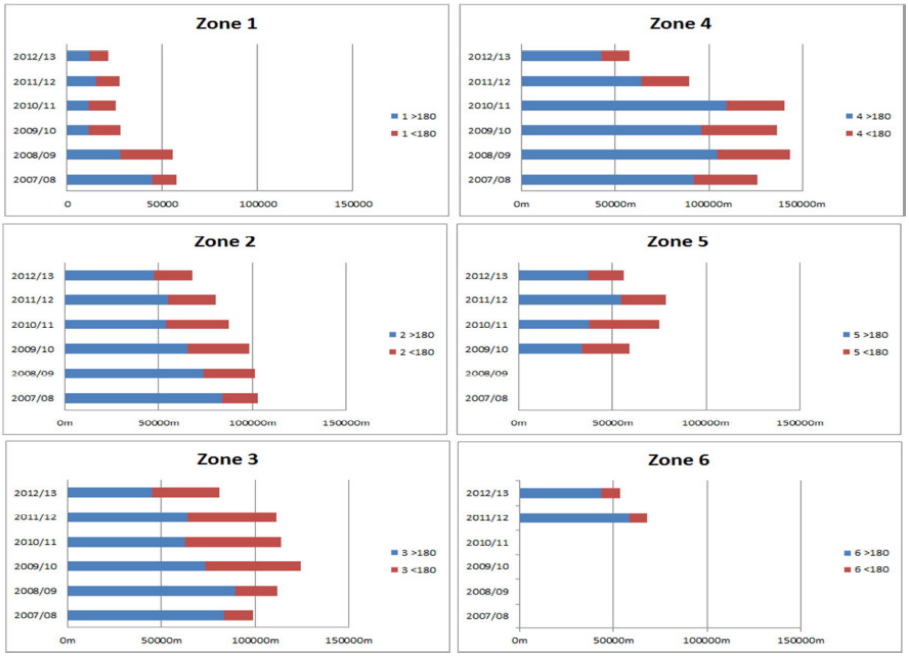
3.20 This analysis by EC Harris, demonstrates higher productivity impacts in the central Zones within our North London Network over a shorter length of abandoned main. Figure 3.7 details Ofgem allowance for 2009-10 to 2012-13 against our findings. The net result is a shortfall of £1.004m over the GDPCR1 period.

Figure 3.7 – Allowance vs findings

Figures in 2010-11 prices (£m)	**Year**				**Totals**
	09/10	**10/11**	**11/12**	**12/13**	
Ofgem allowed cost (£) per metre	£18	£18	£18	£18	£18
Ofgem allowed length (metres)	82,300	99,300	158,100	162,400	502,100
Ofgem Total cost allowance	**£1.481**	**£1.787**	**£2.846**	**£2.923**	**£9.038**
National Grid evidenced cost (£) per metre	£62.35	£40.70	£32.13	£43.19	£45
National Grid affected length (metres)	28,268	59,197	126,000	42,160	255,625
National Grid Total Cost	**£1.762**	**£2.409**	**£4.049**	**£1.821**	**£1.004**
Under / **over** allowance	**£0.281**	**£0.622**	**£1.203**	**-£1.102**	**£1.004**

3.21 The above details the change in total productivity cost impacts incurred year on year, however the change is driven by moving our workload out of Zones 1 and 2 and focusing on replacement across the outer Zones within North London Network. This is not a sustainable position going forward as we will need to return to Zones 1 and 2 over the RIIO-GD1 period to remove risk in respect of metallic mains. The change in workload by Zone year on years is detailed in Figure 3.8.

Figure 3.8 – Additional Productivity costs by Zone



3.22 We believe that the analysis and the summary provided clearly demonstrates the productivity impacts of the London permit scheme whilst taking management action to reduce the workload in the central Zones (1 and 2) for the remainder of GDPCR1 to minimise the cost impact to customers and deliver our mains replacement programme. The analysis identifies a shortfall of £1.004m against the allowance made in December 2011. National Grid believes there are grounds for Ofgem to consider funding of the £1.004m[1] shortfall given the work undertaken to identify the productivity impacts and recognising the management actions that have been taken to minimise cost impacts for customers in the GDPCR1 period.

