

Press release
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Secure connection between Haslital and Obergoms

A number of options for the new extra-high-voltage line between Innertkirchen and Ulrichen are on the table

Swissgrid has submitted a range of planning corridors for the construction of a new extra-high-voltage line between Innertkirchen and Ulrichen to the Swiss Federal Office of Energy (SFOE) to kick-off the sectoral plan process for transmission lines (Sachplan Übertragungsleitungen, SÜL). The options include overhead lines as well as underground cable corridors and also make use of the multi-functional Grimselbahn tunnel.

Most of the roughly 27-kilometre-long extra-high-voltage line between Innertkirchen (BE) and Ulrichen (VS), which currently leads over the Grimsel Pass, is now over 60 years old and needs to be upgraded. The modernisation will also encompass an increase in voltage from the existing 220 kilovolts (kV) to 380 kV across the board. The increase in capacity is necessary in light of the federal government's energy strategy, in order to transport the increasing electricity production from hydropower in the cantons of Bern, Valais and Ticino to the Swiss Central Plateau and to permanently enhance the security of supply throughout Switzerland.

Launch of the sectoral plan process

At the start of July 2020, Swissgrid submitted an application to establish a planning corridor between Innertkirchen and Ulrichen to the Swiss Federal Office of Energy (SFOE) in the federal government's sectoral plan process. As a first step, Swissgrid developed a range of possible corridors, geographic areas in which a route can be established with a certain transmission technology – overhead line or underground cable – during the further course of the project.

Next, a monitoring group appointed by the SFOE will discuss the proposed planning corridors and assess the effects on regional planning, the environment, technology and costs. The monitoring group's recommendation then moves to the public collaboration stage. The plan is for the federal government to reach a decision on the planning corridor and the transmission technology between Innertkirchen and Ulrichen by the end of 2022.

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Various overhead line and underground cable options are feasible

Swissgrid has developed three main corridors, some of which include sub-variations:

1. **«Overhead line» option:** The overhead line corridor runs along the valley floor between Innertkirchen and Handegg. From Handegg to east of Oberwald it passes through high-Alpine terrain. On the Valais side of the Grimsel Pass, the corridor crosses Obergoms near St. Niklaus and leads along the southern flank of the valley to Ulrichen.
2. **«Partial underground cabling» option:** The corridor remains an overhead line until Handegg. Afterwards, the line is installed as an underground cable, largely in existing tunnels, until it reaches Obergoms. Five options exist for the tunnel portals on the Valais side between St. Niklaus and Ulrichen. From this point, the corridor continues as an overhead line.
3. **«Extended underground cabling» option:** The corridor runs underground from Innertkirchen to Obergoms – either in a newly constructed tunnel until Handegg and, from there, in largely existing tunnels as per version 2, or in the multi-functional Grimselbahn tunnel, which leads from Innertkirchen to Oberwald. Corridor options as an overhead line or underground cable are then possible between Oberwald and Ulrichen.

Each of the submitted versions has specific advantages and disadvantages with respect to regional planning, the environment, technology and economic viability. Overhead lines offer advantages in efficiency and the duration of repairs, while underground cables have advantages with regard to aesthetics, scenery and acceptance. On the other hand, the technical challenges in the extra-high-voltage grid increase with the number of sections of cable that are laid underground. Besides this, the costs of a line section are higher when underground cables are used.

The tunnel version incorporates the use of existing power plant tunnels for the underground cabling as well as the construction of new tunnels. Swissgrid is aware of the advantages of bundling large, linear infrastructures, especially with regard to landscape conservation, and checks for potential synergies in all its line projects. The proposed combination of the rail tunnel and underground cable is a sub-version that takes account of the particular circumstances that exist for the Grimsel Pass. In a feasibility study (2015) and in a detailed technical analysis (2019), Grimselbahn AG showed that the project involving a multi-functional tunnel is fundamentally technically feasible and has the potential of attaining approval.

Considerable relief for residential areas

The one thing common to all of the potential corridors submitted by Swissgrid is the relief they provide for residential areas in and around Innertkirchen, Guttannen and Obergesteln. In some cases, the existing line leads right through the centre of these villages and restricts their development. By contrast, the new line will bypass the residential areas – irrespective of the transmission technology used. Besides this, the burden on Innertkirchen will be eased by two additional Swissgrid projects, the planning and technology of which are closely linked to the Innertkirchen – Ulrichen project.

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Firstly, Swissgrid is planning a new line connection for the Innertkirchen substation. Three overhead lines currently run through the centre of the village from the north. In future, they will be bundled and routed to the substation in an underground tunnel. The associated corridor versions are currently being reviewed in a separate sectoral plan process. Swissgrid is planning to commission the new line connection by the end of 2026 and then dismantle the overhead lines that pass through Innertkirchen by the end of 2027.

Secondly, Swissgrid will be replacing the outdated outdoor switching substation in Innertkirchen with a modern gas-insulated substation (GIS). It will be prepared for all technical versions of the new line between Innertkirchen and Ulrichen (underground cable or overhead line). The new 220 kV GIS – the largest in Switzerland – is expected to start operation in the autumn of 2020 and the existing outdoor switching substation will be dismantled by April 2021.

In dialogue with the public

Dialogue with the citizens, municipalities, authorities and associations is very important to Swissgrid. Swissgrid and Grimselbahn AG will be holding information events on the project on Thursday, 17 September in Innertkirchen (BE) and on Friday, 18 September in Oberwald (VS).

More detailed information on the grid project: www.swissgrid.ch/innertkirchen-ulrichen
Grimselbahn AG website: www.grimseltunnel.ch

Further information: media@swissgrid.ch or call +41 58 580 31 00.

Powering the future

Swissgrid is the National Grid Company. As the owner of the Swiss extra-high-voltage grid, it is responsible for operating the grid safely and without discrimination and for maintaining, modernising and expanding the extra-high-voltage grid efficiently and with respect for the environment. Swissgrid has around 500 skilled employees from 20 countries at its sites in Aarau, Prilly, Castione, Landquart, Laufenburg, Ostermundigen and Uznach. As a member of the European Network of Transmission System Operators (ENTSO-E), it is also responsible for tasks in the fields of grid planning, system management and market design in the European exchange of electricity. The majority of Swissgrid's share capital is jointly held by various Swiss electricity companies.