Manchester City Council
Report for Resolution

Report to: Neighbourhoods Scrutiny Committee – 11 December 2012
Subject: Street Lighting
Report of: Joint report of City Treasurer and Deputy Chief Executive (Neighbourhoods)

Summary

This report provides information around the service provision aspects of street lighting (including quality of service). Information around the process for securing new lights in areas where needed, is also discussed, as is the impact of replacing streetlamps with LED bulbs across the city.

Recommendations

- The Committee is requested to note this report

Wards Affected:

All

Contact Officers:

Name: Richard Paver
Position: City Treasurer
Telephone: 0161 234 3564
E-mail: r.paver@manchester.gov.uk

Name: David Lea
Position: Director of Commercial Services
Telephone: 0161 234 3926
E-mail: david.lea@manchester.gov.uk

Name: Dave Carty
Position: Acting Director, Capital Programme Division
Telephone: 0161 219 6501
E-mail: d.carty@manchester.gov.uk

Background documents (available for public inspection)

- July 2007, Resource and Governance Overview and Scrutiny Committee.
1.0 INTRODUCTION

1.1 The Council is in a Private Finance Initiative (PFI) contract with a Special Purpose Company (SPC) called Amey Highways Lighting (Manchester) Limited ("The Service Provider"). The Service Provider has subcontracted its construction and operational obligations to Amey Local Government Limited.

1.2 The Project Agreement of the contract 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 Project Agreement contains change provisions that allow the Council or Amey to propose changes to the Project Agreement. However, neither party may unilaterally impose a change on the project. To date several changes have been agreed, but these have been accommodated within the existing funding profile.

1.4 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.

2.0 BACKGROUND

2.1 The existing PFI contract is designed to replace and upgrade street lighting within the City with Amey assuming responsibility for the management, design, installation and ongoing repair and maintenance of the Council’s entire lighting stock including; lighting columns, lit signs, lit bollards, subway lighting, amenity lighting and associated feeder pillars.

2.2 The contract secures four major aspects of the street lighting service provision;

2.2.1 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 represented over 70% of the street lighting in the City at the start of the contract. This phase has been completed.

2.2.2 The Annual Apparatus Replacement Programme (AARP), this encompasses the remaining 30% of the initial lighting inventory and will include the identification of all equipment to be replaced on an annual basis.

2.2.3 Planned (lifecycle) maintenance of all the apparatus, relating to electrical and structural testing, inspection, cleaning and bulk lamp replacement.

2.2.4 Reactive maintenance of all apparatus, dealing with faults and rapid attendance (emergency) requirements.

2.3 All risk in the apparatus is the responsibility of Amey. This includes vehicle accident collision and cost recovery, vandalism, premature failure of equipment, graffiti and fly poster removal and emergency attendance requirements.

2.4 At the end of the contract, all apparatus will be handed back to the Council with a minimum of 5 years residual life.

2.5 The Council retains the responsibility for the management, procurement and payment of the electrical energy and carbon emissions associated with the apparatus.

2.6 Projected increases in energy costs and carbon reduction targets that have led to a review of the technology available. During the life of the contract to date, there have been significant advances in LED technology and the performance of LED lanterns.

2.7 The current street lighting electrical energy cost is circa £3M pa.

3.0 QUALITY OF SERVICE

3.1 The performance of Amey is controlled by six performance standards, actual performance is monitored by the Council. These include; assessment, design and renewal or refurbishment and accruals, apparatus performance and planned maintenance, operational response, customer interface and contract management, best value and working practices.

3.2 The performance against these standards is monitored on a monthly basis with a detailed report of activities undertaken produced by Amey and assessed by the Street Lighting Monitoring Team. Any failure in performance against the relevant standards is subject to financial deductions from the monthly service charge. In the course of each year Amey undertake some 18,800 routine maintenance visits, 10,500 electrical tests and Night Inspection of the whole network every 2 weeks. At the end of the first year of the contract,
June 2005, Amey had attended some 22,716 faults with the % of units in light at anyone time calculated at 98.87%. By comparison during the last full year, to June 2012, the number of faults attended was 8,247 with the % of units in light at anyone time calculated at 99.40%.

3.3 The number of units maintained has also changed since the contract commenced principally through the adoption of new developments, changes to highway layouts and redevelopment of housing areas. These have delivered a net increase of 1,855 units or 3% on the original contract quantity.

