

Sustainability Committee

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Evidence from the energy Networks Association

Energy distribution and transmission underpins every part of modern life. This means the networks owned and operated by the energy distribution and transmission companies are vital in ensuring that society can function effectively... Ensuring the resilience of those networks to flooding and other forms of extreme weather has always been a priority issue for the industry.

Since its formation, ENA has played a central role in helping our member companies facilitate the sharing of best practice and respond to government and key agencies on issues of resilience and emergency planning. Following the 2007 floods and damage to some electricity substations, the Energy Minister asked ENA to lead a review of substation flooding resilience.

The review involved representation from all electricity network operators, DECC, Ofgem, Environment Agency, Scottish Environment Protection Agency, Met Office and the Pitt Review team. The review reported to the Energy Minister in March 2008 and following its report to the Minister, ENA has led its members in developing a Technical Report that sets out industry best practice for network owners in managing flood risk at substations.

Following the work on both the review and ENA Technical Report the industry has:

- Completed a structured exchange of information with the Environment Agency that has enabled the companies to identify all the sites at risk to fluvial or tidal flooding. There have been improvements made in the provision of flood warning information between the EA and the electricity sector. In particular the network owners have supported the Flood Forecasting Centre initiative and now receive a daily risk based flood warning bulletin from the EA which is sent by e-mail.
- Adopted a systematic approach to flood risk assessment and protection including the establishment of flood risk assessments for each substation; identification of the flooding impact for each particular site: establishing if a site will be protected by a flood protection scheme and where necessary, identifying the most appropriate flood protection system for each site.
- Developed levels of acceptable flood risk and implications for investment including a cost/benefit assessment that takes into account societal risk.
- Created work programmes for implementation of substation flooding resilience and associated funding requirements. All the electricity distribution companies have submitted investment plans to Ofgem as part of their current five year price reviews which include proposals to improve the flood resilience of major electricity substations.
- Network companies have also undertaken certain strategic investments to improve their resilience to flood risk in the short term. For example the substations in Gloucester that were impacted by the flooding, at Walham and Castlemeads, now have permanent flood defence barriers and a number of companies have purchased relocatable flood defence systems. In addition companies have reviewed the design of large new substations at risk to flooding and have taken steps to raise them above the level of potential flood waters where appropriate.
- Initiated an R&D project working with the MET Office on the impacts of climate change on electricity networks. This is being developed as part of the industry's wider response to the climate change adaptation agenda following the release of the UKCP09.
- Developed a Memorandum of Understanding between ENA Member Companies and Local Resilience Forums/Regional Response Teams covering exchange of key information and emergency response.

ENA has also helped undertake a similar review of flooding resilience by the gas networks. Although inherently more resilient than the electricity networks, and with little evidence of supply problems due to flooding, a small number of residual risks have been identified that could lead to local difficulties in the most severe flooding situations. Gas networks are now looking to address the identified issues.

Tony Glover

Public Affairs Manager

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