

Technical

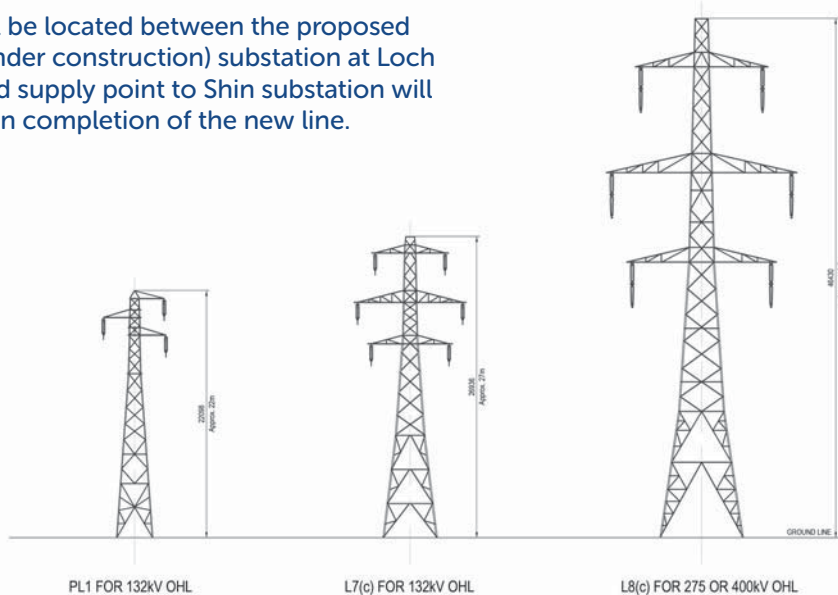
Overhead Line

The proposed 132kV overhead line will be located between the proposed substation at Dalchork and the new (under construction) substation at Loch Buidhe. The existing line from Lairg grid supply point to Shin substation will be decommissioned and removed upon completion of the new line.

The proposed overhead line will consist of towers which are typical for the UK; lattice steel structures with six arms. Each of these arms will carry two electrical wires using an insulated unit.

To provide protection from lightning, a single earth wire is attached to the top of the tower. This traditional arrangement is often described as a double circuit arrangement because each side of the tower carries a single electrical circuit.

On average the 132kV towers are approximately 27 metres high with an average span of 267 metres, giving a total of 61 towers between Dalchork Substation and Loch Buidhe Substation.



Description	Original 275kV Proposal	New 132kV Proposal	Changes
Voltage	275,000	132,000	Lower voltage
Capacity	720MVA	348MVA	Less capacity
Typical tower height	46 metres	27 metres	Average reduction of over 18 metres
Number of towers	60	61	One additional tower
Average towers footprint	8 metres by 8 metres	6.5 metres by 6.5 metres	
Steel per tower	12 tonnes	6.15 tonnes	
Dalchork substation size	285 x 239 metres	240 x 120 metres	Less than half the size
Supergrid transformers	Two with space for another two	None	No upgrade of roads or bridges required for abnormal loads



PL1 Tower



L7 Tower