4.0 NEW LIGHTING

4.1 The PFI contract focused on the replacement of age-expired equipment and did not provide for additional lighting in previously unlit area. Since the contract commenced, there have been a number of locations were additional lighting has been installed. These have generally been in areas with crime and disorder issues, with proposals coming from the Neighbourhood offices or law enforcement bodies.

4.2 Funding for the installation of such schemes has been provided from outside of the PFI contract, cash grants or other Council budgets, though once installed the units have been accrued into contract.

5.0 LED RETROFIT PROPOSAL

5.1 During the life of the contract to date there have been significant advances in low carbon technology, particularly LEDs (light emitting diodes) and the performance of LED lanterns. Given the projected increases in energy costs and these technological advances, it has become increasingly viable to investigate the installation of LED lanterns across all of Manchester. This would require substantial capital investment, and take several years. However, it would deliver various long-term benefits to the city:-

5.1.1 To significantly reduce the carbon emissions associated with street lighting apparatus.

5.1.2 To deliver substantial savings in the long term running costs of the PFI.

5.1.3 To reduce the Council’s financial exposure to increases in energy prices and CRC taxation through substantial energy consumption reduction.

5.2 In addition to the use of LED lanterns the provision of a Central Management System (CMS) would give a number of benefits:-

5.2.1 Adaptive Lighting Control: The total control and flexibility to implement adaptive lighting control across the Authority. This system enables the dynamic management of light levels, giving the ability to operate reduced lighting levels during times of low vehicle / pedestrian activity, the facility to increase light levels if required for example in responding to a request from
the emergency services and direct control of the switch on / switch off times either individually or in groups. It is a feature of LED technology that enables any switch on / off or change in light output to be instantly applied.

5.2.2 Harvesting: The light output from any lamp or LED deteriorates over time. British Standards require that any lighting design accommodates this deterioration by initially increasing the light levels, typically by 25 to 30%, so that as the light output declines the performance of the installation remains compliant for the duration of the lamp life. The use of CMS provides the ability to control the light output so that a constant light output is delivered over time. This is achieved by gradually increasing the controlling current so that the output is increased. This also saves energy in the early years of the installation.

5.2.3 Maintenance. This system will also enable real time management of all the street lights such that failures can be predicted and rectified before they occur.

6.0 LED TRIAL

6.1 In 2010 four streets in the ward of Ancoats & Clayton were identified as a trial site to install LED street lighting and test the technology's sustainability, efficiency and residents' satisfaction and perceptions of lighting levels and security.

The streets were undergoing a significant regeneration project and as part of that, the street lighting had to be redesigned providing an ideal opportunity to showcase and test the LED technology.

**Participating streets:** Blackpool Street, Walsden Street, Tottington Street and Coatbridge Street.

**No. of households:** 80  
**No. of columns:** 12  
**Length of trial:** One year  
**Follow up Survey:** After 12 months, November 2011

The follow up survey in November 2011 attracted responses from 24 out of the 80 households. The results indicated that overall the trial was deemed a success with the residents’ perceptions being positive towards LED street lighting. The majority of residents confirmed that they’re happy with the quality of lighting, the lighting levels and colour, the appearance of the LED street-lights and that the new lighting had improved their quality of living on the street.

7.0 OTHER SERVICES

7.1 In addition to the Street Lighting PFI Contract, Amey also undertake a number of other works outside the main PFI contract. These include: the installation of festive lighting in local District Centres - Christmas tree lights and column mounted motifs (funded by a combination of the Authority including Cash Grants and Community Groups. The design of lighting / highway electrical
schemes as required and the installation / removal of highway electrical equipment in conjunction with highway improvement schemes (funded by various capital / revenue streams).

7.2 Up until four years ago, Cash Grants were occasionally used to fund the installation of additional lighting units in identified Crime and Disorder areas. These units were subsequently accrued into the PFI contract.

7.3 The design service is provided as part of the partnering approach to the contract. Amey provide the service in the absence of an in house design team. There is additional benefit in this process as it negates the additional cost of the contractual right for Amey to check and approve any third party designs for schemes that will be accrued into the contract. This check and approve process is chargeable to the applicant, for which the scale of charges are included in the contractual clauses.

8.0 RECOMMENDATIONS

8.1 The Committee is requested to note this report