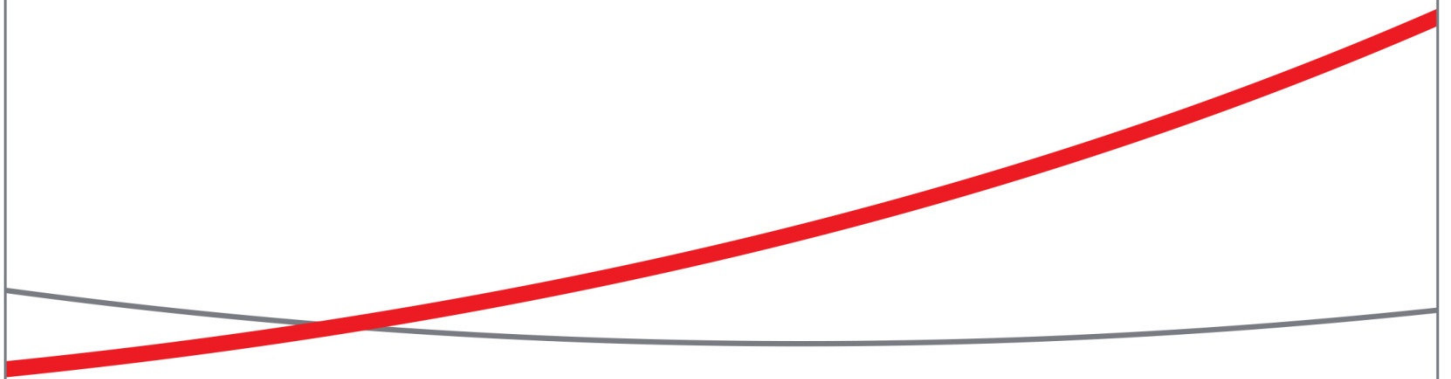


National Grid

# **Claim for Income Adjusting Event associated with the impacts Traffic Management Act**

June 2013



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## Version control

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## 1 Executive Summary

This report was produced as part of National Grid's submission of an Income Adjusting Event to the Office of Gas and Electricity Markets relating to the implementation Traffic Management Permit Scheme Regulations 2007 by Highway Authorities, under the New Roads and Street Works Act 1991 as amended by the Traffic Management Act 2004.

The report reviews the impacts of the implementation of traffic permit systems by Highway Authorities on the performance of the Alliance and Coalition delivery partners of National Grid in National Grid's North London, East of England and North West regions, including identification of the additional fixed and variable costs incurred by delivery partners.

The key findings of the report are:

- Highway Authorities have introduced the traffic management permit schemes, under the Traffic Management Act 2004, throughout the GDPCR1 period and not all Highway Authorities have adopted a traffic management permit scheme.
- The interpretation and application of the Legislation is not uniform leading to a myriad of application of the schemes causing a different approach from individual Highway Authorities leading to the development of different ways of working for all works promoters including National Grid.
- The cost capture methodology and requirements under the Alliance and Coalition contracts, awarded in 2005 and 2009 respectively, mean that significant further detailed analysis is required to identify additional costs incurred due to the traffic permit system.
- Where Highway Authorities have adopted and implemented the traffic management permit schemes, the costs of National Grid's delivery partners have increased as a direct result of the legislation.

The conclusions of the report are:

- Because different Highway Authorities apply the traffic management permit schemes, it is not possible for National Grid, or their delivery partners, to adopt a single process which meets the requirements of all Highway Authorities.
- National Grid's delivery partners have to develop and retain understanding of the nuances of each individual Highway Authorities requirements for traffic permits, both for application and for execution, and the effects these requirements have for submissions in addition to schedule and cost.
- The additional cost incurred by National Grid as a result of the traffic management permit schemes is **£5,079,270**, which equates to **£37.87** per linear metre abandoned based on 2009 prices.
- The additional cost incurred by National Grid per linear metre abandoned is **£19.87** greater than the initial findings of the Office of Gas and Electricity Markets to National Grid's Income Adjusting Event submission of June 2011, based on 2009 prices.

## 2 Background

### 2.1 The Acts (NRSWA) 1991 and TMA 2004

- 2.1.1 Under the New Roads & Street Works Act (NRSWA) 1991, National Grid had a statutory right to occupy the highway in order to work on assets located on or under the highway as long as the Highway Authority (HA) was notified. The Traffic Management Act (TMA) 2004 is a piece of legislation that complements NRSWA 1991, e.g. the TMA does not supersede NRSWA, but changes some key aspects of the law. The TMA places a primary duty on HAs to actively manage their road network and allows the HAs to do this through the introduction of permit schemes.
- 2.1.2 Under the TMA, National Grid's automatic right to occupy the highway is superseded by the HA's requirement to manage the highway; National Grid must gain the permission of the HA to undertake work rather than notifying the HA of the work. Planning, managing and delivering streetworks under this more restrictive regime adds significant additional costs, particularly in terms of administration, productivity and other costs to National Grid. To obtain permission to work, National Grid must agree to and implement project specific work conditions required by the HA which are documented in the permit. These permit conditions, detailed within the Codes of Practice for Permits (March 2008) and enforced by the HAs can be on any aspect of the work including, but not limited to;
- Identifying when the project can commence.
  - Limiting the total duration allowed to undertake the project.
  - Limiting the space available to undertake the works.
  - Requiring the highway to be reopened for certain days or times of the day, e.g. rush hour.
  - Requiring specific traffic management activities to be undertaken such as; creating detailed traffic management plans for every scheme and phase of the works; increased use of one way routes; parking bay and bus stop suspensions; manned traffic control and removal of traffic islands and street furniture.
  - Requiring work to be undertaken outside of normal working hours.

### 2.2 Entitlement to recover Cost Implications arising from the Adoption of the TMA 2004 under 'Income Adjustment Events'

- 2.2.1 The Office of Gas and Electricity Markets (Ofgem) has acknowledged that the costs due to the enactment of the TMA are significant and are allowing the Gas Distribution Networks (GDNs) to recover the cost differential between legislative requirements of the NRSWA and the TMA requirements. To recover these costs, National Grid must demonstrate that these additional costs were incurred during efficiently executed works and are directly attributable to the TMA. The costs are recovered through submitting an Income Adjustment Event (IAE) to Ofgem.

## **2.3 Reason for this Submission**

- 2.3.1 For National Grid's first IAE submitted for additional costs incurred due to the TMA in June 2011, a holistic approach was adopted to document productivity costs. The costs were demonstrated by comparing neighbouring parts of London where the main difference was the adoption of the London Permit Scheme. Ofgem rejected this methodology.
- 2.3.2 Due to the uncertainty around productivity costs and Section 74 charges, Ofgem permitted the re-opening of the IAE, submitted June 2011. In addition Ofgem requested that National Grid include any proven costs due to the TMA incurred up to and including 31<sup>st</sup> March 2013, so addressing the full GDPCR1 period within the IAE submission.
- 2.3.3 National Grid is required to submit this revised IAE to Ofgem by 28<sup>th</sup> June 2013. The IAE submission must meet Ofgem's requirements, specifically;
  - 1. The data must demonstrate that National Grid operated efficiently and any additional incurred costs are directly attributable to TMA legislation.
  - 2. The productivity cost data must be captured at a project level.
  - 3. There must be a minimum of 6 months of actual cost data.
- 2.3.4 This report provides the information to meet the requirements above.

## 3 Breakdown of the Basis of the claim

### 3.1 Basis of the Claim

National Grid has identified the following operational interfaces and factors that drive the significant cost increases to the delivery of its operations that are a direct consequence of the application of the TMA legislation;

#### 3.1.1 General Observations

- Permit schemes and their associated conditions have added significant complexity to the street works regime increasing both planning, design and delivery costs and durations.
- The inconsistent application and format of permit schemes between HAs has limited National Grid's, (and their delivery partner's) ability to optimise processes, which has an additional negative impact on productivity.
- The stages of compliance and noticing requirements for different types of works impact performance, delivery and costs. For example for planned major works the noticing process typically starts at least ninety days prior to undertaking works, with six notices required in total.
- The fact that different HAs have developed varying schemes, or may interpret the TMA permit scheme in different ways and with different levels of rigour leaves National Grid unable to define one "best-practice" approach to manage the permit process nationally, thus creating inefficiencies across the entire work planning and delivery process as each HA permit system requires detailed local knowledge.
- The negative impact on site productivity has been evident from the analysis of the impact of the London Permit Scheme (LOPS) on essential mains replacement programme activity. Due to conditions imposed, projects are taking longer to complete and costing more.
- Differences between and within permit schemes also necessitates a multitude of different administrative processes to be undertaken by those applying for permits in more than one geographic area. For example the three current schemes in operation or preparation covering areas where National Grid undertakes work (London, Northampton and Manchester) are being implemented in different ways in terms of both interpretation and application. See Section 8 for details of some of the initiatives that National Grid has implemented to mitigate the impacts of the enactment of the TMA.

#### 3.1.2 TMA Specific Observations

- NRSWA placed duty on HA's to co-ordinate works, hence noticing system.
- Part 2 TMA imposed a principal network management duty (NMD) on HA's to secure expeditious flow of traffic.
- Part 3 TMA enabled HA's to introduce chargeable permit schemes to support the NMD role (the London Permit Scheme started 11<sup>th</sup> January 2010).
- Part 4 TMA enabled all HA's to apply fixed penalties as an easier alternative to taking court action (from May 2008).



