

## SUPPLEMENTARY SUBMISSION FROM NATIONAL GRID

### **How the closure of Longannet is likely to affect the de-rated capacity margin of 22%**

As the National Electricity Transmission System Operator, National Grid is responsible for co-ordinating and directing power flows across the transmission system in Great Britain, which at 99.99995% is the most reliable network in Europe. We are responsible, in accordance within an agreed set of security standards, for ensuring that we balance electricity generation and demand consumption in real time whilst also maintaining a stable level of voltage control. We take our obligations to secure the electricity network very seriously, continuously monitoring, future generation, and demand via our Future Energy Scenarios and System Operability Framework, designed to provide greater clarity on the likely system impacts of our scenarios.

In the event of a sudden shock, such as an instantaneous loss of generation, we have thoroughly tested plans and procedures in place to ensure the network balancing frequency does not fall outside of the statutory limits stipulated in our licence and industry operating codes. Electricity demand security of the transmission network is reviewed annually and considers transmission network capability, generation and demand levels. The annual assessment is carried out in line with agreed industry standards and the analysis is carried out cooperatively, by the relevant transmission owners for their area of the transmission system, through the Joint Planning Committees. This is published annually through industry documents such as the Electricity Ten Year Statement.

When carrying out capacity adequacy assessments we consider the available resources to feed demand and this must be carried out on a whole system wide basis. This is because all the demand and generation across that system interact with one another and the system is operated as one entity. Generation adequacy metrics like LOLE (Loss of Load Expectation) or Capacity Margins can therefore only be calculated correctly for whole systems and not separated parts of an integrated system, as seen in the KPMG report.

Peak demand in Scotland is around 10% of GB demand, and it is expected that this will remain broadly flat to 2016/17 at 5.5GW. Currently, that at times of highest demand, Scotland has a 3GW generation surplus between the secure transmission capability and the National Electricity Transmission System Security and Quality of Supply Standard (NETS SQSS) requirement. If Longannet was to close this would move to a small deficit, however, the capacity of the Cheviot boundary between England and Scotland, at 3.3GW, is well in excess of that deficit so adequate electricity can flow into Scotland. In addition, on completion of the Western Link the transmission system will have 2.5GW more capability compared to the SQSS requirement. As such, there is not a generation adequacy issue impacting Scottish security of supply as a result of the potential closure of Longannet.

**What percentage of capacity is potentially available through voltage control, Demand Side Response and demand reduction?**

DSBR is a very different measure to voltage control or demand side response which are much more emergency measures rather than being used under 'smarter management' so wouldn't necessarily be given a capacity value because of that emergency element.

|               | <b>DSBR Volumes</b>  |                    |
|---------------|----------------------|--------------------|
| <b>Season</b> | <b>Contracted MW</b> | <b>De-rated MW</b> |
| <b>14/15</b>  | 318                  | 136                |
| <b>15/16</b>  | 488                  | 168                |