

**Manchester City Council
Report for Resolution**

Committee: Communities and Neighbourhoods Overview and Scrutiny
Committee – 2 February 2010

Report of: Head of Highway Services

Subject: Street Lighting PFI Contract

Purpose Of Report

To update Members on the Street Lighting PFI Contract.

Recommendation

To note the significant improvements which have been achieved in street lighting service provision since the start of the PFI in July 2004.

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Background Documents

The following documents disclose important facts on which the report is based and have been relied upon in preparing the report. Copies of the background documents are available up to 4 years after the date of the meeting. If you would like a copy please contact one of the contact officers above.

Street Lighting PFI Project Agreement.
Deed of Variation.
Annual Service Report.
Customer Satisfaction Survey.

Wards Affected

All.

1 Background

- 1.1 The Council is in contract with a Special Purpose Company (SPC) called Amey Highways Lighting (Manchester) Limited (“The Service Provider”). This SPC is 50% owned by the Amey plc and 50% owned by John Laing Infrastructure.
- 1.2 The Project Agreement relates to the provision and maintenance of public lighting in the City of Manchester from July 2004 to June 2029 – a 25 year PFI.
- 1.3 The Service Provider has subcontracted its construction and operational obligations to Amey Local Government Limited. Amey Local Government Limited is wholly owned by Amey plc.
- 1.4 For simplicity this report uses ‘The Authority’ for Manchester City Council and more specifically the Street Lighting Monitoring Team of Highway Services and ‘Amey’ to mean the Service Provider.
- 1.5 The Project Agreement secures four major aspects of the street lighting service provision;
 - 1.5.1 The Initial Apparatus Renewal Programme (IARP), or Capital Replacement Programme, resulting in the replacement of 41,698 lighting columns within the first 5 years. The replacement programme represents over 70% of the street lighting in the City at the start of the contract.
 - 1.5.2 The Annual Apparatus Replacement Programme (AARP), encompasses the remaining 30% of the initial lighting inventory and will include the identification of equipment to be replaced on an annual basis.
 - 1.5.3 Planned maintenance of all the equipment, relating to electrical and structural testing, checking, cleaning and bulk lamp replacement.
 - 1.5.4 Reactive maintenance of all equipment, dealing with faults reported from night inspections and reports from the public, via Environment on Call, detailing outages and rapid attendance requirements.
- 1.6 The Project Agreement contains change provisions that allow the Authority or Amey to propose changes to the Project Agreement. However, neither party may unilaterally impose a change on the project. To date some changes have been agreed between the Authority and Amey, but these have been accommodated within the existing funding profile.
- 1.7 Considerable work was carried out in advance of the Project Agreement to establish that value for money was going to be achieved. A measure of the success of what was being proposed was that the Authority obtained approximately £2.9M per year, in PFI Grant Credits necessary for the project to proceed. Not all Local Authorities have been successful in securing a street lighting PFI. The Project Agreement was also scrutinised by 4ps (Public Private Partnerships Programme) and the Department for Transport, who,

together with the Authority's Advisers (Pricewaterhouse Coopers and Addleshaw Goddard) recommended that the Authority proceed with the contract. This report is written on the assumption that Value for Money was established in the setting up of the Project Agreement.

- 1.8 Representation was made to the Physical Environment Overview and Scrutiny Committee in January 2005, introducing the Street Lighting PFI Contract and summarising the contract operation including the services to be provided and monitoring duties of the Authority. Further representation was made in July 2007 to the Resource and Governance Overview and Scrutiny Committee, regarding the ongoing progression of the Capital Replacement (IARP) Programme and the improvements gained in the maintenance service, it also reflected on the financial and monitoring aspects of the contract.
- 1.9 Amey produces an annual service report. The most recent being the Manchester Public Lighting PFI Project, Annual Service Report for 2008. This report is used as a basis for developing further improvements in the service.
- 1.10 Now that the Initial Apparatus Replacement Programme has been completed there is less work for both Amey and the Authority and the size of Highway Services' PFI Monitoring Team has been reduced from four to three members of staff.
- 1.11 This report provides an overview of;
 - Capital Replacement Programme (the Initial Apparatus Replacement Programme)
 - Maintenance Service Standards & Performance
 - Electrical Energy
 - Recycling
 - Innovation
 - Street lighting reporting procedures

2 Capital Replacement Programme

- 2.1 The Capital Replacement Programme commenced at the beginning of the PFI Contract (1st July 2004) following a mobilisation period. This programme was called the Initial Apparatus Replacement Programme (IARP).
- 2.2 The IARP consisted of a total of 41,698 dilapidated lighting columns (around 70% of the total initial lighting stock) that were to be removed and replaced with a new lighting system.
- 2.3 The Authority and Amey employed an Independent Certifier to oversee the IARP phase, as per the Project Agreement requirements.
- 2.4 The Independent Certifier had two tasks:
 - 2.4.1 To carry out a periodic review of Amey's design process.