- Regulations under NRSWA S74A implemented March 2012 to enable Lane Rental schemes (Transport for London Scheme started 11<sup>th</sup> June 2012).
- DfT changes to the S74 Regulations to impose significant increases to S74 overstay charges from October 2012.
- Under NRSWA National Grid have a statutory right to occupy the highway to undertake their works. National Grid can avoid penalties and overruns if their noticing and works duration is right first time.
- Under TMA permit schemes, working without a permit is a criminal offence. In order to obtain grant of permit, National Grid must comply with permit conditions imposed by the HA.
- The above significantly increases the planning, resource management and work delivery management input, in addition increased restrictions from permit conditions impact on productivity, especially on long-cycle works such as mains replacement.
- Permit conditions also used to impose other HA charges which would have previously been negotiable including; traffic orders, parking suspensions, specialist traffic management, use of variable message signs and multiple iterations of traffic management plans.

3.1.3 The above identified operational interfaces and factors lead to significant cost increases in the delivery of National Grid's operations as a direct consequence of the application of the TMA legislation and are in the opinion of EC Harris, matters that fall properly within the scope of the IAE under the Licence.

3.1.4 Matters which fall properly within the scope of the IAE under Part C of Special Condition E7 of the Gas Transporter License are categorised as follows:

- a. TMA Permit fees,
- b. Fixed Penalties,
- c. On-going administration,
- d. Other costs which Ofgem directs should be treated as TMA costs.

3.1.5 As part of the 2011 London IAE submission and public consultation process. Productivity costs, Lane rental and Overstay charges were recognised by Ofgem as relevant costs for the purposes of sub-section (d) of the TMA IAE.

## **3.2 Entitlement under the IAE Mechanism**

- 3.2.1 The IAE mechanism is triggered when the cumulative additional cost over the relevant period exceeds 1% of core allowed revenue.
- 3.2.2 Any IAE submission requires at least 6 months of actual costs, plus a projection to 31<sup>st</sup> March 2013 (end of GDPCR1), or 6 months of actual costs in the case of submissions in respect of the 2012/13 formula year.
- 3.2.3 To date Ofgem has allowed £18 per metre of mains abandoned within London permit scheme areas to remunerate additional productivity costs.

## 4 Supporting Evidence for Each Claim Head

### 4.1 The National Grid Network

The National Grid networks where TMA permit schemes have been introduced to date are London, the East of England and the North West.

North London	Gas Alliance	Skanska
	Coalition	Morrison Utility Services (MUS)
East of England	M1 Corridor Gas Alliance	AMEC
	Coalition	Morrison Utility Services (MUS)
	East Anglia Alliance	Skanska
North West	Gas Alliance	Balfour Beatty Utility Solutions (BBUS)
	Coalition	Enterprise Managed Services (EMS)

**Figure 1 – National Grid Delivery**

#### Partners by Network

Each delivery partner and region, shown in Figure 1, has been reviewed separately and our reports for each are included in Appendices A and B. Through this process the following high level position was derived:

#### 4.1.1 North London Gas Alliance

North London Gas Alliance (NLGA) has operated under permit schemes affecting its mains replacement workload for Inner Metropolitan since 2009. For the Outer Metropolitan and other parts of East of England Network permits were introduced during September 2012. In order to minimise the effect of the September 2012 introduction of permit schemes, National Grid's delivery partners planned and delivered the majority of the workload in affected areas before December 2012.

Due to the NLGA having this collective mix of areas with and without permits plus the effect of high population density has proved, through data collection, to have encountered the most impact due to the TMA. The availability of options to minimise the impact of the introduction through scheduling of works has been limited due to the number of different authorities and coverage. Please see figure 2.

Boroughs with Permits			Boroughs without Permits	
Barnet	Haringey	Redbridge	Havering	
Brent	Harrow	Richmond	Tower Hamlets	
Camden	Hounslow	Southwark		
City of London	Islington	TfL		
Enfield	Kensington & Chelsea	Waltham Forest		
Hackney	Lambeth	Wandsworth		
Hammersmith & Fulham	Newham	Westminster		

**Figure 2: North London Highway Authorities implementation of permit schemes**

#### 4.1.2 North London Coalition

Further to extensive discussions and review of data it is clear that Morrison Utility Services (MUS) due to the nature of the works undertaken have been able to better manage the impact of the TMA. This is due to the Works being predominately short sections with shorter duration and thus the impact on productivity is less. The precise additional cost is not able to be defined at the time of this report. Areas which may have an affect over time are the drawings and specialist traffic management requirements. A regular review will need to be carried out, in order to provide robust data to assist any further extra cost impacts. It has been concluded therefore, that with the type of work undertaken, productivity issues have been managed through strong supply chain management therefore the IAE trigger has not been reached for MUS.

#### 4.1.3 East of England

In the East of England (EoE) area, nine HAs are operating a TMA Permit Scheme:

- Sheffield City Council
- Barnsley Metropolitan Borough Council
- Doncaster Metropolitan Borough Council
- Rotherham Metropolitan Borough Council
- Northampton County Council
- Bedford Borough Council
- Hertfordshire County Council
- Luton Borough Council
- Southend-on-Sea Borough Council

Permit schemes were introduced during 2012 and therefore the IAE trigger has not been reached within the GDPCR1 period, however over the coming months the impact and associated costs will affect the financial position and should be taken into account in Year 2013-14.

The Alliance partner in the East Midlands region of the East of England is AMEC operating the M1 Corridor Gas Alliance (M1CGA), and the Alliance partner for the East Anglia region is SkanskaMcNicholas. Morrison Utility Services (MUS) are the Coalition partner for the whole of the East of England.

- MUS have completed four projects under permits to December 2012 totalling £49,000, the projects can be found in Appendix A.
- AMEC have completed six projects under TMA Permit Schemes from the 1<sup>st</sup> October 2012 to December 2012 totalling £755,000, the projects can be found in Appendix B.
- Skanska's data has been included within the commentary under Section 5.1.1.

#### 4.1.4 North West

In the North West area only one Highway Authority, St Helens, is operating a TMA Permit Scheme. The Merseyside Authorities Permit Scheme (MAPS) came into force in April 2011.

The IAE trigger for North West has not been reached for the GDPCR1 period and therefore information for the North West region has been recorded but not submitted as part of this report.

## 4.2 Permit, Fixed Penalty Notices, Section 74 & Administration Costs

Permit, Fixed Penalty Notices (FPNs) and S74 cost impacts are compiled centrally and the supporting performance narrative can be found in the main National Grid report. The TMA administration costs quantification method is set out in Figure 3 below;

<b>Stage 1</b>	Identify all resources involved in TMA-specific activities by team, title, role description and pay grade
<b>Stage 2</b>	Quantify specific percentage Full Time Equivalent involvement in TMA by short-term timesheet exercise or by detailed management assessment
<b>Stage 3</b>	Calculate total TMA hours by resource
<b>Stage 4</b>	Apply standard pay rates + uplifts

Figure 3 – Administration cost process

The above process has been detailed in previous correspondence.

## 4.3 Other costs which Ofgem directs should be treated as TMA costs

Ofgem provided a cost capture sheet to highlight its understanding of the requirements to be captured under 'Other Costs'. These are the following:

- PAA Rejections/Repeat PAA's
- Change of Working Technique
- Fixed Penalty Notice
- Parking Bay Suspensions
- Bus Stop Suspensions
- Traffic Management Drawings
- Specialist Traffic Management
- Temporary Traffic Restriction Orders
- Removal/reinstatement of traffic islands and pedestrian crossings
- Removal/reinstatement of street furniture

- Restricted Working Length - Programme Delay
- Restricted Working Length - Additional Connections
- Extended / Restricted Working Hours
- Reinstatement
- Material Delivery Restrictions
- Delay / Additional Works
- Issues with spoil disposal
- License for Spoil and Welfare Units

#### **4.3.1 Fixed & Variable Costs**

The 'Other costs' listed in 4.3 can be categorised into Fixed cost impacts and Variable cost impacts or as described from hereafter **Productivity cost impacts**.

- Fixed cost impacts are not related to price per metre and cover items such as the Permit costs, FPNs, NRSWA Section 74 and administration costs. It is in the opinion of EC Harris that the above list of 'Other costs' should be part of fixed costs and thus incorporated into the same reimbursement process as actual cost. The reasoning for this is that these costs represent a high single financial element dependent on the specific location of the works. This could develop an average which creates an unreasonable cost upper and lower delta.
- Productivity cost impacts are directly related to location, pipe diameter and time frame these are variable costs which directly affect the price per metre laid / abandoned and need to be included as part of the averaged IAE. The terminology used to define these variable costs has been Productivity cost impacts.

#### **4.4 The Process Adopted to Evidence each Claim Head**

Having identified the heads of claim against which the IAE will be formulated, it is important to demonstrate appropriate levels of supporting evidence for each claim head.

EC Harris set out in the next section a structure and its approach.

## 5 TMA Cost Capture Process

EC Harris developed the following process shown in Figure 4 to capture and utilise the cost data per project.

