



meeting **Street Lighting Select Committee**

date **21 January 2008** agenda item number

Draft Final Report of the Chair of the Street Lighting Select Committee

Purpose of the report

1. To present to Members a summary of evidence gathered during the course of the review and its associated recommendations.

Background

2. On 26 March 2007, the Overview and Scrutiny Committee commissioned a review to examine the issues of street lighting repair performance by E-ON (Central Networks). This review concluded on 11 June 2007. Further to the review the Overview and Scrutiny Committee at its meeting on 21 May 2007 commissioned a wider review – **to identify and feed into emerging areas of street lighting policy development as well as examine existing policies.** The review links to priorities around carbon management, road safety and crime reduction issues.
3. The final meeting of the Select Committee is scheduled for 21 January 2008. Members are expected to agree a final report at this meeting.

Summary of Evidence

4. The Select Committee commenced its review on 17 September 2007 with a scene setting presentation from Gary Wood, Service Manager, Policy and Standards, Nottinghamshire County Council, which outlined the County Council's goals, objectives and policies for street lighting. The overall purpose for the street lighting asset as described in the County Council's Street Lighting Code of Practice is:

to ensure the safety of all road users and pedestrians, reduce fear of crime and give a feeling of security to the public in the hours of darkness.

5. In order to achieve the above strategic goals a number of specific objectives are identified:
 - reduce the percentage of street lamps not working as planned

- improve the speed of response to repair street lighting faults
 - replace dangerous/poor condition street lighting columns
 - upgrade street lighting to improve pedestrian and road user safety
 - develop a long term funding strategy for street lighting
 - reduce carbon dioxide (CO₂) emissions through energy conservation, use of green energy where appropriate, and use of suitable new technologies.
6. The Select Committee were informed that there is no statutory requirement to provide street lighting; however, there is a duty to improve road safety and to combat crime. Measures to address both these issues include the provision of street lighting for road users, pedestrians and local residents.
7. Currently there are 88,807 street lighting columns in Nottinghamshire the majority of which are steel or concrete with a very small proportion being some other type of column or fixing. These have three lighting sources: SOX (low pressure sodium – orange light) which are less efficient in their colour rendering properties compared to SON (high pressure sodium – peach coloured light) and white light. An inventory of columns and assets is stored electronically on a computer database (SLIMS).
8. The current demands and conflicts on the Highways lighting asset are:
- a safely lit highway
 - reduction in fear of crime
 - avoidance of light pollution
 - cost effective lighting systems
 - sustainable lighting systems and energy
 - suitability to environmental surroundings, e.g. conservation areas.
9. Future demands include:
- growing highway lighting stock
 - increasing (and it seems increasingly unpredictable) energy costs
 - the need to reduce CO₂ emissions
 - consideration of the Institution of Lighting Engineers (ILE) 'Invest to Save' document which discusses ways in which the cost of electrical energy for street lighting can be reduced.
 - requirement to move to a risk based inventory and a new national performance indicator based on this
 - revision of the NCC Code of Practice for street lighting in light of the new UK Lighting Board's 'Well Lit Highway' Code of Practice for Highways Management Practice
 - moving the inventory from the SLIMS database over to 'CONFIRM' (The County's Highways Asset Management System).
10. The County Council is currently undertaking a number of activities to improve its street lighting service including:

- revising the County Council Code of Practice for Street Lighting to conform with the UK Lighting Board's Code of Practice.
 - continuing with the programme for replacement of lamp columns that have been assessed as poor, updating the programme in light of a revised risk management model
 - improving the condition of the street lights asset to an average age of 20 years
 - evaluating the findings of appointed consultants who are considering financial options for asset renewals including Private Finance Initiatives, Public Private Partnerships and prudential borrowing
 - achieving improved performance by local direct network operators for fault repair in line with national indicators
 - reviewing efficiencies in the provision of lighting in response to current increasing energy costs by considering the Institution of Lighting Engineers advice note LB1 'Invest to Save'
 - reviewing actions for achieving the aims of the County Council's Carbon Management Plan
 - seeking input from the Community Safety team for prioritising schemes in relation to achieving the greatest benefit for reducing the fear of crime
 - seeking joint procurement of energy with Leicestershire and Derbyshire County Councils.
11. At the second meeting on 22 October 2007, Allan Allsop, Notts County Council Principal Officer, Energy Management, introduced a report on the authority's procurement of electricity and carbon management in relation to street lighting.
12. He explained the procedures used to procure electricity are 'in-line' with best practice recommendations from the Office of Government and Commerce and are fully compliant with EU regulations. Following the EU tender process the contract for procurement was awarded to UX Online, both the electricity supply for street lighting and the gas and electricity supplies for buildings were awarded in 2006 and 2007 respectively following these procedures. The benefits of these arrangements are:
- the purchase of energy can be secured as wholesale rather than retail prices thus yielding financial savings
 - market intelligence relating to the most beneficial contract duration and time to procure is obtained
 - energy is purchased at the right time to secure the best possible price
 - the ability to compare various options (i.e. green generated by renewable sources and brown generated from conventional fossil fuel) and purchase energy at any given time with the e-tender process.
13. Electricity produced from renewable sources and good quality Combined Heat and Power (CHP) is not subject to the Climate Change

