

# First Tier LCN Project Registration

<b>DNO(s)</b>
WPD
<b>Registration date</b>

<b>Project description</b>	
Project title	Network Management on the Isles of Scilly
Project background	<p>Electricity supplies to the Isles of Scilly comprise a single 33kV undersea cable from the mainland supplemented by an island based diesel generating station. There are also remote, locally controlled generators on two outer islands available for use in limited instances.</p> <p>The islands provide an effective self contained microcosm of an 11kV and LV electricity distribution system that can be monitored and controlled to provide measurement of impact and capability to accommodate DG and other low carbon initiatives.</p> <p>The Isles of Scilly Council has a published goal of the islands being energy self sufficient To this end, the council is examining methods of localised generation such as waste disposal and the islander's themselves are keen to exploit PV and wave power on and off the smaller islands. WPD will work in conjunction with the islanders through this initiative to ensure the full support for their desire to be energy self sufficient. The community level interest in energy management was demonstrated in their 2009 "e-day" initiative which received national BBC TV coverage. WPD Project partners - Duchy of Cornwall, IGE, Islanders on St. Agnes, Isles of Scilly Council, Power Electrics, PowerPlus Communications Radius, Transition Scilly</p>
Scope and objectives	<p>It is proposed to establish real time monitoring on all of the distribution substations on the Isles of Scilly in such a way that the use of the generation facilities on the islands can be maximised to secure supplies to the islands. The control and management of the generation on the off islands will be effected using new methods that have not been used in WPD before.</p> <p>The monitoring at the substations will be supplemented by controls where appropriate to ensure that islander's and company initiatives associated with localised generation can be accommodated and managed in an effective way. The initial localised generation is expected to be by PV though the islander's themselves are actively pursuing wave power and possibly waste disposal as other sources of generation. The Scillies have the highest PV solar efficiency rating in UK and present a challenging DG/demand environment on a weakly connected rural network.</p> <p>The initiative will support the council's published goal of energy self sufficiency.</p>
Success criteria	<p>The effective management of off island generation and monitoring &amp; control of various PV installations on a weakly connected network.</p> <p>Use of Power Line Carrier techniques on higher voltage networks</p>
TRL(s)	Between 6 and 8
Predicted end date	Quarter 3, 2012

External Collaborators and external funding	None within LCNF Governance definition - Partners as stated above
Solutions	<p>It is proposed to monitor all of the distribution substations on the islands with demands etc. being subsumed into WPD's company wide SCADA system. The loading details can be made available to local groups on the islands if required.</p> <p>Communications between the sites and the SCADA system will be achieved by the use of mesh radio or power line carrier techniques. The power line carrier will operate over both the LV and 11kV networks.</p> <p>Controls will be achieved over the same communications infrastructure supplemented where necessary by unregulated frequency radios.</p>
Potential for new learning	<p>How PV and other low carbon generation initiatives can be managed and measured in a controlled way on a weakly connected network. The use of PLC on HV networks together with the use of concentrators and substation locations and how this might influence the design and use of the current DCC model proposed to support smart metering. Dissemination will be via reporting, seminars and submission of papers</p>
Risks	<p>The successful use of Power Line Carrier on the higher voltage network may be prohibitively costly meaning that more radio solutions may be necessary.</p> <p>The islands may develop their initiatives over a time frame from that does not match WPD's.</p>
Scale of Project	The whole of the electricity distribution network on the Isles of Scilly.
Geographic area	The Isles of Scilly
Does the Project involve customer engagement?	No.

<b>Funding</b>	
Revenue allowed for within the DPCR5 settlement (£)	None
Indication of the total Allowable First Tier Project Expenditure (£)	£1,125,000

<b>Publication</b>	
Does the DNO provide Ofgem with consent to publish its First Tier LCN Project Registration Pro-forma in full?	Yes
If not, please justify which parts the DNO considers to be confidential	

<b>Related Undertakings</b>
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Payments to Related Undertakings (£)	None
If a payment is to be made to any Related Undertaking that is a Distribution System User, have the same terms been offered to similar Distribution System Users of the part of the network that is within the project boundary?	
Has the DNO used reasonable endeavours to make the opportunity available to similar Distribution System Users of the part of the network that is within the project boundary?	

<b>IPR arrangements</b>	
If IPRs are generated, will they conform to the default IPR arrangements set out in the LCN Fund Governance Document?	Yes
If no, then please provide a compelling justification for the project being approved	