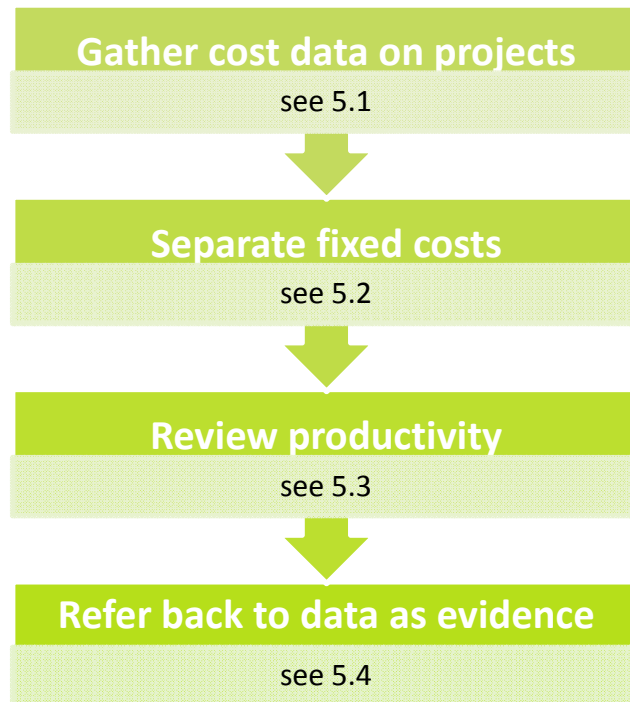


Figure 4 – Data capture process

### 5.1 Gather cost data on projects

In order to understand the impact of TMA it was considered by National Grid and Ofgem to collect costs directly from the Alliance and Coalition partners over a 6 month period. This process involved working from the offices of National Grid's partners and having open access to all cost data, in addition to individuals involved in the day to day project delivery as required.

#### 5.1.1 North London Gas Alliance

The NLGA have introduced a zone system to distinguish their boundaries. The map in figure 5 below shows the zones for London

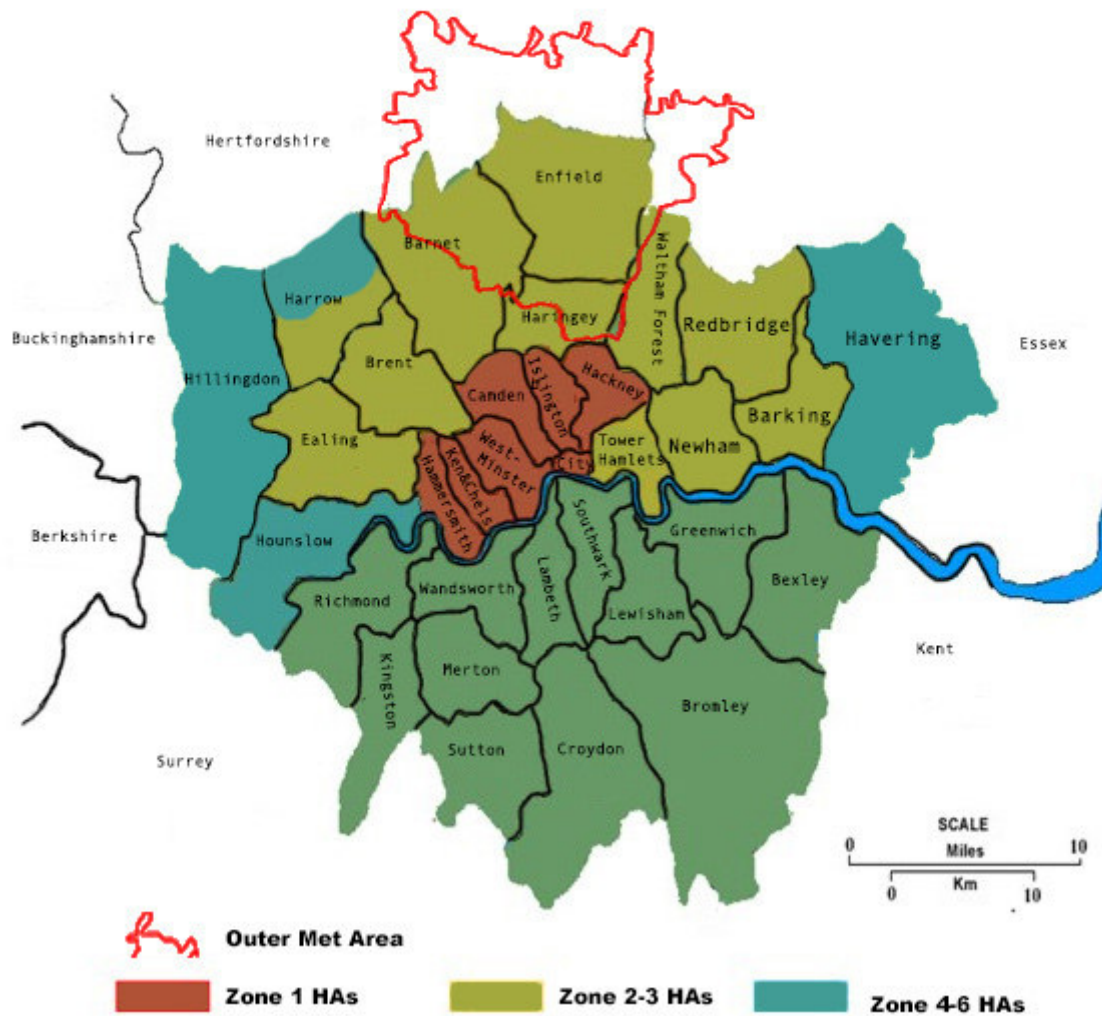


Figure 5 – Zones in relation to Outer & Inner Metropolitan areas

- Data has been collected over a 9 month period from projects dating back to April 2012.
- Data capture sheets have been completed on 120 projects. Please see Appendix C
- 376 projects during 2012 /13 were closed between 1st April 2012 and 31st December 2012.
- EC Harris has reviewed 31% of the projects started in the above time period. This percentage collected was considered by EC Harris to provide a high sample number and reflected a broad range of the total number of projects delivered.