Revised S74 Charges

3.23 Charges under Section 74 of NRSWA apply where the prescribed duration of works is exceeded or works are deemed to be unreasonably prolonged. Figure 3.9 shows the former and the new charges and details how the legislation has moved away from Notice/Activity type to Road/Street type.

[1] Includes £0.903m from 2009-10 and 2010-11 plus £0.101m from 2011-12 and 2012-13.

Figure 3.9 – S74 Charges

Existing S74	Works Type		Revised S74	Works Type
Description of Higway Incl. Footpath & Verge	Major / Standard	Minor / Immediate	Description of Higway Incl. Footpath & Verge	All
Cat. 0, 1, Traffic Sensitive	£2,500	£500	Cat 0, 1 Traffic Sensitive or Protected (TS/P)	(first 3 days) £5,000 (4th & subsequent days) £10,000
			Cat 0,1 non-TS/P	£2,500
Cat. 2	£2,000	£500	2 TS/P	(first 3 days) £3,000 (4th & subsequent days) £8,000
			2 non-TS/P	£2,000
Cat 3, or 4 Traffic Sensitive	£750	£250	3,4 TS/P	£750
Cat 3 or 4 NTS	£250	£100	3,4, non-TSP	£250

3.24 The proposed material change in charges was implemented from the 1 October 2012. National Grid's cost calculation has been based on differentiating between the application of the historical charge regime and that of the new charging regime.

3.25 The actual cost impact of these changes is £0.071m.

Section 74A Lane Rental

3.26 Section 74A of NRSWA makes provision for regulations governing the application of charges made by reference to the duration of works. The regulations, referred to as "Lane Rental", came into force in respect of works carried out in specified "pinch-points" on the TfL Strategic Road Network with effect from June 2012. The actual charging level is £2,500 or £800 per works per day. It was proposed that these charges should be avoidable in circumstances where the works can be completed outside normal hours and / or using "non-invasive" techniques

3.27 Whilst National Grid is investing in the development and deployment of minimum dig techniques, we believe that the opportunities for charge avoidance in respect of works on gas infrastructure will be very limited in reality, due to the following considerations:

- all works to maintain the gas infrastructure require some level of excavation;
- given the current methods available to utilities to replace aging assets to meet safety requirements, there will be an element of occupation that will incur unavoidable Lane Rental charges;
- although TfL have commissioned research into improved road plating, this is currently limited to trench widths of up to 750mm for safety reasons and is thus not suitable for works on larger mains; and
- the ability to work out of hours on any scale is often limited by noise abatement considerations and Environmental Officer actions by the local Borough Councils.

3.28 National Grid's actual and accrued Lane Rental costs has been based on the actual workload on TfL routes and exact works duration. The Lane Rental costs incurred during the first year of operation of the TFL scheme have been significantly limited as a result of the Olympic moratorium applied to streetworks between April and September (inclusive) in 2012-13.

3.29 The cost impact of these changes is £0.525m. However due to restricting our works to footways, wherever practicable, we have been able to avoid charges associated with 109 mains and service repairs and 13 connections by £0.919m, which would have been payable if works or vehicles occupied the highways for the duration of the works.

Independent Assurance

3.30 Given the sums involved over the full claim period of 2009-10 to 2012-13, National Grid has employed an independent consultant, EC Harris Built Asset Consultancy (EC Harris) to review the mains replacement work undertaken during GDPCR1 and provide assurance to National Grid that the productivity cost impacts associated with this reopener are both factual and evident. The £0.157m cost incurred in undertaken this detailed project cost capture and analysis have been included in our claim.

3.31 National Grid had originally applied a modelling approach to quantifying the productivity impact of TMA. The rationale for this approach is that, whilst data relating to permit fees, FPNs and to some extent administration is relatively straightforward to capture and evidence, productivity impacts can not be empirically measured against a single cost driver such as TMA. TMA productivity impacts must therefore be inferred by comparing observed cost increases against pre-TMA and neighbouring non LoPS boroughs.

3.32 Given Ofgem's decision in December 2011 and the concerns over the validity of that approach, National Grid asked EC Harris to undertake a full evaluation of the productivity impact of TMA upon National Grid and its Alliance partner by analysing works completed between 2009-10 and 2012-13 including a detailed analysis of 31% of all projects completed in 2012-13 within the North London Network, and to report their findings.

