Leeds plans for resilience

Huge and innovative energy and carbon saving scheme for joint Leeds General Infirmary and university contract

One of the largest public sector energy contracts in the North of England is about to go out to tender. The innovative scheme is a joint contract for the Leeds General Infirmary, one of the major acute hospitals in The Leeds Teaching Hospitals NHS Trust, and the adjacent University of Leeds.

Mick Taylor, the trust's deputy director of estates and facilities and head of estates - operational services, told *Hospital Bulletin*: "The Invitation to Mini Competition (IMC) will go out in June to the 17 major energy companies on the Carbon and Energy Fund framework and the Invitation to Tender (ITT) will follow later in the year, possibly in July or August.

"The IMC is an opportunity for those on the framework to express an interest or not. Following which we'll interview all the interested parties, who will present against the set criteria and we'll then prepare a shortlist."

The hospital and the university are already using a shared energy centre on the Leeds General Infirmary site.

"It's possibly the largest energy centre in the NHS," said Mick. "The generating station was constructed in the early 70s by the then Yorkshire Regional Health Authority. It was originally built to supply only the Leeds General Hospital (LGI), but later, in the 90s, it was adapted to take on the adjacent University of Leeds campus."

Museum of CHP: the impressive generating room houses an array of plant from the 1970s to more recent times

Mike Taylor, deputy director of estates and facilities and head of estates - operational services, The Leeds Teaching Hospitals NHS Trust

The impressive generating station complex currently delivers a number of utilities to both the hospital and the university. "It provides 7.5MW grid capacity and over 15MW of CHP generation," explained Mick. "We take steam and low pressure hot water (LWT) 44MW of heat total capacity. In addition we take chilled water from a mixture of condensing and absorption chilling. We take medical air at 10bar and compressed air for our central control systems.

"The generating station has been operated successfully by the current contractor, Dalkia, since 1995 under a 20-year contract which expires in 2015.

"Dalkia also maintain two of our ten emergency standby generators as they are within their area."

Outlining the project Mick explained: "As the generating station is a shared Leeds Teaching Hospitals NHS Trust and University of Leeds facility both partners reviewed the possibilities.

"While the current contract is coming to an end and some of the plant is reaching the end of its expected life, the electrical capacity of the station is also reaching its limits. Under European law the current contractor cannot be extended, hence the re-procurement exercise is well underway.

"Various procurement options were reviewed and the CEF methodology was agreed as the best way forward. However, because the CEF model usually deals with a single contracting entity it was necessary to work with the CEF to adapt their method."

The trust and university agreed five common objectives:

- To provide a resilient and secure utility supply
- Maximise the cost/benefit opportunities offered by the procurement
- To make a major contribution towards the trust's and university's carbon saving targets
- To provide a contract which offers flexibility to respond to commercial change
- Maximise the associated commercial opportunities which may exist for both organisations

The project is governed by a joint trust and university project board, with each organisation having a nominated senior responsible officer and a joint working group within each organisation.

The Jubilee Wing at Leeds General Infirmary

The trust runs three workstreams. Mick leads the technical workstream. Procurement is led by Chris Slater, head of supplies, and commercial is led by Jo Dalby, who manages the trust's PFIs. These three workstreams are brought together under the management of Darryn Kerr, the trust's director of estates and facilities.

Mick said: "In its original form the CEF model was designed for NHS trusts. The model works on standard documentation, but because there will be tripartite agreement - Carbon and Energy Fund / Leeds Teaching Hospitals / University of Leeds - we wanted a very clear contractual structure.

"Working with CEF we developed a joint services agreement which clarifies at all stages of the procurement the commitment, risk and benefits to and for each organisation. I believe this is unique to the project and because of this it has taken a little more time to agree, but it will bring benefits in the long term.

"The major benefit of using CEF is that it brings a tried and tested methodology to market and brings with it a framework of all the major utility provider contractors - effectively they have done the OJEU for us, which should speed things up."

Mick said: "As part of the CEF process we've commenced with a technical appraisal of our current joint consumption. We've reviewed the development strategies of both organisations and developed high, medium and low growth projections for the next twenty years.

"In addition, we have produced a base case design to ensure that the station can meet all future demand, which highlighted the need to bring in a larger 33kVA grid supply. Due to the critical path nature of that supply, this is at present running as a parallel programme, but it is hoped to merge both the new supply cable and the station reconfiguration into a common project in the near future.

