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| <b>Committee(s):</b>   | <b>Date(s):</b>                       |
| Residents' Consultation Committee<br>Barbican Residential Committee            | 2 September 2013<br>16 September 2013 |
| <b>Subject:</b><br><b>Barbican Estate Background Underfloor Heating System</b> | <b>For Decision</b>                   |
| <b>Report of:</b><br>Director of Community & Children's Services               | <b>Public</b>                         |

**Summary**

1. The background underfloor heating system at the Barbican Estate is a heat store system (similar in principle to night storage heaters) and takes advantage of an off-peak electricity tariff during the 13-hour charging period.
2. On 25 September 2006 your committee approved the recommendation to continue with the existing arrangements for maintenance and servicing of the background underfloor heating system.
3. The background underfloor heating system continues to function well with limited repairs/replacement of controls and heating mats.
4. United Kingdom Power Networks (UKPN), the local distribution company, gave notice they would cease to maintain the Cyclo-Control (control and switching) system beyond 1 October 2013. Talks have taken place with UKPN and measures are in place to ensure that the system remains operational until March 2015.
5. EDF Energy, the current electricity supplier, intends to withdraw from their contract with the City of London Corporation (COLC). COLC are negotiating with EDF on the termination date, currently January 2014. EDF have already indicated that they could not in future supply electricity under an extended off-peak arrangement.
6. In the short term it will be necessary to tender a contract for the supply of electricity for the background underfloor heating system from January 2014 with potential for increased tariffs and/or reduced operating times whilst potential alternative systems are explored.
7. The Barbican Sustainability Working Party (SWG) has been reviewing the current situation. It is now evident that a Working Party should be set up to focus on the issues faced by the City and residents and to review the future of the current background heating system and to consider other potential methods of background heating.

## **Recommendation**

8. It is recommended that a Residents' Consultation Committee Working Party be set up to review the current background underfloor heating system and potential alternatives, and that funds be made available to employ a consultant.

## **Main Report**

### **Background**

9. The electric background underfloor heating system on the Barbican Estate has been in existence for over 40 years and has been an integral part of the electrical services provided to flats during this time.
10. The background underfloor heating system remains unchanged from its original design. A high standard of maintenance, servicing and minor repairs has enhanced the life of the system.
11. With the approval of your committee on 26 February 2004 a full technical survey was undertaken by specialist consultants NIFES Consulting Group following a successful tender bid. The purpose of their survey was to determine the life expectancy of the existing system and to consider possible replacement heating systems taking into consideration latest legislation, best practice and modern techniques. The survey was completed on 19 May 2006.
12. The survey concluded that the existing background heating system, embedded electric heating cables on an off-peak supply, was the most appropriate for the Barbican Estate at that time.

### **Current Position**

13. The background underfloor heating system continues to function well with limited repairs/replacement of controls and heating mats. A total of £87,646 has been spent on parts and repairs by external contractors since 2006. The Resident Engineers also carry out limited repairs and adjust the temperature of individual flats and attend to approx. 250 calls per annum.
14. EDF Energy and UKPN were formerly part of London Electricity Board (LEB). The current contract for the supply of electricity was taken out in 1982 with LEB and provides for a 13-hour off-peak charging period with prices per kWh fixed every 2 years. However,

due to the changes in the electrical supply industry, UKPN and EDF Energy now operate as separate companies.

15. There is no formal agreement between either EDF and UKPN to maintain the Cyclo-Control or indeed between UKPN and CoLC. The Cyclo-Control system will therefore cease to be supported by UKPN from 1 October 2013. Talks have taken place with UKPN and measures are in place to ensure that the system could be maintained and remains operational until March 2015.
16. The Department of Built Environment has installed replacement Cyclo-Control transmitters as part of their Street lighting management system and the Barbican Estate is able to take advantage of this arrangement and it is feasible for the heating to be controlled by the new transmitters. There is still an issue in terms of being able to communicate and retrieve information from the new transmitters but this is not considered to be a major concern and is currently being evaluated.
17. EDF Energy have stated that they intend to withdraw from the electricity supply agreement with the COLC for the supply of electricity to the background underfloor heating system. This is in accordance with the termination notices contained within the original contract set up with LEB. The COLC are negotiating with EDF on the termination date which is currently set to be January 2014. EDF have already indicated that they could not supply electricity at the current rates for future contracts.
18. Initial investigations suggest that any new supplier would most likely only offer a single 7-hour overnight tariff; any supply to top-up heating levels outside that period would be at a much higher day unit rate.
19. In the short term it will be necessary to tender a contract for the supply of electricity for the background underfloor heating system from January 2014. The length of the contract is yet to be determined.
20. The Barbican SWG was set up in 2011 is made up of members of the BRC, RCC, Barbican Association Sustainability Group and officers. The remit of the SWG is generating and evaluating proposals to make the Barbican Estate more sustainable, with particular reference to reducing its carbon emissions.
21. The Barbican Estate Office recommends that the way forward is to form a separate working party to look at the current and long-term

issues. The Working Party would focus on two areas: firstly, the immediate issue concerning the future energy supplier, and secondly, to review the background underfloor heating system and future directions of travel including provision of provide alternative options for your committee to consider.

22. An options appraisal will be carried out by a specialist consultant and below are some of the broad areas the Working Party will need to consider as part of the consultants' brief:

- Maintain the current system as it is
- Maintain and optimise the existing system (eg using forecast weather conditions rather than current temperatures to determine the electrical charge, spreading the charge more evenly over 24 hours, splitting the charge between background and top-up heating, controlling individual room and/or flat temperature)
- Thermal/fabric improvements eg insulation to soffits and flats
- Alternative heating sources eg Citigen
- Funding options and lease considerations

23. Once agreed, your committee will be provided with a further report detailing the areas to be covered by the options appraisal and indicative consultants' costs for your approval. Procurement of the consultant will be in accordance with the City's procurement regulations.

### **Financial Implications**

24. Background underfloor heating maintenance and electricity costs are recoverable under the lease. Currently the annual cost of electricity for heating is estimated at around £1.7 million a year with the average cost of around £850 per flat. The charges range from approx. £360 for small bedsit to £1,250 for a tower flat and up to £3000 for a large penthouse. Maintenance costs since 2006 total £87,646. This excludes the time spent on the system by the Resident Engineers.

25. As the system is a communal system no Vat is chargeable to the service charge.

26. The Working Party will determine the options to be considered before engaging a consultant. Costs of the consultant will be dependent on the

options to be considered and these costs will be recovered through the service charge

### **Legal Implications**

27. The Lease requires the provision of underfloor or other suitable alternative background heating to the flats from the first day of October in each year to the 30<sup>th</sup> day of April in the year immediately following and at other reasonable times. The cost of the provision of such background heating is picked up in the service charges in the usual way.

### **Consultees**

28. The Comptroller & City Solicitor and The Chamberlain have been consulted in the preparation of this report and their comments have been included.

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