

First Tier Pro-forma

<p>Notes on completion</p> <p>Before completing this form, please refer to the LCN Fund Governance Document. Please use the default font (Verdana font size 9) in your submission, the text entry areas are predetermined and should not be changed. Please ensure all content is contained within the boundaries of the text areas. The full-completed submission should not exceed 4 pages in total.</p>
<p>Project title</p> <p>SSET1004/Honeywell I&C ADR - Demonstrating the Functionality of Automated Demand Response</p>
<p>DNO</p> <p>Scottish & Southern Energy plc</p>
<p>Participant DNOs</p> <p>Southern Electric Power Distribution (SEPD)</p>
<p>Project summary</p> <p>Honeywell Building Solutions' Automated Demand Response (ADR) technology is in use in the USA and Asia to reduce load on the network at time of peak demand. This project will trial the above solution on a UK HV/LV network to ascertain whether it can effectively help manage the constraints we are likely to find as we move into a low carbon economy.</p> <p>However, before a DNO can use such technologies to manage the network, it is important to ensure that the communication and automated aggregation of the load shedding systems proposed have the functionality to produce the desired load reductions.</p> <p>SEPD will run a pilot project of Honeywell's ADR solution to answer the following questions;</p> <ol style="list-style-type: none"> 1.Can the proposed ADR solution produce an aggregated figure of despatchable demand? 2.Can it reduce/shift peak loads in facilities (& therefore the network)? 3.What data can be collated and what value is it to a DNO and how will it be securely stored? <p>This project will demonstrate the feasibility of this solution and will provide valuable learning for all DNO's in the UK. The learning from this trial may also feed into SEPD's NewTVV Tier 2 LCNF submission.</p>
<p>Problem(s)</p> <p><i>Please provide a narrative which explains the Problem(s) which being addressed by the Project.</i></p> <p>The electricity network in Bracknell and the wider Thames Valley area is typical of many urban and suburban areas in the UK: it serves a diverse mix of industrial, commercial and small business development.</p> <p>As the area has developed, its electrical demand has increased and the demand profile has changed. Looking ahead, we expect that there will be increased demand associated with further economic development, along with demand rises linked to the anticipated increased penetration of electric vehicles, solar arrays and heat pumps (ref: DECC Low Carbon Transition Plan).</p> <p>Bracknell's primary transformers are already operating at close to capacity, which means they will not be able to accommodate further significant increases in electricity demand without being substantially upgraded. Furthermore, unless effectively managed, the anticipated changes in demand levels and load profiles will trigger network problems including voltage and thermal</p>

Problem(s) continued
<p>thermal constraints. In order that Bracknell can continue to reliably supply electricity to its customers, there is a need for a solution which safely, quickly and sustainably optimises the use of the available capacity on the network.</p> <p>This small scale project aims to demonstrate that the ADR technology proposed can shed peak loads in the proposed buildings.</p>
Method(s)
<p><i>This section should set out the Method or Methods that will be trialled in order to solve the Problem. The type of Method should be identified where possible e.g. technical or commercial.</i></p> <p>The project will be developed by completing 6 specific AUto DR Deployment Stages;</p> <p>Customer Acquisition - Undertake Customer enrolment for Auto DR Pilot (up to 5 commercial sites); Commence Facility audit and identify viable Load Shed strategy for each site; Agree tailored Load Shed strategy with Customer's representative for each site.</p> <p>Site Preparation - Supply & install DR Controller at each site; Install DR Controller Programme & hand shake protocol; Interface with site BMS and load up software.</p> <p>Test & Commission - Test & commission Load Shed strategy at each site; Allocate DRAS Server for Pilot project; Configure, test & commission software for Bracknell network.</p> <p>Training - Undertake training of SSE Auto DR team; Undertake training of customer representatives.</p> <p>Project Management - Supply Project Management, Sales, Technical Support, Akuacom Technicians, NiagraAX Cert Technicians, Remote monitoring, Escalation Procedures and Integration Licences .</p> <p>Host & Run Pilot - Run Auto DR Pilot events, monitor performance & produce data with support from local Honeywell team.</p>
Scope and Objectives
<p><i>Please describe the scope and objectives of the Project should be clearly defined including the benefits which should directly accrue to the Distribution System.</i></p> <ul style="list-style-type: none"> - Demonstrate an end-to-end solution for building owners to automate load shed in response to events managed by the DNO; - Furnish all data required for a DNO to quantify the benefits of the Auto DR system; - Drive rapid enrolment by providing required hardware, software, consulting and training to the building owners enrolled on the programme; - Demonstrate interoperability of systems and by adhering to the standards and open protocols, ensuring long term lifecycle of assets; - Demonstrate compliance to various elements pertaining to cyber security;
Success Criteria
<p><i>Please give details of how the DNO will evaluate whether the Project has been successful.</i></p> <ol style="list-style-type: none"> 1 - Demonstrate and report on Auto DR delivery capabilities across multiple business sites & Facilities; <ul style="list-style-type: none"> - Can the proposed ADR solution deliver an aggregated figure of despatchable demand? - Can the technology reduce loads on the network via a signal from the DNO? - How much can the load be reduced in the trial buildings? 2 - Develop a framework for customer enrolment that can be analysed and developed as part of the NewTVV/ other LCNF T2 submissions; 3 - Provide 'Observability' of the HV/ LV network via Auto DR;