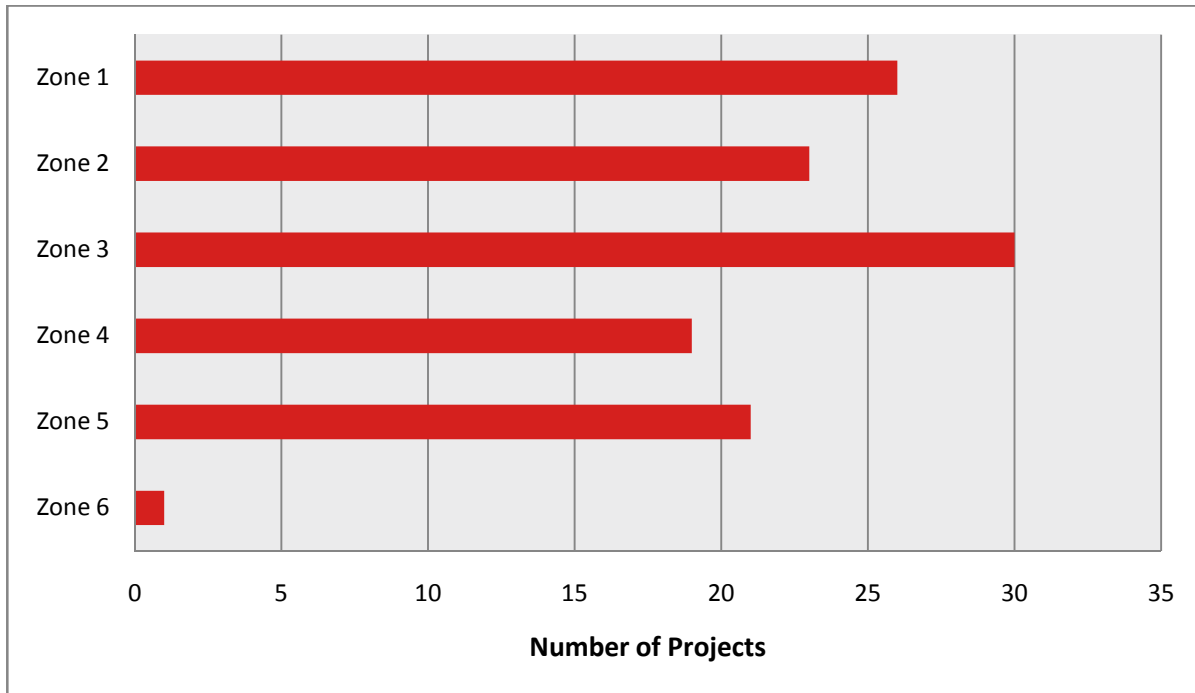


Figure 6 – Number of NLGA projects per zone assessed by EC Harris

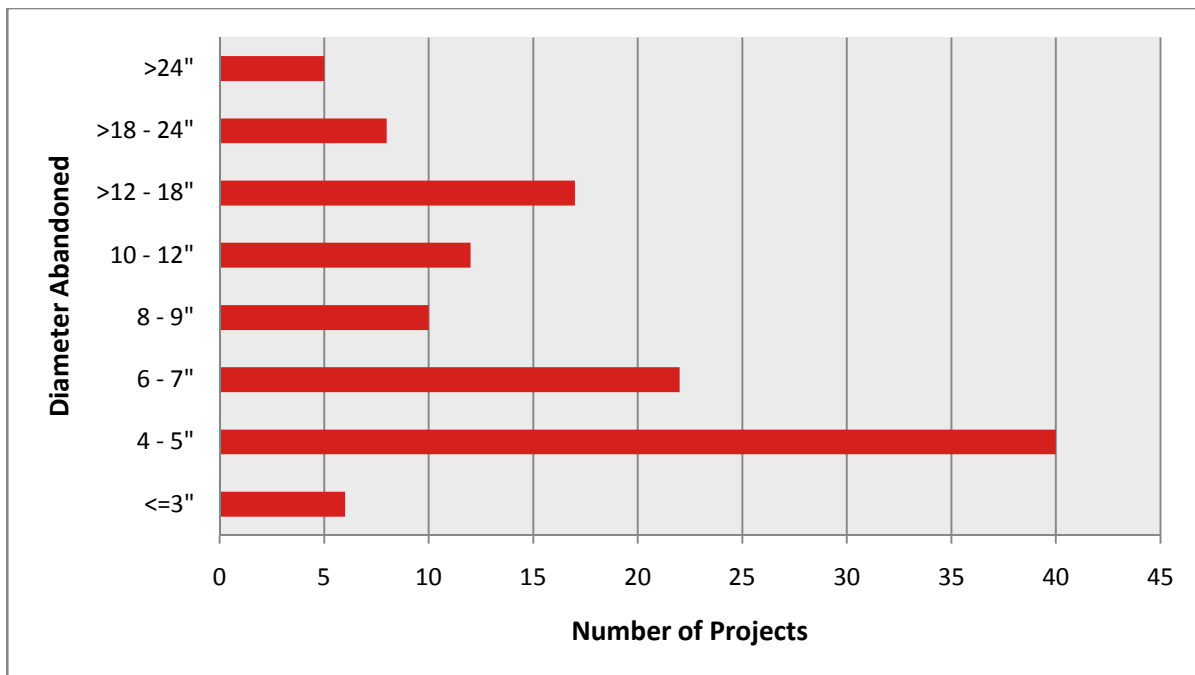


Figure 7 – Number of NLGA projects per diameter abandoned assessed by EC Harris

In figure 6 the location of the projects is depicted and clearly shows that the sample of projects collated provides a representative spread of the zones. In figure 7 the types of project per diameter pipe size collected highlights the predominance of 4 – 5" abandoned which is representative of the projects completed.

### 5.1.2 North London Coalition

Within the North London Gas Network there are 40 Local Authorities including Transport for London. Of these, 38 apply the legislation under the TMA relating to permit schemes. The two boroughs that operate a noticing scheme are Havering and Tower Hamlets and these are due to operate permits from April 2013.

Within London, there were approximately 170 policy jobs (Replacement, reinforcement, conditioning) to be carried out in financial year 2012/13 under contract 2162. Approximately 130 of these jobs fall under TMA permit conditions, with 40 under NRSWA noticing. Of these 170 jobs, 11 are scheduled to have either three way, or priority lighting and 17 were scheduled to have road or lane closure.

Having reviewed several completed projects and spoken to MUS and National Grid employees, EC Harris' view is that due to the type of projects delivered, short lengths, the majority of extra costs experienced are due to administration and the Lane Rental costs.

### 5.1.3 East of England

AMEC completed six projects under a TMA Permit scheme between 1<sup>st</sup> October and 31<sup>st</sup> December 2012.

AMEC have actively managed to counter some of the effects of the restrictions imposed by the timing of TMA Permit approvals through planning the majority of their works in areas which were subject to less stringent restrictions by HA's. This was a short term strategy to avoid the financial consequences and impact of the permit schemes, which meant the IAE trigger was not reached for the GDPCR1 period. However it is EC Harris' opinion that the possibility to vary the location of works will be reduced in the forthcoming RIIO GD1 period.

## 5.2 Separate Fixed costs

Fixed costs including items such as Permit, FPNs, Section 74 and Administration Costs are removed from the project data and assessed by National Grid. However the following are further fixed costs which have an impact on the implementation of Permit conditions.

Increased number of inspections

Higher frequency of inspections & charges (excluding defect repair costs).

Additional traffic management plans, which occur especially where projects involve side road junctions and / or subject to working length restrictions, but can be multiple iterations to satisfy HA's.

Additional parking bay / bus stop suspensions.

Pre-permits these could often be avoided by agreement or by works configuration. Under permits HA's can impose their requirements.

Temporary Traffic Restriction Orders.

### 5.3 Review productivity

Productivity levels vary depending on location. It is important to understand the effects on productivity of the conditions below.

Restricted working length in highway.

Additional excavations; jointing; materials & logistics; reinstatement; team mobilisation / demobilisation; increased delays (also TM plans, etc.)

Restricted permit duration for project phase

Increased resourcing & other costs to meet shorter duration.

Out of hours working

Higher unit costs and lower work rates where overnight + additional plant & equipment. Delays due to EHO interventions, etc.

Restricted working hours

Shorter working (e.g. avoiding peak hours) = longer total duration and increased unproductive time.

Restrictions on materials delivery and/or storage.

Restrictions (typically in urban centres) can impact work rate and increase logistics costs, if need for off-site storage / parking for materials / plant.

Delays / additional / abortive works imposed.

HA's typically requiring on-site meetings to agree permit conditions, or stopping works where unforeseen obstacles require works footprint variation, etc.

Re-phasing of Traffic Signals.

Traffic separators / mobile signals.

HA's in urban centres can insist on 24-hour manning of signals.

Additional publicity.

HA's may impose more onerous requirements for advance public engagement and liaison with stakeholders, esp. in urban centres.

The above are not itemised individually in the cost breakdown, but are an example of the impact being managed by National Grid and provide weight of evidence to the requirement of extra financial recompense.

### 5.4 Refer back to data as evidence

Please refer to our data capture sheets included within Appendix C.

## 6 Contemporary Evidence

### 6.1 Primary Consideration

- 6.1.1 Having undertaken a review of all National Grid's delivery partners it is apparent that the records in the format requested by Ofgem are not routinely collected by the delivery partners. Investigation into why this is the case illustrated that neither National Grid, nor Ofgem had considered this a requirement at the time of contract formation as the operation of TMA had not been developed or agreed by HA's. As a consequence the collection, assimilation and presentation of such information is not a contractual requirement under the executed contracts provided to the delivery partners. Therefore isolated costs for productivity issues related to the TMA have not been recorded. Through the management accounting process, costs are tracked month on month. Therefore the networks and contractors will understand their performance at a cost per metre basis and are required to highlight the differences. This could be a range of issues such as mains abandon length variance or a more complex engineering solution being required, but the cost process deployed by NLGA does not allow for cost capture on this level and therefore it is not available. Such issues were not contemplated when the contractual framework was designed and it appears that Ofgem only specified its requirements in response to the 2011 IAE submission provided by National Grid.
- 6.1.2 EC Harris have examined the information that has been assimilated and provided and it is evident from the process reviewed that the list of all conditions provided within the issued Cost Capture sheet as identified in appendix C, which in principle effect the productivity and the cost of delivery, has been undertaken as a desk top exercise and it is not recognisable on a project to project basis.
- 6.1.3 Any deviation to the contractual requirements in terms of amending the record keeping requirements to the delivery partner's normal contractual process would result in the need to instigate change control. At the time of instigation of the TMA permits all items listed in the heads of term for productivity cost impact would have had to be individually assessed and recorded at the time of effect. This would produce, as part of that change control a considerable on-cost which, commercially operating organisations could not at the time of impact justify. It must be remembered that the requirement is to evidence costs for Streetworks which have or are likely to exceed 1% of allowed revenues. At a project by project basis and to the extent of the cost capture sheet, was at time of impact not anticipated.
- 6.1.4 At this time the following is evident:
- i. A target price is derived from previous year outturn costs.
  - ii. Change control is used for major changes to works such as engineering revisions or delays.
  - iii. Only on few occasions has change control been used to capture a productivity issue. This is due to engineering teams not appreciating the wider impact of TMA costs on a project by project basis, as their focus is on the physical mains replacement. Actual cost is paid based on invoicing coded to each individual project and not reflected in the same format as the target cost.
  - iv. It is only after all costs are captured that a review of a new target cost based on actual length is possible – this process effectively reduces the pain, but also does not fully capture the gain.
  - v. At the end of each year a review is completed between actual and revised target prices to ascertain the final settlement.

- 6.1.5 EC Harris is confident from the examination of the matter that a cost breakdown into the specific productivity cost impact heads of claim is not possible, nor would it mean anything if it could be undertaken. This is because on individual projects there would always be an element of challenge which would cause considerable time and expense to collate, present and analyse.
- 6.1.6 At this point EC Harris can confirm that after reviewing a significant sample of projects, the cost data assessed provides comprehensive evidence that there is TMA impact on productivity. The difficulty with the information is how it is currently presented and used. The methodology used by National Grid when originally contracting with their partners was for cost data to be used in the production of target estimates and for cost capture for actual cost payments. The impact of productivity implications was not fully understood at the time of setting up the GDPCR1 partner contracts, therefore the facility to capture these specific costs was neither developed nor implemented.
- 6.1.7 There are a number of further considerations to examine, it has to be understood that to change these contractual conditions would have been cost prohibitive due to requiring considerable training in recording TMA onsite requirements, in addition to change control and management time and any such form of change would not have been possible without significant delivery and financial impact to National Grid, without knowing at the time whether the introduction of the TMA would actually become an IAE.