- 2.4.2 To certify progression and subsequent completion of the IARP phase, involving random inspection of between 20% and 50% of each month's submission of completed works, ensuring that the old dilapidated columns had been removed and that the new lighting system was installed as per the design drawing and was operational.
- 2.5 The Project Agreement includes 10 Milestone targets for the IARP works. The IARP was certified at Milestone 10 by the Independent Certifier as completed on 28th February 2009, which saw 41,698 existing lighting columns replaced with new equipment.
- 2.6 Completion of the Initial Apparatus Replacement Programme ten months early, is a great achievement for both the Authority and Amey, since improved street lighting has been brought to Manchester's communities earlier than planned. Also, completion of the IARP within programme was originally seen as a significant risk to the project.

3 Maintenance Service Standards & Performance

- 3.1 Amey carries the risk associated with the maintenance of the equipment and compliance with performance standards. This includes vehicle accident collision and cost recovery, vandalism, premature failure of equipment, graffiti and fly poster removal and emergency attendance requirements.
- 3.2 Amey provides planned maintenance, within specified performance standards, which includes a programme of lantern cleaning and lamp replacement to ensure that light output is optimised, night inspections to identify lights not working, and electrical and structural inspections.
- 3.3 Prior to the PFI the Authority did not have a lantern cleaning or lamp replacement programme, but carried out repairs as the equipment failed, this resulted in high demand for reactive maintenance due to the large numbers of lamp outages and protracted attendance times. Under the PFI, Amey carries out bulk lamp replacement to reduce the number of premature lamp failures.
- 3.4 The Authority also used to carry out night inspections at six weekly intervals where as now, Amey covers the City every 14 days, resulting in earlier detection of faults.
- 3.5 Amey provides day to day reactive maintenance, within specified performance standards, of lighting and illuminated traffic signage, including emergency fault attendance as detailed in the following table. Failure of Amey to adhere to these response times without justifiable reason results in financial deductions.

Nature of Faults	Prescribed Period of Rectification
Emergency Faults attendance to make safe, including the removal of unauthorised attachments which pose a safety hazard.	2 Hours
Non-Emergency Faults requiring the Replacement of bodies only to Illuminated Traffic Bollards, including those made safe as Emergency Faults.	1 Working Day
Non-Emergency Faults requiring the removal from Apparatus of any Offensive Graffiti.	1 Working Day
Non-Emergency Faults involving rectification of non-operating belisha beacons and flashing school warning signs.	1 Working Day
Non-Emergency Faults involving the Replacement of components of Apparatus.	5 Working Days
Non-Emergency Fault on a City Council Cable Network.	5 Working Days
Non-Emergency Faults requiring the removal of Graffiti.	5 Working Days
Non-Emergency Faults requiring the removal of any Unauthorised Attachments from Apparatus.	5 Working Days
Non-Emergency Faults requiring the Replacement of a complete unit of Apparatus, including those made safe as Emergency Faults.	20 Working Days
Non-Emergency Faults requiring the repair or Replacement of any of the United Utilities equipment.	20 Working Days

- 3.6 Amey attended to 73 emergency faults during November 2009 with an average time to attend being 46 minutes against a target of 2 hours. Within the same period Amey also attended to 11 'one day' faults, all attended to within the prescribed rectification period. These statistics reflect Amey's high stand of performance for '2 hour emergency' and '1 day non-emergency' fault attendance.
- 3.7 The Manchester Public Lighting PFI Project, Annual Service Report for 2008, detailed that the reactive maintenance performance had an average time taken to repair each fault measured at 3 working days (Non-Emergency Faults involving the Replacement of components of Apparatus) against a target of 5 working days.
- 3.8 The Authority and Amey continue to direct pressure onto United Utilities to improve their performance in the repair of dead electrical mains services. In response their performance improved over that achieved in 2007 with the average time taken being reduced from 48 to 23 working days (Non-Emergency Faults requiring the repair or Replacement of any of the United Utilities equipment) against a target of 20 working days. This did not reach the required target, however, the response time recorded for November 2009 has been further reduced to 14 days.