3.33 EC Harris's key findings are inserted below:

Taking the above sections in to consideration EC Harris can conclude the following:

a. There is overwhelming evidence from all National Grid's delivery partners that the implementation of the TMA permit scheme is requiring more time upfront to plan, organise and administer the work stack. This additional input is exacerbated by the subtle differences in implementation of the TMA between different HAs.

b. There is overwhelming evidence from all National Grid's delivery partners that the implementation of the TMA permit scheme requires a change in sequencing and methodology, which creates a strain on the efficient resource allocation.

c. The current contractual relationships and reporting requirements between National Grid and its delivery partners do not enable these differences of productivity to be readily identified in the format requested by Ofgem. In addition the increased overhead cost of implementing a revised reporting regime would be prohibitive against the potential extra cost recovered.

d. The TMA conditions will become more stringent over the coming years with specific requirements of lane rental, spoil management and programme constraints, which will consequently add additional costs to National Grid's programme of works due to the TMA permit conditions.

From analysing all data available, EC Harris can categorically confirm from both the productivity exercise and from the data collected which highlight the differences in length abandoned between networks that the areas where the TMA permit schemes have been introduced carry a cost premium for undertaking works.

It can be clearly seen from our review, there is not a single standard project which can be used as a basis for assessing all projects. Thus there cannot be a project by project review utilising individual costs as this would not provide any meaningful information or results.

The differences in the application and requirements between HAs who have implemented permit schemes has shown that it has not been possible for either National Grid or their delivery partners to implement a single streamlined process to be utilised across all authorities and networks. In addition this has resulted in each delivery partner having to develop and retain specific knowledge for the nuances of each HA within their region, which compounds the requirements for additional up front resources to plan, organise and administer the work stack.

Further, this has demonstrated that each new HA implements a permit scheme, National Grid and their delivery partners will continue to go through a learning and development process, rather than utilising a single streamlined process, thus further complexity will be added to the planning process.

EC Harris concludes that on a balance of probabilities the TMA permit scheme requirement has affected National Grid's cost base.

Section 4: Supporting Evidence

4.1 As documented within the Appendix 2 of the Ofgem TMA reopener decision we have provided further evidence to support the impacts of Streetworks and that we have taken action to minimise the impact for our customers.

Local Authority differences in approach

4.2 National Grid has identified that Permitting Authorities are adopting different approaches and interpretations to the same legislation especially within the London Permit Scheme (LoPs). A range of examples is provided below:

- Newham Authority insist on timing restrictions on every application being implemented on all permit requests and thus limits our works on the highway between 0930 and 1530 on each job – this restricts our working opportunity and leads to longer durations and an increase in occupation of the highway. In addition costs of set up and de-mobilisation are incurred each day. (Appendices SE1 & SE 2). Conditions imposed by Permitting Authorities are not supported with any justification for the imposition of the conditions but any challenge or rejection of the condition leaves the works unapproved.

- Redbridge Authority insist on stringent traffic management conditions and for the majority of jobs (52/60) they require updates for even the slightest relocation of the works. This again requirement is unique to this authority and creates risk of confusion for operatives on site as to exactly what kind of conditions apply. This often leads to FPN's being served for failure to meet the conditions. (Appendices SE1 & SE2)

- Hackney & Ealing Authorities request site clearance to be applied to the most of the works undertaken (28/60 & 9/10). This necessitates the daily clearance from site of all materials and equipment, but without substantiation for this condition. This adds a daily cost in the form of utilising a vehicle and operative to visit sites each day to clear potentially very small amounts of material. Again this is not applied by all LoPs authorities again showing inconsistency. (Appendices SE1 & SE2)

- Hammersmith and Fulham Authority – one example of an extreme permit condition that creates excessive costs for works promoters is the requirement to lift all the tapping tiles from a Pelican crossing, replace them with temporary tarmac, undertake the work (cut off a 32mm service) and then to lift all the temporary tarmac and replace the tapping tiles, as demonstrated in the photographic evidence. (Appendix SE4)

- National Grid has provided a matrix (Appendix SE3) on the condition types applied by authorities working within the same scheme (LoPs) in an attempt to identify the varied challenges facing work promoters operating the same scheme within different authority boundaries and that inconsistent application leads to confusion for the operatives and on cost for works promoters and does not aid planning and reduction of durations, road space and congestion. The inconsistent application of detailed requirements by authorities has also led to extra administrative burden and costs for works promoters

on analysing every response and communicating the complexity of the myriad of differing permit condition.