## **6.2 Target cost production**

- 6.2.1 From a detailed examination of the target costs EC Harris can confirm that since 2009/10 target costs an increase has been added to adjust for the known changes in costs. This variance has been included as a one off percentage variance to cover all productivity outputs amendments from the previous year and amended depending on the HA. These amendments are considerable, ranging from a benefit of 15% saving in the Outer Metropolitan HAs where the majority of works undertaken were in areas where the permit scheme had not been introduced, to an increase of 50% in certain Inner Metropolitan HAs where the majority of HA's have implemented permit schemes.
- 6.2.2 As this factor amends the total target cost per authority rather than reviewing each individual project, its impacts is not possible to either track or test against any actual costs on site. This has been used as a pragmatic process to produce a commercially acceptable target price decision by averaging and does not give a project by project cost base to track problems.
- 6.2.3 6.2.2 confirms a significant point, because if each project was properly assessed and priced then there would be a significant increase in the estimating and project controls resources required and hence overhead attached to each project to cover this additional resource. It is fundamentally through this process that the partners cannot track the impact, and the reason why National Grid cannot provide the evidence Ofgem have requested in the form it requires.
- 6.2.4 The target estimates are produced on two fundamental principles, the size of the team and the length of laid pipe plus ancillaries. The programme does not affect the target cost directly as it is based on the length abandoned. Therefore any increase in duration due to productivity constraints is not reimbursed through the target price process.
- 6.2.5 Therefore the critical factor with TMA permit introduction becomes the size and productivity of the gangs as the rates are based on productivity outputs from the previous year.
- 6.2.6 In principle a three man gang is used up to 180mm and a five man gang over 180mm. Any non-productive hours incurred due to the TMA permits will affect a 5 man gang more than a three man gang, which will result in the additional cost per metre being

greater. Figure 8 shows how the pipe mains replacement increased 5 gang delivery with more <180mm and a decrease in work to >180mm, from 2007 till 2011. This results in a potential higher cost effect over this time frame due to the TMA.

Zone	Size	Zone by Year					
		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
1	>180	44831m	28036m	11170m	11311m	15286m	11866m
	<180	12720m	27448m	17098m	14394m	12357m	9674m
2	>180	84238m	74166m	65397m	54002m	54824m	47399m
	<180	18978m	27384m	33180m	33492m	25608m	20620m
3	>180	83650m	89540m	73491m	62565m	63911m	44838m
	<180	15354m	22387m	51036m	51617m	47384m	36234m
4	>180	91878m	104355m	96074m	109406m	63924m	42550m
	<180	34031m	39041m	40510m	30846m	25365m	14952m
5	>180	0m	0m	33513m	37625m	54783m	37104m
	<180	0m	0m	25783m	37424m	23987m	19144m
6	>180	0m	0m	0m	0m	58395m	43796m
	<180	0m	0m	0m	0m	9890m	10011m

Figure 8: Abandonment by Diameter and Zone per Year

Please note: 2012/13 lengths are to the end of December 2012

### 6.3 Cost collection

The projects collected all have a unique reference number and it is this number that project costs are charged to. Due to the way actual costs are recorded it is only possible to undertake a high level total actual project cost comparison against the target price.

The expectation that if data is captured is on a project basis, then the TMA productivity issues can be analysed is not reasonable for the following reasons:

- Every scheme is different, however the target costs do not allow for the complexities of sites. Thus averages and norms are utilised to come to an average cost.
- Due to the usage of averages and norms it is impossible to advise whether a differing methodology or a change in timescales would cause a defined extra over cost directly attributable to the TMA, therefore it is not possible for cost collection to correctly flag up the right cost drivers.

### 6.4 The payment process

The payment process compounds the problems with detailing costs, as through reimbursement of actual cost the clarity of cost expenditure against output reduces.

This is then further compounded with the revising of the target cost estimates by taking into account the actual lengths laid and abandoned.

Finally it is at the end of each financial year that the totals of projects delivered in terms of volume are validated and the pain gain assessed. By this time more than 300 projects covering over a thousand roads and multiple HAs will have been completed. To go back and revisit these projects to assess 'missed' TMA permit productivity issues would neither be sensible nor reasonable and therefore assessments have to be made.

## 7 Financial Consideration

### 7.1 Generally

- 7.1.1 Within the North London Gas Alliance (NLGA), the TMA permit scheme was introduced in 2008/09.

Region	Percentage Permit
East Anglia	6%
Outer Metropolitan	16%
Inner Metropolitan	78%

Figure 9: Percentage increase in costs due to implementation of the TMA, by Area

- 7.1.2 Figure 9 shows that TMA permits affect Inner Metropolitan region considerably more than the other regions, this is supported by EC Harris' data capture where higher cost increases of productivity have been seen in this region.
- 7.1.3 The graph in figure 10 below represents the average actual cost of abandoned pipe delivered by the NLGA over a 5 year period.
- 7.1.4 Prior to TMA permit scheme introduction in 2009 the cost per metre abandoned excluding pipes and fittings was £100, dropping to £80 per metre in 2008/09 showing efficiencies were being made. In year 2009/10, this cost rose sharply to £150 per metre and since year 2010/11 where maximum cost of £160 per metre was delivered, this has dropped in year 2011/12 & 2012/13 indicating National Grid's better understanding and management of the TMA permit process; see Section 8 for further details of this.

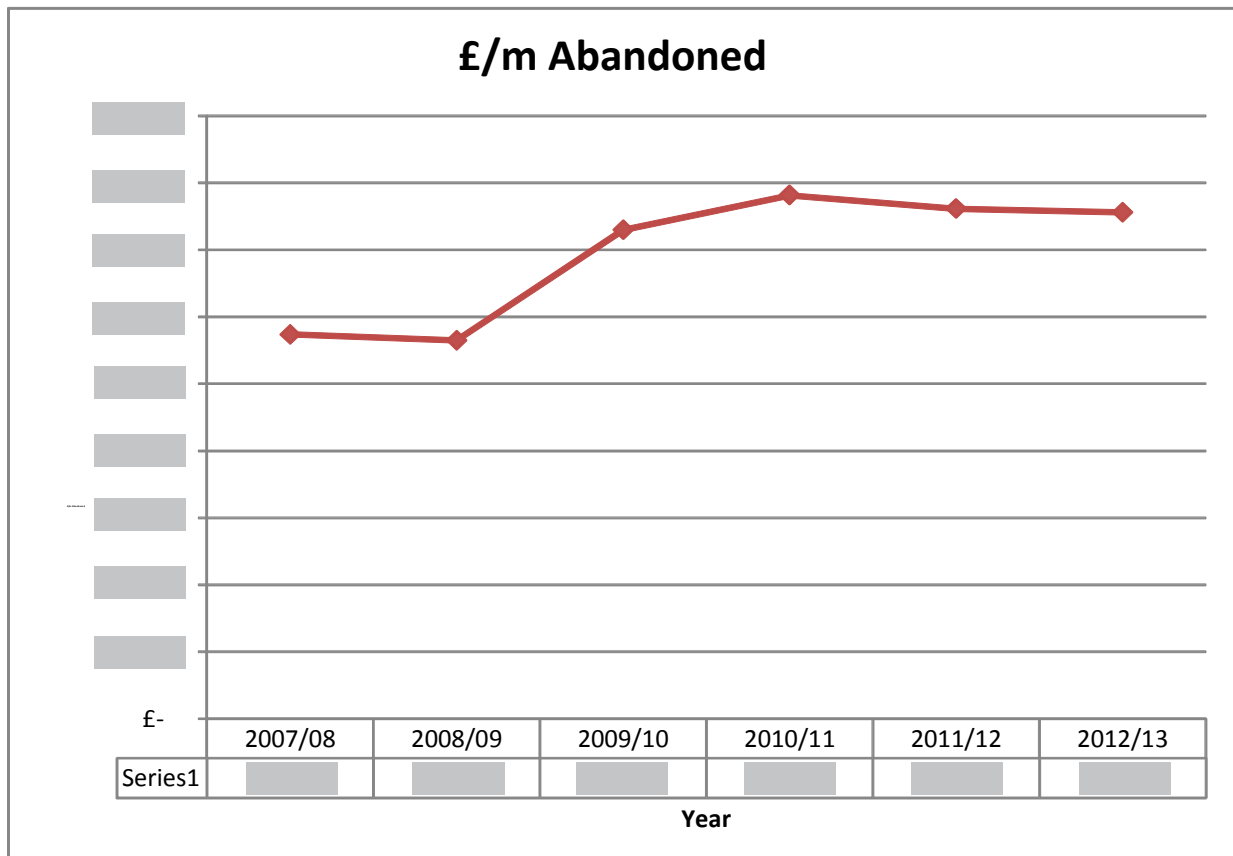


Figure 10: Average Actual Cost of Abandoned Pipe for the NLGA

7.1.5 Additional costs incurred in execution of field operations in complying with the revised provisions contained within the TMA have been indicated through our data capture and correlation process. Through this process a number of indicators have been provided which identifies an increased cost. The data below is taken directly from completed projects reviewed during our cost capture process. It is clear from figure 11 that projects delivered under NRSWA are on average lower in value per metre than those completed under TMA.