TRL 8
<i>This should be between 5-8 to be eligible for Tier 1 Funds.</i>
Predicted start and end dates.
<i>DNOs should provide an estimate of the expected project starting and completion dates.</i>
Start Date: 06/2011 End Date: 11/2011
Project partners and external funders
<i>Please give details of actual or potential Project Partners and External Funding Support as appropriate</i>
<p>Honeywell Building Solutions - Providing significant funding to prove that the proposed solution can be successful UK wide. Honeywell will also be volunteering their head office building in Bracknell for the trial free of charge.</p> <p>Bracknell Forest Council General Electric (potential trial building)</p>
Potential for new learning
<i>Detail what the parties hope to learn and how the learning will be disseminated.</i>
<p>Demand Response in the UK is, at present, a relatively unexplored area and the results of this trial will show the feasibility of Honeywell's technology. This technology has not been implemented anywhere in UK before making the learning applicable across the UK. The platform will also be open standard so there will be the opportunity to include other technologies at a later date if required. The success criteria labelled above also highlights new learning in the ADR field in the UK. Specifically the commercial and incentive elements will benefit any DNO wishing to implement this type of solution.</p>
Risks
<i>The DNO should highlight any material, known risks that could impact the Project's costs and/or programmes.</i>
<ol style="list-style-type: none"> 1 - The trial doesn't prove cost effective. 2 - Honeywell's DRAS cannot reduce/ shift peak loads within the pilot facilities 3 - Not meeting the proposed timeline and therefore not being able to take the learning from this pilot into the NewTVV Tier 2 LCNF submission. 4 - Damage to 3rd party property during installation and running of the trial. All precautions must be taken to eliminate/ minimise the risk to participants in the trial. 5 - Relationship with the energy supplier of the customers partaking in the trial. 6 - Potential for CI's/ CML's. 7 - Cyber security risks. We will assess & mitigate risks.
Scale of project
<i>Please justify the scale of the Project. In particular, the DNO should explain why there would be less potential for new learning if the Project were a smaller scale.</i>
<p>This project has been set up as a small scale trial (3-5 building) as it will give us the opportunity to demonstrate that the DRAS can communicate and automatically shed peak load within several buildings. It is also of a large enough scale to show aggregation of facilities.</p> <p>A key element of this project is to highlight the required actions in order that this solution/ concept can be scaled up to manage real constraints on the HV/ LV network.</p>
Geographical area
<i>Details of where the Trial(s) will take place. If the Project is a collaboration, the DNO area(a) in which the Trial(s) take place should be identified.</i>
<p>Bracknell, Thames Valley, UK</p>

Estimated Project funding			
<i>An indication of the revenue allowed for within the DPCR5 settlement that is likely to be saved as a result of the project.</i>		<i>An indication of the total Allowable First Tier Project Expenditure that the DNO expects to reclaim the for the whole project.</i>	
Revenue allowed for in the DPCR5 Settlement (£)	£0	Indicative total Allowable First Tier Project Expenditure (£)	£260,000
Please tick if the project involves making payments to related undertakings			<input type="checkbox"/>
<i>The DNO must set out all payments that it proposes to make to itself or any Related Undertaking. Further, if a payment is to be made to any Related Undertaking that is a Distribution System User, the DNO must demonstrate that it has offered the same terms to similar Distribution System Users on the part of the network that is within the Project boundary and has used reasonable endeavours to identify such Users.</i>			
Please tick if the project conforms to the default IPR arrangements set out in the LCN Fund Governance Document?			<input checked="" type="checkbox"/>
<i>The DNO should indicate if the Project does not conform to the default IPR conditions. A justification for alternative arrangements and why the Project should still be approved must be provided, in accordance with paragraph 2.18 of the Governance Document.</i>			
Please tick if you do not consent to the First tier pro-forma being published in full.			<input type="checkbox"/>
If you do not consent please identify any information in the completed First Tier LCN Project Registration that you do not wish to be published.			
<i>The DNO must demonstrate that it (or its Project Partners) will face commercial harm from its disclosure and that information is considered eligible for exemption under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004. All information submitted within the First Tier LCN Project Registration Pro-forma will be made available on the Ofgem website, unless Ofgem has agreed otherwise as part of the Registration process set out above.</i>			