Levy (CCL) which is a carbon tax imposed for brown energy sources. The additional premium for green and CHP electricity can be offset against CCL charges. Green electricity is considered to be carbon neutral and therefore represents 100% CO₂ saving whilst CHP is in the order of a 35% saving compared to brown.

14. The table below contains the estimated consumption and annual cost figures used for tendering purposes, and indicates the steep rise in electricity prices from 2003 onwards. These resulted from an increased world energy demand for oil and gas and a lack of electricity generating capacity in the UK. The energy market has been extremely volatile since this time but has begun to stabilise. However it is predicted that energy prices will remain at these higher levels and could rise further.

	2003-5	2005-6	2006-8	
Type of Electricity	CHP	Green	CHP	Green
Consumption kWh p/a	36,484,149	36,484,149	39,099,822	1,081,009
Pence per kWh	3.917p	6.4960p	6.5174p	9.6700p
CCL (@0.43p/kWh)	0	0	0	0
Annual Costs	£1,429,084	£2,370,010	£2,548,291	£104,533
Difference		£940,926	£178,281	Standard Tariff
%		66%	8%	

15. The Council's procedures for energy procurement have been developed in order to mitigate price volatility and are featured as a case study by the Regional Centre of Excellence in their recent publication 'How to be Successful in Energy Procurement'.
16. The County Council is considering procurement options retender for supplies in August 2008 with Leicestershire and Derbyshire County Council to maximise the potential for achieving reduced energy prices. Procurement takes place on an unmetered basis using an inventory of light level detectors to provide information on hours of operation.
17. The County Council's carbon management plan was approved by Cabinet on 18 April 2007. Buildings are the main contributor to the County Council's CO₂ emissions at 90,000 tonnes (75%); street lighting is the second biggest contributor accounting for 19,000 tonnes (16%). With the purchase of green and CHP generated electricity this is reduced to 60,000 tonnes and 12,000 respectively.
18. A report was presented in September to the Cabinet Member for People & Performance regarding the main points of the Governments recent Energy White Paper, 'Meeting the Energy Challenge'. The Government has agreed a new set of indicators in 2009 for the new local government performance framework, the Comprehensive Area Assessments (CAA), which will replace the current Comprehensive Performance Assessment. This set of indicators includes several

related to climate change. The most relevant in terms of the Council's carbon management plan is the percentage reduction of CO₂ emissions arising from the local authorities own operations. Reducing emissions from street lighting could therefore make an important contribution towards achieving target reductions and meeting CAA objectives. In the new Local Area Agreement eleven key priorities have recently been endorsed by the Nottinghamshire Local Strategic Partnership Board, one of which is to promote environment sustainability. A key area of this will include tackling CO₂ emissions.

19. The County Council's Carbon Management Plan identifies proposals for reducing CO₂ emissions and identifies the priorities of:

- reducing the need for energy
- using electricity efficiently
- moving to using renewable energy.

To achieve further reductions beyond those identified by the plan would require additional expenditure.

20. Suzanne Heydon, Team Manager, Accident Investigation introduced a report on the implications of part-night street lighting on road accidents and outlined the County Council's obligations and responsibilities. Ms Heydon explained that the County Council has a statutory responsibility to provide a safe and efficient highways network for the benefit and safety of all road users. Part-night lighting has been considered by several highways authorities across the country in an attempt to reduce CO₂ emissions, be more energy efficient and generate savings in energy costs. However the potential increase in road accidents has been highlighted; around 33% of accidents occur during the hours of darkness and the introduction of street lighting and improvement to existing lighting has been effective in reducing accidents. Any increase in night time accidents resulting from a reduction in lighting provision will affect the County Council's performance against national performance indicators. It was noted that the criteria for lighting signs and bollards has changed over time and there may be some scope through changes in legislation to consider reductions.
21. Inspector Dean Brown, Nottinghamshire Police, discussed how lighting can be used to reduce crime levels. He went on to indicate that reducing lighting might increase perceived as well as actual level of crime.
22. At the meeting on 26 November 2007, the Chair welcomed Lawrence McKeogh, County Roads Manager, Highways and Transport and Keith Tovee Principal Engineer, Street Lighting from Essex County Council. Mr McKeogh gave a presentation about the County's pilot project for part-night lighting, which had started in two districts. A number of energy saving options had been considered before deciding that, for a small capital investment, part-night lighting gave the best value for money and reduction in CO₂ emissions. Part-night photocells were predicted to give energy cost savings of 29% with a return on