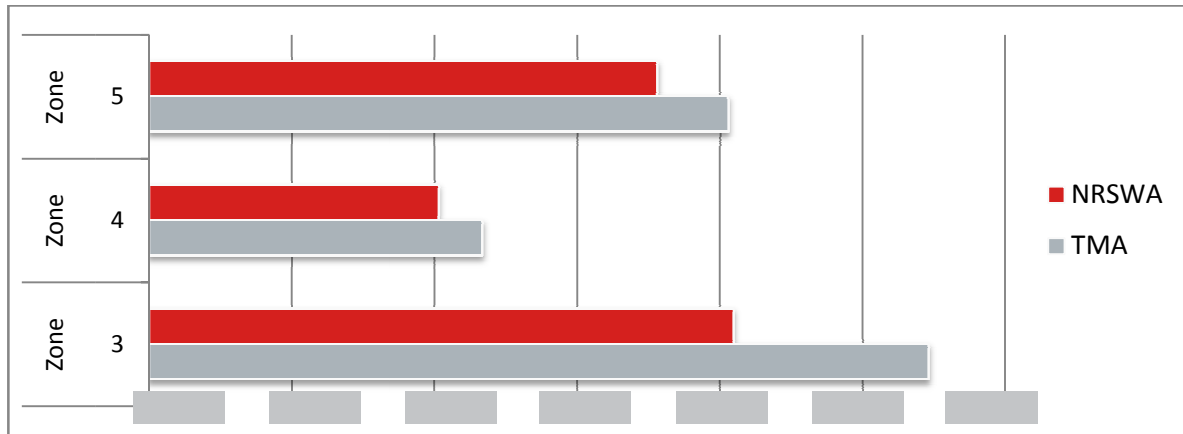


Figure 11: Comparison of Scheme Delivery Costs between NRSWA and TMA, year 2012 / 13 upto Feb 13.

- 7.1.6 From our nine months of cost capture analysed EC Harris can confirm that zone 3 projects completed under the conditions of TMA permit conditions are 33% more expensive than under none permit conditions. Zone 4 projects are 15% more expensive and Zone 5 projects are 14.5% more expensive. There are no direct comparators for zone 1, 2 and 6 identified within our cost capture exercise due to the lack of a reasonable NRSWA comparator.
- 7.1.7 The detail above is based on the actual productivity outputs achieved for the mains replacement works using the actual costs, timesheet records and associated information recorded within the Midas Works Management System.
- 7.1.8 Relevant data extracted from the Midas Works Management System includes the levels of actual resource utilised by gang name, the number employed within each team and corresponding lengths of mains laid by that resource in each week, zone and project.

## 7.2 Impact analysis

In order to satisfy the IAE submission requirements EC Harris proposes the following:

Through significant discussions and developments during the cost capture process as identified in Section 5, EC Harris consider that there are three main factors which influence the price point due to productivity constraints imposed by the impact of TMA permits:

- The size of the pipe, either below 180mm or above 180mm.
- The timescales imposed by permits resulting in inefficient working patterns.
- Specialist traffic management required as a result of the permit conditions.



Despite many others items listed in Section 4.3 the results presented through data capture are that pipe size and timescale create the most financial impact from the TMA, with specialist traffic management being a direct consequence of working conditions.

### 7.2.1 The size of pipes

In the table below in Figure 12 represents the importance of the split, as any averaging could significantly influence the results. For example, due to the high proportion of the quantity of pipes being less than 180mm any change in cost has a significant impact. The fact that the percentage of delivery has moved from low diameter to higher diameter at the time of TMA introduction is significant and will affect data when averaged.

	2008/09		2009/10		2010/11		2011/12		2012/13	
Length laid	m		M		m		m		m	
below 180mm	324,014	83%	325,930	77%	344,974	79%	357,907	81%	265,346	81%
above 180mm	64,559	17%	97,226	22%	89,471	21%	85,326	19%	60,338	19%
Total length laid	388,573		423,156		434,445		443,233		325,684	
Total Length abandoned	413,585		443,193		443,861		450,944		334,154	

Figure 12: Work mix for NLGA per year

In our review we have assessed 52% of the total length for 2012/13 and the split we have measured results in 73% of the pipes not exceeding 180mm, this is measured against the yearly split of 81%. Therefore we can confirm that on this basis our results have a high level of sample capture and represent a strong representation of the delivered projects.

In Figure 13 the table confirms the location, size and number of projects studied.

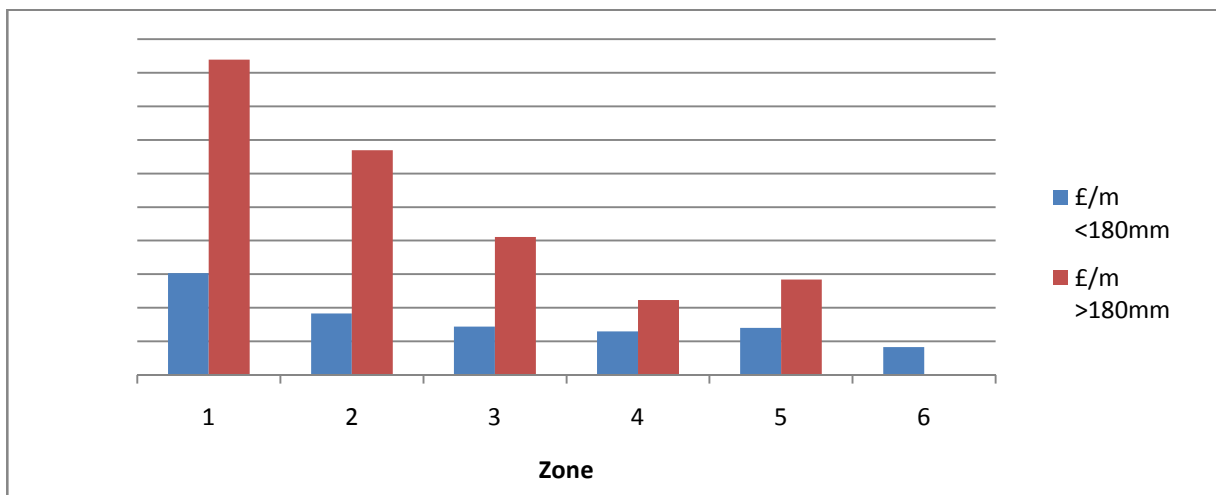
Zone	Number of Projects	Total Laid <180mm	Total cost <180mm	£/m <180mm	Total Laid >180mm	Total cost >180mm	£/m >180mm
Zone 1	18	21,929	redacted	redacted	4,794	redacted	redacted
Zone 2	16	32,522	redacted	redacted	4,524	redacted	redacted
Zone 3	27	25,788	redacted	redacted	17,914	redacted	redacted
Zone 4	18	27,854	redacted	redacted	6,562	redacted	redacted
Zone 5	16	17,260	redacted	redacted	12,879	redacted	redacted
Zone 6	1	1,326	redacted	redacted	0	redacted	redacted
TOTAL	96	126,679	redacted	redacted	46,673	redacted	redacted

Figure 13: Projects by Zone, Cost and Diameter

The effect of the differing pipe size is considerable, see Figure 13. Laying pipe with a diameter of less than 180mm is resulting in a range from [redacted] to [redacted] per metre, averaging [redacted] a metre. Over 180mm is resulting in a range from [redacted] to [redacted] per metre, averaging [redacted] per metre.

This is important for on-going discussions of TMA permit conditions, as it is considered sensible for discussions to separate these two bandings in order to obtain the suitable recompense per size. Otherwise one size may be impacted more than another forcing a commercially minded delivery partner to adopt different selection criteria for work delivery.

In the chart identified in Figure 14, this difference is represented diagrammatically and highlights that any increase based on a percentage mark up or a single rate could have adverse effects when reviewed proportionately.



**Figure 14: Cost of Abandonment by Zone and Diameter**

When assessed over the last 5 years, as seen in the charts in Figure 15, it is clear that the NLGA delivery partner has moved away from planning and executing works within the high impact areas in zone 1 and concentrated on working within lower impact zones. This change of delivery patterns particularly between years 2008 and 2010 could have been due to the effects of the TMA impacting Zone 1 harder rather than on other zones.

