

Generation connecting to NIE's distribution network has the potential to have a significant impact on the powerflows and voltage on NIE's distribution network. The technical requirements for the connection of generation to the NIE distribution network are set out in NIE's Distribution code¹ (D Code). Important elements of the D code are the requirements for SCADA and Generation Control.

Under the Scada requirements NIE needs the generator to provide an interface to NIE whereby NIE can be provided with information on a range of electrical information including for example the level of export and voltage. The interface needs also to facilitate NIE exercising some level of control including the de-energising of the generator and the establishment of a voltage set point. NIE's requires the generator to provide within their installation all of the required functionality as far as the Remote Terminal Unit (RTU). (Note for larger wind generators and windfarms NIE will be responsible for the RTU). NIE will then provide the communications channel between its control centre and the RTU. NIE require the capability for both GPRS and polled radio for these communications.

In terms of controllability the D Code sets out the requirement for the generator to provide for the control of its reactive power, on the basis of either a power factor control or voltage control set point determined and communicated via SCADA by NIE.

In addition to the D Code an ancillary document "Setting Schedule for Generators less than 5 MW Exporting onto the NIE System" requires consideration. This has been developed to provide generators with the detailed requirements set out in the D code. This schedule provides the detailed requirements for the RTU including the requirements for the Human Machine Interface (HMI), RTU Power Supplies, RTU Facilities, Status inputs, Analogues, Communication Ports, Radio and Cabinet Specification and Equipment Practice and Specification. It also sets out a complete listing of the required SCADA signals as well as the required Reactive Capability

The document also explains the processes whereby the generator is required to demonstrate Compliance with the D Code and how such compliance requires to be tested and reported against. It is important to understand that failure to comply with the D code will result in notice being given by NIE to address the areas of non compliance, with the risk of disconnection if this is not addressed.

¹ The Distribution code is accessible at:- http://www.nie.co.uk/documents/Regulatory-documents/Distribution_Code_1_May_2010.aspx