National Grid working with Local Authorities

4.3 National Grid has worked with Local Authorities and the National Government via the DfT during the development of permit schemes, their ongoing development and the future strategy for permit schemes and other legislation. Throughout this engagement, we have sought to bring our views to bear on the benefits of proportionality and consistency in legislation and detailed requirements.

4.4 National Grid was the first utility to adopt and operate under the London Permit Scheme and has continued support the on-going development of the scheme by attendance at the National Permits Forum, the London Permit Forum and working groups. National Grid was also involved on the initial testing working group to aid some uniformity from a utility perspective, in order to drive consistency and to gain a clear understanding of highway authorities' approaches. (Appendices SE5, SE6, SE7 & SE11)

4.5 National Grid continues to be proactive in influencing the form, extent and timing of future streetworks legislation and we continue to work with the DfT to bring about consistency in future Permit legislation including the re-evaluation of the cost benefits analysis and the evaluation of generic template for further national schemes, the evidence shows National Grid fully cooperating with the working party. (Appendices SE8, SE9 & SE19). Expected outputs would be standardised documents relating to;

- Cost Benefit Analysis
- Standardised Conditions
- Standard Permit Template

4.6 This element of work is being undertaken in preparation for the devolution of approval of permit schemes to highway authorities from the Secretary of State to further support the Government's Red Tape Challenge.

4.7 National grid has been working with the National Permits Forum to draft and publish a standard set of conditions to be adopted throughout the street works community to ensure there is a consistency of approach throughout. (Appendices SE10 & SE11). In addition National Grid has helped to drive interpretation and consistency of existing conditions through Permit Advice notes to clarify existing issues amongst schemes – this approach has now been adopted by all schemes including the Yorkshire and East of England scheme. (Appendix SE12)

4.8 Where permit schemes have developed their own scheme approach that is permitted under the legislation, National Grid have participated in the development of these schemes including GMRAPs (Manchester), East of England and South Yorkshire Permit scheme to share learning from a promoter's perspective of those schemes in London and Northamptonshire. Evidence shows our participation in the Manchester scheme. (Appendix 26).

4.9 National Grid has worked collaboratively with industry groups such as ENA, NJUG and their respective members to identify and influence the efficient and consistent application of permit schemes to reduce the impact and cost of permit schemes.

4.10 Collaborative working within the street works community can clearly be seen in the drafting of permit schemes and their modification and application and this can be demonstrated as detailed in the minutes and working party details contained within Appendices (SE5 to SE12). National Grid has continued to benchmark performance within permitting areas with other utilities and with Highway Authorities where the data has been provided. (Appendix SE13)

4.11 National Grid does undertake operational collaborative working whenever possible including responding to individuals with the rationale for joint working and citing good examples. We have also been acknowledged for working in partnership with other community members (Appendices SE14 & SE15). This has had some impact in reducing costs and helping to improve the reputation of Streetworks promoters

4.12 The fixed penalty aspect of permit schemes is also being discussed and National Grid is acting as a major works promoter, influencing what is the best practice and also identifying areas for consistent application with the Highway Authorities revised FPN procedure (Appendix SE28).

4.13 The current implementation of Eton 6 also clearly demonstrates National Grid's ability to work with the street works community. National Grid was at the forefront of creating the requirements matrix for the introduction of Eton 6. Ultimately, Eton 6 should enable a reduction in administration costs especially with permits. A key consideration for Eton 6 was to ensure that the system fully supports the legislation, and thus enables the permitting authorities to apply conditions directly to permits to improve the otherwise burdensome administrative process and decrease the risk of non-compliance. (Appendix SE16).