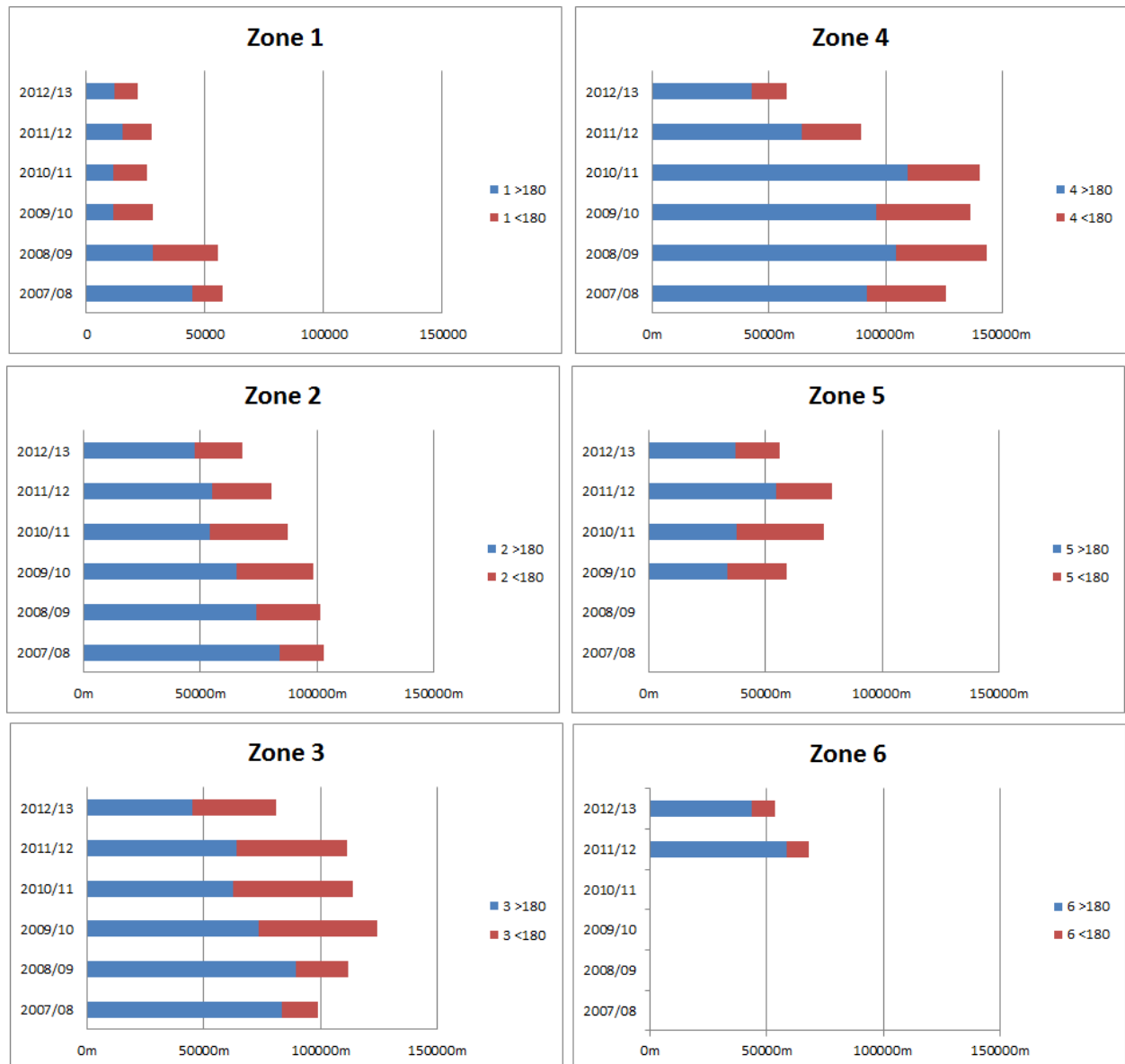


Figure 15: Work by Zone by Year

## 7.2.2 The effect of defined timescales

The introduction of the TMA permit process has effected project durations. The working methods deployed by the contractors prior to permit requirements allowed contractors to manage and deploy labour more effectively and efficiently by moving labour from one project to another where issues occur, or to ensure roads carrying high on-costs have the focused resource, potentially leaving other sites to take longer in duration if not man hours.

This methodology of working was the norm for all non-permitting boroughs and all target cost processes, cost capture process and site management processes aligned to this methodology. The effect of the introduction of the TMA permit scheme was defined through discussions with National Grid, Alliance and Coalition Partners is as follows:

- Greater level of upfront work around planning/programming the works. Typically planning up to 6 months ahead whereas under NRSWA a 3 month look ahead was the norm.
- Greater and more time consuming liaison with the HA's to ensure permit conditions are agreed prior to commencement on site.

- The planning and design process now requires a site survey to be undertaken which may involve a planner and TM specialist.
- A walk through of the site is likely to be required with the HA's especially on more complex works or where works are required in traffic sensitive location.

Project types	NRSWA	Permits
Standard	Discussion	Drawings
Complex	Site Visit	More site visits & drawings

**Figure 16**– Difference between NRSWA & TMA Permit Scheme Requirements

- A greater amount of time and effort is required in producing TMA drawings by the in-house team.
- Greater amount of time spent in populating in-house databases such as Ops database, GNFO and EToN.
- Site gangs required to be up-skilled to meet the demands/constraints of the Permit scheme to ensure compliance with the legislation and avoid FPNs.
- Site supervisors spending more time liaising with the HA's as changing circumstances dictate.

### 7.2.3 Parking Bays & Bus Stop Suspensions and Road Closures

Additional parking bay and bus stop suspensions are measured on an each item basis. This on average accounts for the following calculation;

<b>Parking Bays</b>	average	£20.50	per bay per day
	average	£102.50	per bay per week

The costs of road closures, parking bays and bus stop suspensions have been captured over the years, when this cost is divided in to the total length abandoned for the respective year, the following cost per metre abandoned is shown in Figure 17.

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

**Figure 17: Costs of Road Closures and Parking Bays per metre abandoned**

All abandoned lengths were based on Midas records end of December 2012

All costs based on cost run of cost code 812Q (NLGA specific cost code) for the end of December 2012

## 7.3 Productivity cost impact

### 7.3.1 Productivity rates for pre TMA permit schemes

In order to understand the lower productivity through the London zones, productivity levels need to be ascertained prior to the implementation of the TMA permit process. The differences between each zone require to be maintained throughout each year and the rate factored accordingly to eliminate the densely populated driver.

Throughout all the pricing packages NLGA have utilised a base cost for productivity levels. These were assessed at the original contract cost pricing in years 2007 to 2013 as being the pre-permit average. Since year 4 these have been factored to take into account certain boroughs complexities and inefficiencies. Once these have been removed and it is assumed that below 180mm utilise a 3 man gang and over 180mm use a 5 man gang then the following length per week per man were envisaged for works before permit introduction.

metres per week				
year	size	3 man gang	5 man gang	m per man
2012/13	>180mm	82.81		28
	<180mm		94.45	19
2011/12	>180mm	82.34		27
	<180mm		94.67	19
2010/11	>180mm	81.18		27
	<180mm		87.76	18
2009/10	>180mm	80.39		27
	<180mm		87.27	17
2008/09	>180mm	80.79		27
	<180mm		95.53	19
2007/08	>180mm	79.62		27
	<180mm		95.90	19

Figure 18: Original assumed productivity of pipe laid

### 7.3.2 Actual Productivity rates

When assessing the productivity rates there is a direct causation with the cost per metre abandoned rates, see Figure 19, which represents the cost per metre abandoned for all networks. It is due to this higher cost per metre abandoned that provides further evidence that TMA permit schemes are raising the cost per metre abandoned, in the figure below at time of the report it was only NLGA Outer & inner Met which were working under permit conditions and thus extra over cost to the rest of the networks is more than just location.

Therefore we propose to provide the original pre TMA permit scheme productivity rate and compare it to current, this difference is strongly considered to be the productivity element of the introduction of TMA permit schemes.

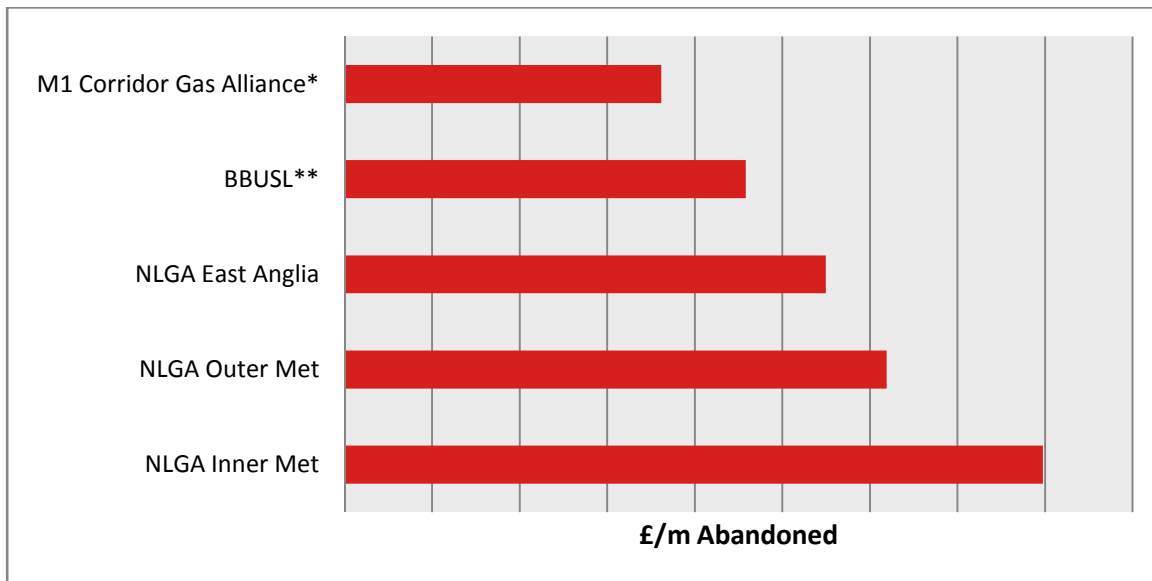


Figure 19– Output cost per metre abandoned 2012/13<sup>1</sup>

#### a. The complexities of working in London

When viewed with the productivity rates in figure 20 the zones as identified in section 5.1.1 are directly related to the difficulties faced by the location of the works sites, with Zone 1 delivering on average only 13 metres per man per week, up to Zone 6 delivering 29 metres per man per week. This level of productivity has been benchmarked against the other Alliance partners and it is zone 6 works which have the closest correlation.

