

Non-technical summary

The process which will be undertaken at the Sumitomo Electric Cable facility at Nigg Port is the manufacture of submarine (undersea) electrical cables.

The Sumitomo Electric Cable facility at Nigg Port will manufacture submarine electrical cables in a purpose-built 275-meter long factory. The facility includes several key buildings:

Main Factory: This is where all the cable production takes place.

Vertical Cable Building (VCB): A tall building with a machine that helps strand the cables.

Warehouse: Stores raw materials and testing equipment.

Shielding Room: A small building used for high-voltage cable testing.

HGV Unloading Area: Where large shipments of materials are unloaded.

The process of making a submarine High Voltage Direct Current (HVDC) cable involves forming the conductor (the part that carries electricity), adding protective layers, and ensuring the cable is waterproof.

The main steps include:

Conductor Formation: Copper or aluminium strands are used to make the conductor, which is then coated with semiconducting material.

Insulation: A special plastic is used to insulate the conductor, keeping it safe from high voltage.

Waterproofing & Armouring: The cable is coated with bitumen and protected with layers of polypropylene yarn and steel wire to ensure it can withstand conditions on the seabed.

There are also two molten lead furnaces to create a metal sheath for the cable, and a bitumen heating process for waterproofing. Both processes have safety measures in place to handle emissions.

Emissions:

The factory has two main sources of air emissions: from the lead melting furnaces and from the bitumen coating process. Both are filtered before being released into the air.

Minor emissions are also expected from the cable curing process, but these are controlled with carbon filters.

Noise:

Noise from the factory will be low, as most production is indoors. External equipment like HVAC systems will be enclosed to reduce noise. A noise survey was conducted, and while some noise may be heard at night, the overall impact is considered minimal.

This facility is in a rural area near the Port of Nigg, which already has industrial activities, so the overall environmental impact from this facility will be low.