"This is a live project now, but the two are symbiotic - one cannot function without the other - which helps to meet one of our key criteria of resilience."

Mick emphasised: "We must never forget that the secure, resilient supply of utilities is key to patient care. Without this service the quality of that care must never be reduced. Whilst I'm a professional engineer, I'm never far away from the people who are reliant on the service. We work very closely with

all our clinical teams to make sure that the services are robust and interruptions are kept to a minimum."

The project will require significant change to the generating station complex, which when combined with the provision of a new electrical incoming cable may well exceed £30m capital.

"The contract is likely to be let for 20 to 25 years dependent upon the procurement process," said Mick. "This should provide both organisations with a resilient and sustainable utility contract for their foreseeable futures.

"With the provision of a new, larger incoming cable it is possible to reduce the size of the embedded generation, whilst maintaining full resilience. If this can be achieved through the design process significant savings could be achieved by reducing the amount of rejected heat in

the summer months by utilising a low capacity of embedded generation.

"Reconfiguration of the station will not affect the trust's current capacity of emergency standby generation, the latter will remain in place and operational at all times to protect life support services throughout the hospital."

As Mick explained: "By utilising CEF and their procurement methodology the trust has reviewed the opportunities available to bring local benefit from the national procurement process. It's a partnership and we're all working hard at it.

"By utilising the CEF framework it is hoped that a preferred bidder from their framework will be selected in time for when the current contract comes to an end in July 2015."

Mick added: "I hope that through this process to select a future energy utility partner will find someone who, like our current provider Dalkia, provides a quality service to take us into the future, enabling us to grow and develop our clinical services. The preferred bidder will hopefully bring a wealth of expertise to develop an efficient and resilient service which introduces innovation for the benefit of both parties.

"The challenge facing us is immense. In some ways the procurement will be the most straightforward part of the process. The main challenge will come when we are working with our selected partner to reconfigure the station from what it is today to what it needs to be to meet the future requirements. This part of the process will need to be very carefully project managed to ensure any interruptions to supply during service changeovers will not affect patient care."

This huge contract will be a major contributor towards both organisations meeting their respective carbon reduction targets. The 2015 carbon reduction target for the NHS is 15% and for higher education its 43% by 2020.

Carbon and Energy Fund director Peter Fairclough said: For CEF it's an exciting scheme, not only because of the size but also its reputation. Technically it's very demanding. The fact it's between the trust and the university is also a big step, but we have done something similar with others. There's a significant amount of bidder interest in the market.

"We're well suited to the size of the scheme," explained Peter. "We have access to a significant amount of funding that can help with a contract of this size and have bidders on the framework who can cope with a project like this.

"Although the size of the scheme may seem daunting, we have a proven process and control which can cope with the size and complexity of such a scheme and protect the client interest.

"In engineering terms, in the public sector, it's exciting and could prove to be very innovative. We're very open to innovation coming from the market offering potential solutions."

Peter added: "Normally CEF schemes are based on a carbon and cost saving model but with this scheme the priority is definitely a resilience model, but having said that good engineering and innovation will bring carbon and cost savings to the client on top of the provision of resilience.

"There's a massive investment to make, but the prize is a 25-year contract for the provision of guaranteed energy for one of the largest public sector users in the North."

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To find out more about the Carbon and Energy fund, call David Mackey on 0845 053 7748, mobile 07979 70211, e-mail daavid.mackey@carbonandenergyfund.net or visit www.carbonandenergyfund.net

ENQUIRY NO. 000

Delivering savings for the NHS

Working with the NHS, the Carbon and Energy Fund has to date committed: capital of £171m, delivering guaranteed savings of £33m per annum, and guaranteed carbon savings of 133,000 tonnes per annum.

In the present pipeline are: £37m of capital, guaranteed savings of £6m per annum and guaranteed carbon savings of 30,000 tonnes per annum:

By the end of 2015 it is expected the total will be: £208m of capital committed, guaranteed savings of £39m per annum, and guaranteed carbon savings of 163,000 tonnes per annum.

Carbon and Energy Fund project team: Emma Bailey, left, project manager, Peter Fairclough, director, and Markus Ballard, manager