- 3.9 The fourth Customer Satisfaction Survey covering 10 streets in each of the following areas; Ancoats, Moston, Ardwick, Gorton South and Hulme, was undertaken at the end of 2008 and indicated that;
- 3.9.1 61% of the respondents thought that the new lighting improved the perception of safety in the area.
 - 3.9.2 78% believed that the new lighting has reduced crime in the area.
 - 3.9.3 Three quarters of respondents said that every effort was made to ensure the safety of the public whilst the works were ongoing.
 - 3.9.4 Two thirds of the respondents were happy that the street lighting in Manchester was well maintained.
- 3.10 The Customer Satisfaction Survey continues to indicate the residents' reduced fear of crime following the street lighting replacement works during the IARP. Figures across all 32 wards also indicate that the overall level of crime has fallen by some 22% during the period of the PFI Contract, with 63,297 incidents in the 12 month period of April 2003 to March 2004 and 48,762 incidents in the corresponding 2007/08 period. The improvement to the street lighting service has no doubt played some part in this reduction.
- 3.11 There has also been a reduction of 25% in the number of night time Road Traffic collisions when comparing figures from 2004 to 2007.
- 3.12 Below is a 'Performance Attained' table indicating Amey's achievements. The table details the yearly time scale as July to June as the contract commenced in July 2004, it also provides a current indication of performance in November 2009.

Performance Description	Performance Attained					
	2004/05	2005/06	2006/07	2007/08	2008/09	Nov '09
Total No. of Faults Detected	21,334	26,180	17,190	15,901	14,157	1,299
% of Apparatus in Light	98.87%	98.60%	98.79%	99.12%	99.22%	99.19%
Average 5 day Fault Response	2 days	2 days	3 days	3 days	4 days	2 days

4 Electrical Energy

- 4.1 The Authority carries the risk associated with electrical energy unit costs and Amey carries the risk associated with the connected load.

- 4.2 The Authority's Energy Management Unit undertakes the procurement of electrical energy. Manchester is part of the Lancashire Purchasing Agency along with other local authority's, which jointly consume 13% of England's street lighting load and hence, is in a strong position to seek the most competitive rates. At commencement of the PFI, the Authority was paying 4.312 pence per KWh, which has risen to 7.717 pence for 2008/09. There has been an unprecedented rise in energy costs of 80% between 2004/05 and 2008/09. However, appropriate budget provision has been made for energy inflation during this period. The Energy Management Unit/Lancashire Purchasing Agency has re-tendered the supply of electrical energy from April 2010 and attained a unit cost of 7.165p, which is a reduction in excess of 7% from 2008/09.
- 4.3 Amey are required to keep within a predetermined energy load profile set to encourage efficient lighting design solutions by Amey (Schedule 16 of the Project Agreement). The Authority pays for the actual load of the equipment to the electrical energy provider. If the actual load is lower than the profile load, the difference is paid to Amey. If the actual load is in excess of the profile load, Amey will pay the difference between profile and actual loadings.
- 4.4 To date Amey have always maintained the actual load below the load profile thereby demonstrating efficient lighting design solutions.
- 4.5 The load profile does not remain static and fluctuates with equipment added to the contract (accruals) and removed from the contract (deaccruals).
- 4.6 With the current energy consumption climate and the Government's Carbon Reduction Commitment, the Monitoring Team is working closely with the Authority's Energy Procurement Section ensuring that street lighting is assisting to achieve a high league ranking for Manchester City Council in relation to other Councils.
- 4.7 Manchester's forecast of the street lighting electrical energy consumption for 2009/10 will be 32,593,377KWh at an anticipated cost of £2.35M. This includes a 2% growth due to equipment being accrued into the PFI Contract.

5 Recycling

- 5.1 The IARP produced a large amount of equipment to be disposed of. Amey embraced recycling during the IARP and continues to do so; with all lamps processed through a specialised lamp recycling company, Mercury Recycling. Lanterns are recycled through Lumicom, a recycling company specialising in delivering the lighting industry's solution to the Waste Electrical and Electronic Equipment Legislation (WEEE), and all steel and concrete columns are sent for recycling.
- 5.2 In conjunction with Amey Logistics Carbon Offset Initiative, Amey also supplied and planted 25 Oak tree saplings during National Tree Week in Fog Lane Park in East Didsbury, on behalf of the residents group 'The Friends of Fog Lane Park'.