4.14 National Grid also collaborates with contractors and other utilities to ensure consistency in training packages to drive a consistent approach to interpretation of permit schemes and to share best practice between contractors and other utilities. (Appendices SE18 & 19)

4.15 National Grid works collaboratively within the Street Works community and has received nominations within the prestigious NJUG awards in numerous categories (Appendices SE22 & 23), including:

- Communication Awards
- Partnership Awards
- Safety Finalist
- Sustainability Category

4.16 National Grid has been an integral part of developing and committing to a national Code of Conduct that was inaugurated through the London Code of conduct. This code is instrumental in driving collaborative performance and safety when working on the street especially within permit schemes. This was fully endorsed by the Mayor of London and is

now being rolled out nationally through HAUC under the cover of the National Codes of Conduct. This document clearly demonstrates the commitment to driving performance and communication within permitting schemes and in Streetworks – the appendix quite clearly shows the sharing of best practice for signage between Thames Water and National Grid. (Appendices SE24 & 25)

4.17 The recent report entitled 'Holes in our Pockets' launched by the Local Government Association and supported by the Highways Maintenance Efficiency Programme (HMEP) identified key areas impacted by Streetworks including commercial impacts and pot holes. National Grid has been fully supportive of this initiative and has provided support through one of its directors, Jeremy Bending. National Grid is currently one of two utilities working on behalf of NJUG working with two leading JAG (Joint Authorities Group) members to drive out a uniform 'What looks good for Streetworks'. (Appendix SE 27)

National Grid working to reduce streetworks costs

4.18 National Grid has been working to improve its performance throughout Street works to reduce the costs associated with NRSWA, including Fixed Penalty Notices, Section 74 charges and Lane rental fees.

4.19 The working group within HAUC has been fully supported by National Grid representation in driving a national Key Performance Matrix for both works promoters and highway authorities. National Grid is fully supportive and prepared to ensure there is a parity in performance and to ensure best or and shared practice is adopted where possible. However, we are concerned by the reluctance of Highway Authorities to commit to this matrix. (Appendices SE31, 32 & 33)

4.20 National Grid has been a key influencer on the development of NJUG KPI to compare utility sector with utility sector to enable both bench marking and best practice where appropriate. NJUG can and does now provide performance data relating to Sector performance and can also provide individual company performance. This detail is then shared at the NJUG operations working group to identify both primary performers and those whom need to raise their performance. (Appendices SE29 & 30)

4.21 Our own performance measures have also been given primary importance – the development of a Process Performance Management team has been established to drive NRSWA performance nationally in preparation for further Permit Schemes. There has been a reduction on the number of S74 charges received from circa 200 per month to circa 150 per month during the last year. The notification compliance performance has maintained a performance level of 97% over the last three years. The introduction of Lane Rental in 2012 has seen the adoption of innovative methods of working to drive down the costs of TMA legislation. These key items are further expanded within the next section.

4.22 A Streetworks Newsletter has also been created to raise awareness of all Street works matters for our operational processes and functions and is now circulated throughout the business. (Appendix SE34)

National Grid Innovation in Streetworks

4.23 National Grid has introduced and is developing on a number of innovations that, whilst incurring some additional operational costs and risks, have provided demonstrable benefits in reducing our occupation of the highways when undertaking activities;

4.24 **Rapid Cure Concrete –** Through negotiation and discussion with authorities within the North London Gas Network especially Transport for London National grid has agreed to the utilisation of Rapid Cure Concrete to reinstate the highway. This process has been invoked through Appendix 9 of the Specification for Reinstatement of Highways. An agreed specification for this material has helped to reduce the occupation of the highways by up to 4 days and led to suggested savings (DfT stats) in congestion of up to £20k per day. There has been an on cost to National Grid in engaging with the process as the raw material costs are four times more expensive. (Appendix SE20)

4.25 **Forward Planning Information Process –** National Grid has now developed a robust procedure and is currently undertaking training with its new partner in ensuring that this process is operational. The FPI process allows Highway Authorities and Works Promoters to co-ordinate works under Sections 59 & 60 of NRSWA and allows a clear vision of our proposed works for up to 5 years within the communication systems (Eton). In addition the enhanced co-ordination of our works should lead to more collaboration between works promoters and reducing the costs of Streetworks through shared costs and resources. (Appendix SE35)

