

Audit of business continuity management with a focus on the effects of a power shortage

Swiss Federal Railways and Federal Office of Transport

Key facts

SBB is the largest rail transport company in Switzerland. It operates passenger and freight transport services and, as the system leader for traction power supply, also supplies other infrastructure operators. Rail transport consumes 2,300GWh of electricity per year, while the group uses an additional 300GWh. Risks to energy supply have increased across Europe due to the war in Ukraine. An electricity shortage has been a real possibility since the winter of 2022/23 in particular.

The Swiss Federal Audit Office (SFAO) examined whether SBB is prepared for an energy or electricity shortage, and whether the railways can be kept running for as long as possible in the event of a shortage thanks to precautionary measures.

SBB is clearly well prepared. Cooperation with the Federal Office of Transport (FOT) and the sector is working well. However, the SFAO recommends consolidating the measures already taken within the established structures. As things stand, a power shortage will remain a significant risk in the future.

Although SBB is well prepared, cyclical network shutdowns would bring the railways to a standstill

SBB has adequately addressed the risk of a power shortage as part of its business continuity management. The measures are based on broad-based and comprehensive analyses. SBB's work was carried out in close collaboration with the sector and the FOT.

Findings from the preparatory work indicated both the possibilities for measures and the limits of railway operations in the event of a power shortage. Electricity consumption can be reduced by a maximum of around 15% with a 30% reduction in services. Resuming full operation afterwards is complex. The railway infrastructure must be fully maintained and supplied with electricity during railway operations, even with a reduction in services. Due to the existing dependence on the supply of household electricity from local distribution grid operators, any grid shutdowns ordered by the authorities for just a few hours would lead to a complete shutdown of the railways. It would take several weeks to restore emergency operation and months to restore full (normal) operations.

The FOT is aware of the possibilities and limitations facing rail transport in the event of a power shortage, and the severe consequences of cyclical network shutdowns. The SFAO recommended that the FOT regularly make the relevant stakeholders aware of these consequences and the necessary requirements for the implementation of management measures for the railways.

Dependence on household electricity will remain in the long term – structures must be strengthened

SBB has taken measures to improve its independence with regard to electricity supply in the long term. It is not possible to reduce dependence on household electricity for the operation of the railway infrastructure, or for monitoring and controlling the railway power supply.

In the event of a power shortage, the temporary structures set up to prepare and implement measures are appropriate. The SFAO recommends that SBB operationalise them and further consolidate measures.

In order to secure the railway power supply in the long term, cost-intensive power plant renewals and production expansions are necessary. Financing has not yet been clarified. SBB is in dialogue with the Federal Department of Finance, as its owner, and the FOT. Prompt decisions in this area are vital.

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