Scottish & Southern Electricity Networks

Visual Mitigation of Overhead Lines in Loch Lomond and the Trossachs National Park: Inveruglas and Glen Sloy

Executive Summary submission to Ofgem as part of VISTA: An Assessment of the Visual Impacts of Scottish Transmission Assets

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Executive Summary

SHE Transmission is promoting Visual Impact of Scottish Transmission Assets (VISTA), an initiative instigated to assess the impact of existing electricity infrastructure its ownership within National Parks and National Scenic Areas (NSAs) in Scotland, and where possible, to identify and develop appropriate mitigation. To play a part in conserving Scotland's designated landscapes, SHE Transmission hopes to access a proportion of a £500m fund that is administered by the electricity industry regulator, Ofgem.

SHE Transmission's VISTA Policy document defines objectives that projects must meet:

- "*deliver the most beneficial enhancements for Scotland's precious landscapes while keeping undesirable environmental impacts associated with particular mitigation measures (such as undergrounding) to a minimum;*
- *enable users of National Parks and NSAs to benefit from their recreational, educational and social offering;*
- *protect the technical viability of the wider transmission network;*
- *be economical and efficient; and*
- *involve a wider range of stakeholders.*"

In order to deliver the maximum benefit, it is necessary to identify the transmission infrastructure with the greatest impacts on nationally protected landscapes, but also with greatest potential for mitigation. This was evaluated through a landscape and visual impact assessment that considered all of SHE Transmission's infrastructure in protected landscapes in Scotland.

A number of double-circuit 132kV overhead lines, carried on steel lattice towers, converge in Glen Sloy at the Sloy Switching Station to the west of Loch Lomond. Pairs of parallel overhead lines run east to Inveruglas Power Station, north-west towards Sloy Dam, and south towards Arrochar. Within the glen, the steel towers are prominent from the popular walking routes into the neighbouring hills, as well as the Three Lochs Way and Cowal Way. The impact of these overhead lines on the landscape and visual amenity of the National Park, and the potential for successful mitigation, was judged to merit further investigation as part of VISTA.

A range of mitigation solutions were considered against both technical and environmental criteria. Strongest stakeholder support was expressed for undergrounding, as it was thought that this would benefit the largest number of visitors to this area of the National Park. Following a technical review undertaken by SHE Transmission, no issues were raised with undergrounding. Other options, including re-routeing or replacement of the line with a wooden or composite pole line, were seen as providing less effective mitigation of the identified impacts.

Stakeholders were involved throughout this assessment and development process. A number of stakeholder meetings have been held, including formal presentations, workshop sessions, and informal discussions. Throughout the process, stakeholders, including the Loch Lomond and Trossachs National Park Authority, have expressed strong support for undergrounding in this well-visited part of the National Park.

The project will involve the removal of twelve steel lattice towers, and approximately 3 km of overhead line, between Sloy Dam and Inveruglas power station. The overhead lines will be replaced with underground cables, which have been routed to avoid key environmental constraints. Horizontal directional drilling (HDD) will be employed to cross the Inveruglas Water to minimise impacts on ecological receptors and the special qualities of the National Park. The projects aim to remove visibility of the line in an area where it is viewed by the largest numbers of visitors, thus mitigating the moderate landscape and visual effects identified during the earlier stages of the project.

The proposals have been assessed against the VISTA Policy Document, and are considered to meet the stated objectives, as set out in the table below.

Consideration against VISTA objectives

Objective	Evaluation
Deliver the most beneficial enhancements for Scotland's precious landscapes…	The proposals will enhance the character and special qualities of the Loch Lomond area within LLTNP, in an area which is visited and travelled through by a large number of people.
…while keeping undesirable environmental impacts to a minimum	The overhead line will be replaced with an underground cable. The cable route, through rough grazing and woodland, follows a route designed to minimise impacts on other environmental receptors. Where the cable passes through wooded areas the working corridor will be reduced to minimise the need for tree removal. HDD will be utilised to cross the Inveruglas Water, and best practice construction and installation methods will be used to minimise environmental impacts. During construction, there will be temporary negative visual impacts especially for recreational users in the area. Works will be carried out in a highly sensitive manner in order to minimise these temporary impacts as far as possible.
Enable users of National Parks and NSAs to benefit from their recreational, educational and social offering	The proposals have been designed to benefit the maximum number of people, by focusing on a well-visited part of the National Park. This will enhance the enjoyment of the landscape and its special qualities for many people who visit or travel through the area.
Protect the technical viability of the wider transmission network	The proposals will not adversely affect the technical viability of the wider transmission network.
Be economical and efficient	The total cost is £10.79M. The majority of this project cost has been provided via SHE Transmissions 132kV underground cable framework rates and assessed to be economic and efficient when considering market competitiveness. In addition, where cost estimates have been derived from non-tendered sources, costs have been estimated from similar projects or using the experience of individuals who have worked for SHE Transmission on similar projects.
Involve a wider range of stakeholders	A range of stakeholders have been involved in the development of these proposals, from the initial assessments through project selection and detailed design. Stakeholder inputs are described throughout this submission document and its appendices. The proposals benefit from the support of key stakeholders.