4.26 **SAP Management Systems –** National Grid has continued to invest in its systems to accommodate the ever changing NRSWA/TMA landscape. A drive from Highway Authorities (see App SE37) for National Grid to supply more details regarding Major works, over and above those prescribed within the Technical Specification and Legislation, has seen the development of change requests to plot the exact route of our works in a polyline format. Once again National Grid has superseded the requirements at its own expense to reduce the administrative burden on all parties and for the benefit of all Highway Authorities. (Appendices SE36 & 37)

4.27 **Lane Rental Challenge –** The change of legislation in June 2012 has led to National Grid developing and innovating its ways of working to reduce the impact of Lane Rental whilst not impacting our customers or safety operations. The introduction of Lane Rental imposed a forecast additional cost on national Grid of in excess of £4million. (Appendix SE39) The development of an algorithm (Appendix SE40) to determine the most effective and efficient time to work on the highway was deployed within the North London Gas Network. This deployment enabled in excess of £3million in costs to be avoided in addition to any additional savings in congestion charges. National Grid is continuing to develop this system and is currently devising an I-phone application that can be used by the field force to enable rapid decisions to be made and not reliance on supervisory staff making the optimum decision. (Appendix SE35)

4.28 **Core & Vac Technology –** National Grid has invested in the Core & Vac technology to reduce the time taken to undertake repair and maintenance activities on the network. Full consultation with the Highway Authorities has been undertaken as the process contravenes the Specification of Reinstatement of Highways in its reinstatement

component. National Grid has agreed to an Appendix 9 trial as detailed in the SROH and we are currently accelerating the use of the equipment and investing in new, more enhanced technology. This technology can deliver a significant reduction in occupation of the highway and hence congestion, to the benefits of the road user. Challenges from individual highway authorities (Newham) have put the project at risk, but careful negotiation and National Grid's agreement to a lifetime guarantee on the reinstatements completed by this process have secured its utilisation throughout the London network. National Grid is currently looking to invest in further equipment to roll out the process to the other gas distribution networks. (Appendix SE38).

Appendices / Enclosures

Reference	Details	Type
A	Claim for Income Adjusting Event associated with the impacts Traffic Management Act	Document
SE1	Model Conditions – Diverse Application	Screenshot/Narrative
SE2	Model Conditions – London Permit Scheme	Document
SE3	Permit Conditions by Application by Highway Authority	Spreadsheet
SE4	Extreme Model Conditions – Hammersmith & Fulham	Photo/Narrative
SE5	National Permit Forum	Correspondence
SE6	National Permit Testing Forum	Minutes
SE7	London Permits Scheme Forum	Minutes
SE8	Future Permit Scheme Collaboration - DfT	Correspondence
SE9	Draft Guidance for future permit schemes - DfT	Document
SE10	HAUC Advice note on permit conditions	Document
SE11	HAUC UK permit Forum	Minutes
SE12	Yorkshire Permit Advice Note	Document
SE13	TfL and NG Performance Collaboration	Document
SE14	Responding to customers on correspondence	Document
SE15	Collaboration Examples within North London	Correspondence
SE16	Eton 6 Collaboration	Correspondence/Narrative
SE17	Utility Contractor Collaboration	Power Point/Correspondence
SE18	Utility and Utility Collaboration	Power Point/Correspondence
SE19	DfT to Chief Executives – Permit Scheme	Correspondence
SE20	Innovation – Rapid Cure Concrete	Correspondence/Document
SE21	Innovation – I phone Application	Power Point
SE22	Collaboration – NJUG Awards	Correspondence
SE23	Collaboration – NJUG Awards	Documents
SE24	Code of Conduct - Signage	Document
SE25	Code of Conduct – Revised	Correspondence/Document
SE26	Manchester Permit scheme Development	Document
SE27	HMEP Collaborative working group	Document
SE28	HAUC FPN Review	Document
SE29	NJUG Performance Data	Template
SE30	Driving Performance in NJUG	Correspondence
SE31	Evaluation of key performance indicators	Document
SE32	Permits Performance working group	Minutes
SE33	HAUC National KPM Matrix	Document
SE34	National Grid Newsletter	Document
SE35	I-phone & FPI Innovation	Documents
SE36	Process Change Request - GDFO	Document
SE37	Process Change Request	Correspondence
SE38	Core & Vac Process	Power Point
SE39	Lane Rental – 2012 Record	Spreadsheet
SE40	Innovation – Lane Rental Algorithm	Spreadsheet