6 Innovation

- 6.1 Innovation is a high priority for both the Authority and Amey, with recognition given that it can provide energy and maintenance savings for both parties as well as reducing the Authority's carbon footprint.
- 6.2 Both the Authority and Amey can propose and fund initiatives, either individually or jointly. If an initiative provides a monetary saving, the saving will either be held by the funding party or shared when jointly funded.
- 6.3 Current innovation and new technology employed and being investigated include:
- 6.3.1 Illuminated traffic bollards replaced with non-illuminated bollards where the Traffic Regulations allow.
 - 6.3.2 Self energising solar powered traffic bollards replacing electrically connected bollards.
 - 6.3.3 Light Emitting Diode (LED) traffic bollards.
 - 6.3.4 LED traffic sign light units.
 - 6.3.5 LED street lights.
 - 6.3.6 PL fluorescent lamp street lights.
 - 6.3.7 Reduced burning hours of street lights via a modified light sensing photoelectric cell.
 - 6.3.8 De-illumination of traffic signs.
 - 6.3.9 Electroluminescent traffic sign plates and bollards.
 - 6.3.10 Electronic ballasts.

The following innovations are not considered to be currently viable propositions for Manchester.

- 6.3.11 Windsave Micro Wind Turbines have been investigated but currently dismissed due to equipment performance and the necessity for clear surroundings to allow wind harvesting. This technology performs best at high and more exposed locations.
- 6.3.12 Technology exists to dim street lights in the quieter periods of darkness. However, the financial benefits are not considered to warrant the associated risks.
- 6.3.13 Central Management Systems (real time remote monitoring) enable real time access to the equipment, via a desktop pc, thereby allowing the

equipment to be dimmed, amendment of switching times or at pre-determined light levels, monitor and record energy usage and operation. Presently a high Capital value asset, but the cost is continually reducing due to technology improvements and cost reduction of production.

7 Street lighting Reporting Procedures

- 7.1 The increased use of Environment on Call (EoC) is fundamental to achieving more effective management of the street lighting service. Therefore, members of the public are directed to forward their reports to EoC via either the telephone on tel. 954 9000 or by email to contact@manchester.gov.uk. Ward Councillors are encouraged to do the same and a dedicated telephone number has been set up for this purpose tel 954 9013. Channelling all street lighting reports through EoC will serve to provide excellent performance management data in the future that can be used to further improve the service.
- 7.2 Should Members have any issues they feel cannot be resolved via EoC, they can contact the Highway Customer Services Manager, Dawn Gill, in the newly established Highway Services' Client Section tel. 455 2201 or email d.gill@manchester.gov.uk.
- 7.3 Complex street lighting issues should also be passed to the Client Team. The Street Lighting Monitoring Team will be amalgamated with the Client as part of Highway Services' SIP.
- 7.4 EoC pass all fault reports and enquiries to Amey electronically. EoC also backs up any reports requiring urgent attendance by a telephone call to Amey.
- 7.5 Officers from EoC, the Monitoring Team and Amey have worked together to improve systems and customer care to significant effect.
- 7.6 Since October 2007, the software employed by EoC has provided call contact details. It should be noted that EoC logged 5124 street lighting related contacts during the period between October 2007 and October 2008 against 4169 street lighting related contacts between October 2008 and October 2009. This shows an 18.7% reduction in customer enquiries and complaints demonstrating improved performance and a high level of customer satisfaction.

8 Conclusion

- 8.1 The Street Lighting PFI has been in operation for 5½ years and is clearly proving a success.
- The PFI has drawn in £2.9M per year until the year 2029, i.e. over £70M in total.
 - The problem five years ago of widespread structurally and electrically dangerous street lighting columns has been eliminated.

- Significant Revenue related financial risks have been transferred to the private sector.
- Procurement of electrical energy remains with the Authority which is best placed to acquire the most favourable rates.
- The street lighting stock is now better maintained with a regular programme of lantern cleaning and bulk lamp replacement.
- Night inspection for outages has been reduced from 6 weeks pre PFI, to 2 weeks enabling earlier detection of lights out.
- Prescribed response times to clearly defined faults are stringently enforced.
- The number of faults arising each year has reduced by 23% since 2004.
- The average fault response time has been reduced to 2 working days in November 2009.
- Over 99% of street lights are operational at any one time.
- There has been an 18.7% reduction in customer reports via EoC between October 2008 and October 2009.
- The number of customer reports in a year compared with the number of faults is less than 30% meaning that more than 7 out of 10 faults are repaired without residents feeling the need to report them.
- Financial deductions imposed on Amey have driven a marked improvement in United Utilities response to repairing their own dead electrical supplies to street lighting. The average response time was 48 working days in 2007 compared with 14 days in November 2009.
- Good customer satisfaction is being achieved.
- Improved and better maintained street lighting has contributed to reduced crime and fear of crime and reduced night time road traffic collisions in Manchester.