investment over 3 to 4 years. Two districts with a mix of urban and rural areas were chosen for the pilot, and extensive consultation was carried out. Initial press coverage was negative, though an on-line opinion poll by a local paper had showed 80% in favour of the project. The pilot project started in April 2006. Mr McKeogh explained that before implementation, a list of exception criteria (for locations where lighting would continue all night) was drawn up, and a wide-ranging risk assessment carried out. New photocells were installed on a phased basis, which would turn off the street lights from approximately 12 midnight to 5.00 am GMT. A joint monitoring group has been reviewing the project's success. Accident statistics have showed no increase in recorded accidents during the hours without lighting, and crime figures were inconclusive.

23. The Select Committee also received an update on the lighting of signs and bollards from Nottinghamshire County Council's Communities Department. To remove lighting from some units it would be necessary to determine how many units would be affected and assess the potential costs and benefits but it was indicated that the annual saving per unit would be in the region of £4.00. There is, however, an initial cost in removing the supply from the sign or bollard which made the annual saving insignificant.
24. At the final meeting on 10 December Dave Coatham from the Institution of Lighting Engineers gave a presentation on the Institution's views on current policy and developments in street lighting. He outlined options for reducing the impact of street lighting and CO₂ emissions including the choice of lighting standard, equipment, good maintenance practices and minimising energy consumption. He discussed what can be done to reduce the impact of existing street lighting including the removal of all redundant lighting, replacing SOX lamps with SOX-E lamps and changing the 'on/off' ratio for photo electric cells. When discussing the Essex part night lighting pilot he expressed the opinion that there was no justification for switching off lights as we are now a 24 hour society and people need to travel safely at night, the demise of police patrols and the temptation for individuals to install their own, generally less efficient exterior lighting is also a factor.

The Select Committee Recommends:

1. **consideration is given to efficiency savings and the reduction of energy costs and CO₂ emissions rather than the reduction lighting standards across the county.**
2. **that Nottinghamshire County Council does not introduce a part night lighting scheme. However, it may be advisable to be kept informed of progress of the Essex pilot scheme.**
3. **that whilst the Committee recognises the importance of reducing CO₂ emissions by using green electricity it should only be purchased if the price is advantageous and there is no increased financial cost to the County Council.**

4. **not removing lighting from illuminated traffic signs and illuminated traffic bollards that no longer require lighting under current legislation.** The Select Committee considered that it would not be economically viable to do so.
5. **consideration is given to the amalgamation of all the County Council's energy requirements, including buildings.** This would achieve a more balanced load profile. Although this could possibly yield savings this would be dependant on the type of profile suppliers are looking for at the time of the tender. The possibility of a 3 Counties (Notts/Derbys/Leics) purchasing alliance for street lighting electricity supply should also be explored along with the recent guidance given in the Regional Centre for Excellence guidance on energy procurement.
6. **an audit of redundant lighting is undertaken and all unnecessary lighting columns removed.** Removal of a lighting system must not compromise the safety of the highway and its users and that the reason for installing the lighting no longer applies. This would reduce energy consumption, energy costs and reduce the need to maintain lighting columns.
7. **consideration is given to a review of the County Council's current policy and procedures for street lighting undertaken by a peer review, using either a comparable local authority or consultant**
8. **consideration is given to implementing a benchmarking exercise with the Centre of Excellence to review the County Council's procedures for the purchasing of electricity supplies.**

The Select Committee commends the excellent work of officers in the Communities Department who are responsible for street lighting in Nottinghamshire. It also thanks Essex County Council, the Institution of Lighting Engineers, Nottinghamshire Police and the County Council officers involved in this review and would like to thank them for their contribution.

Background Papers: Agenda and minutes of the Street Lighting Select Committee

Members of the Olympics and Paralympics Select Committee:

Councillor John Knight (Chair)
Councillor Andy Stewart (Vice Chair)
Councillor Jen Cole
Councillor Vincent Dobson
Councillor Jim Napier
Councillor Philip Owen
Councillor Ken Rigby
Councillor Dave Shaw
Councillor Kevan Wakefield