

NINES PROJECT

Executive Summary of Appendices

Appendix 1 **Lerwick District Heating Scheme, Proceedings of the Institute of Civil Engineers**

Overview of the existing district heating scheme operated by Shetland Heat Energy And Power (SHEAP).

Appendix 2 **Shetland Islands smart grid, requirements specification and architecture**

In depth report compiled by our technical partner Smarter Grid Solutions detailing the specific technical requirements across all aspects of the project. The report provides an in-depth analysis of the proposed solutions and how each element of the project will be connected into the Active Network Management scheme.

Appendix 3 **NINES virtuous cycles**

Illustrates in detail NINES' influence on three low carbon issues: network losses, carbon reductions and fuel poverty.

Appendix 4 **SIC/HHA ERDF application**

Application for ERDF funding by Shetland Islands Council and Hjaltland Housing Association in relating to NINES-related storage and water heating

Appendix 5 **SHEAP ERDF application**

Application for ERDF funding by Shetland Heat Energy and Power relating to NINES-related electrical boiler for Lerwick District Heating scheme extension

Appendix 6 **National Grid - NINES project relevance to GB mainland network**

Describes the potential benefits of the learning gained from demand side management and frequency responsive demand on Shetland, when scaled up to a UK level.

Appendix 7 Learning dissemination matrix

This forms the core of our intended learning and dissemination plan. This is an open document which will be altered and added to as the project progresses and further opportunities for learning become available.

Appendix 8 Extra External Collaborators

Details of collaborators in addition to those mentioned in Box 22

Appendix 9 National Grid partner letter

The letter provides formal support for the intended NINES project and concurs with the information presented in appendix 6.

Appendix 10 Scottish Government letter of support for NINES

Letter of support from Jim Mather, Scotland's Energy Minister, giving his strong support, and that of the Scottish Government, to the NINES proposal.

Appendix 11 Additional wind generation connection to the Shetland power system – University of Strathclyde

Report written by Strathclyde University detailing the basis of the Shetland network, the effect of wind generation on the system and upgrades required to facilitate the new connections.

Appendix 12 Initial risk register

Risk management will be conducted in accordance of the SSE Large Capital Project Governance Framework Manual – 'Project Risk Management Plan' (a copy of which can be made available upon request). This is an open document which will be added to in greater detail as the project progresses and additional risks are identified or mitigated.

Appendix 13 Risk house of control

Diagram details the fundamental risk management and control procedures for large projects. This is detailed further in the SSE Large Capital Project Governance Framework Manual.

Appendix 14 SHETL partner letter

Letter signed by Brian Punton (Transmission Planning Manager) and Alan Broadbent (Engineering Manager). The letter confirms that the SHETL are in support of the project and that the potential learning gained has potential to benefit the UK transmission network.