#### b. Efficiency gains

It can be seen between target and actual both M1CGA and NWGA have proven to deliver efficiencies through improved productivity rates in year 2012/13 from target to actual. This has been in part due to focusing delivery in areas which have not applied the TMA permit scheme in addition to improved working processes.

<sup>1</sup>\* Excludes services

\*\* Excludes prelims, Alliance office overhead site supervision and management

Figures 20, 21 and 22, below, shows the productivity of the organisations identified, for year 2012/13 of the GDPCR1.

Weeks	Size	Inner Met			Outer Met		
		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
Average metres per man per week	<180mm	16	23	25	25	29	35
Average metres per man per week	>180mm	11	16	17	17	20	24
	<b>average</b>	<b>13</b>	<b>20</b>	<b>21</b>	<b>21</b>	<b>25</b>	<b>29</b>

Figure 20 - Productivity rates for NLGA year 2012/13

Weeks	Target	Actual
Average metres per man per week	28	31

Figure 21 - Productivity rates for M1CGA year 2012/13

Weeks	Target	Actual
Average metres per man per week	32	Not available

Figure 22 - Productivity rates for NWGA year 2012/13

The above Figures will provide the data to enable a productivity calculation to be made to provide the value for the IAE. Through discussions with National Grid and their delivery partner's, the productivity rates identify the following conclusions:

From the above Figures 20 through 22, and from the detailed review undertaken, all alliance partners assessed made improvements to their productivity levels over the years assessed.

The NLGA's productivity in East Anglia is similar to that of the other Alliance partners and therefore we can extrapolate that the work in East Anglia is similar that in other Networks. Inner Metropolitan London HA's are operating the same processes therefore the lower productivity is partly due to operating in a densely populated area and partly due to the impact caused by the TMA permit process.

## 7.4 Effect of productivity reduction

The following table in figure 23 represents the cost per metre abandoned based on the actual cost of the projects reviewed by EC Harris. All at real prices.

All Zones		2009/10	2010/11	2011/12	2012/13
<180mm	£/m abandoned	redacted	redacted	redacted	redacted
>180mm	£/m abandoned	redacted	redacted	redacted	redacted

Figure 23 – Price per metre abandoned per year & pipe size

This base data is not able to be divided by zone therefore the average is used.

- 7.4.1 National Grid completed the required lengths but because of the shortfall due to the TMA permit requirements, more resources were expended to deliver this shortfall.

Equation used:

$$\text{Abandoned} - \frac{\text{Abandoned} \times \text{actual productivity}}{\text{Original productivity}} = \text{Shortfall}$$

		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 24–Shortfall of lengths due to productivity constraints

- 7.4.2 The shortfall is multiplied by the average cost of the installation for the respective year as provided from figure 23.



- 7.4.3 Please refer to figure 25 below.
- 7.4.4 The result is an extra over cost for delivering the shortfall at real prices. Once divided by the total abandoned length an extra over rate per metre of the total abandoned is provided.
- 7.4.5 The parking bay & suspended bus stops allowance is added based on 2012 prices.
- 7.4.6 The extra over rate is indexed for inflation to ensure it is at 2009 prices, after which the original £18 per metre can be deducted.
- 7.4.7 This final rate per metre abandoned is then applied the total length abandoned per size and zone to produce a productive cost figure. **Please note** the length abandoned in 2012/13 is up to end December 2012

	Pipe size	Abandoned	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	4,551	71.39	324,877	29.08	15.05	1.000	44.13	26.13	291,925
		> 180mm	17,098	6,035	153.92	928,844	54.32	15.05	1.000	69.37	51.37	878,405
2010/11	Zone 1	< 180mm	11,311	4,608	84.17	387,871	34.29	15.05	0.970	47.36	29.86	337,760
		> 180mm	14,394	5,598	170.33	953,451	66.24	15.05	0.970	78.35	60.85	875,885
	Zone 2	> 180mm	33,492	3,721	170.33	633,855	18.53	1.41	0.970	19.73	1.73	57,790
		< 180mm	15,286	6,228	79.47	494,910	32.38	15.05	0.926	43.92	25.92	396,169
2011/12	Zone 1	> 180mm	12,357	5,203	192.14	995,694	80.50	15.05	0.926	88.35	70.85	875,502
		< 180mm	25,608	4,043	192.14	776,893	30.34	1.41	0.926	29.40	11.40	291,894
	Zone 2	> 180mm	47,384	4,986	192.14	956,354	20.23	0.37	0.926	19.53	1.53	72,697
		< 180mm	25,365	2,670	192.14	513,014	20.23	0.28	0.926	18.99	0.99	25,057
2012/13	Zone 1	< 180mm	11,866	5,085	87.30	447,009	37.67	15.05	0.832	46.50	28.50	338,185
		> 180mm	9,574	4,073	159.22	648,545	67.04	15.05	0.832	72.40	54.40	526,293
	Zone 2	> 180mm	20,620	3,256	159.22	518,387	25.14	1.41	0.832	23.42	5.42	111,701
		< 180mm										
TOTAL											5,079,270	

Figure 25: Additional Cost of the TMA by zone

## 8 Conclusion

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. The cost analysis from Section 7 as presented in Figure 25 depicts the total cost requested for productivity issues.

**Therefore EC Harris find that the additional cost incurred by National Grid as a result of the TMA permit system is £5,079,270, which equates to £37.87 per linear metre abandoned, which is £19.87 above Ofgem's award from National Grid's IAE in June 2011, based on 2009 prices.**

## 9 Mitigating the Impact of Permits

National Grid has undertaken a number of initiatives to mitigate and reduce the impact of the enactment of the TMA, including:

- **National Code of Conduct** – National Grid is fully supportive and a founder member of the Codes of Conduct developed in London and now being rolled out nationally to enable safer, efficient and effective working to meet the aspirations of the legislative framework in place by reducing congestion by working to minimal standards set within the code.
- **NJUG Awards** – National Grid is a full member of NJUG and is committed to reducing its impact on congestion and this can quite clearly be seen in the prestigious NJUG awards in which we were finalists in 4 of the 6 categories and winning 3 categories in collaboration with HAs particularly in London where permits operate.
- **Permit Forum** – National Grid was a founder member of the National Permit Forum run via HAUC (Highways and Utilities Committee) convened to identify and reduce the impacts and anomalies introduced via permit schemes and their interpretation, National Grid have worked with the HAs in producing advice notes to drive understanding and consistency for permit schemes, best practice in circumventing the legislative administration burden on both the Highway and Utility sides especially concerning the imposition of conditions especially as stipulated under Section 10 of the regulations. Key Performance measures are currently being designed to assist the management and effectiveness of permit schemes for all works promoters and enhance and share best practice. The learning from all these issues is now being shared to other up and coming schemes within the UK footprint.
- **Permit Working Group** – National Grid is involved with both a selected number of HAs, Utilities and the DfT in generating a generic template for the implementation of future permit schemes and cost benefit analysis framework in preparation for the deregulation of permit schemes in 2015 again to reduce the burden of more individual schemes.
- **Innovation** – National Grid has and is still developing innovative techniques to drive improved performance to reduce the impact of permit schemes and all types of legislation and this includes undertaking 75% pipe replacement by minimal dig techniques, development of algorithms to identify when the best time to work on a street, core and vac being rolled out as a quick and effective way of working and flexing our workforce to be available longer hours throughout the day by implementing shift working to accommodate a 14 hour 'working' day and giving communication to raise our performance in collaborative works

## Appendices

### Appendix A

#### Morrison Utility Services Project Analysis

##### Coalition

MUS have completed four projects within EoE under the TMA Permit Scheme from the 1<sup>st</sup> October 2012 to date. Details of which are set out in the table below.

Project No	Name	Target	Actuals (to date)
EMC12038	Carlton Road, Barnsley		
EAC12114	Bedford Road, Kempston		
130000216	Inkerman Terrace, St Albans		
130000259	Dunastable Road, Luton		

MUS have a further 6nr projects that are currently live or will commence prior to the 31<sup>st</sup> March 2013.

The target setting process is based on the use of an agreed schedule of rates. Some target costs for the current year included for a small element of TMA working conditions based on previous experiences with TMA projects. The inclusion of TMA is normally undertaken by the person responsible for surveying the route of the works to be undertaken.

## Appendix B

### AMEC Alliance (EM)

AMEC have completed six projects under the TMA Permit Scheme from the 1<sup>st</sup> October 2012 to date. Details of which are set out in the table below.

Project No.	Name	Target	Actuals (to date)
EM4291	Warminster Road		Not received
EM4294	East Bank Road		Not received
EM4297	Park Grange Road		Not received
EM4298	Eastern Avenue		Not received
EM4344	Wilton Gardens		Not received
EM4352	Alhambra Roundabout		Not received

AMEC have a further 13nr projects that are currently live or will commence prior to the 31<sup>st</sup> March 2013.

Some of the target costs for AMEC for the current year also included for a small element of TMA working conditions based on previous experiences with TMA projects.

Having spoken to Mike Perry (Finance Manager) of AMEC, during the introductory period of TMA, costs did increase, albeit they still didn't reach the 1% trigger level within the Alliance. As AMEC grew more used to the systems and procedures they have to follow under TMA, the initial increase in cost has been decreasing since.

## **Appendix C**

Data Capture Sheets are available directly from National Grid. Attached is an example of a project

[illegible]



