

# Audit of risk management in the Lötschberg base tunnel project

BLS Netz AG

## Key facts

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The current Lötschberg base tunnel (LBT) is reaching its capacity limits and is to be expanded. Currently, only about 40% of the tunnel's total length can be used as a two-track line. Parliament approved the partial extension in 2019. BLS was commissioned by the Federal Office of Transport (FOT) to equip the already excavated 14km tunnel between Ferden and Mitholz with railway infrastructure. Investments of CHF 1.05 billion are planned for this. In autumn 2023, Parliament is expected to decide whether the partial extension should be maintained or whether a full extension should be realised. In this case, another 7 kilometres would have to be excavated so that the trains can travel through the tunnel on two tracks. The estimated investment for the full extension amounts to approximately CHF 1.55 billion.

The Alptransit organisational unit was set up within BLS to implement this project. As overall project manager, Alptransit is responsible for its implementation.

Against this background and in view of the long duration of the project (the LBT partial extension is expected to be operational by the end of 2033), the Swiss Federal Audit Office (SFAO) audited the risk management (RM) of the LBT project in this early project phase. In principle, project RM aims to identify opportunities and risks at an early stage, to assess them and to manage them with measures in order to significantly support the project's success.

The results of the audit show a varied picture. The LBT project incorporates the BLS requirements for RM. This means that the key processes and instruments for successful RM are in place. However, there is still room for improvement in the implementation.

### **The LBT project deviates from the BLS standard when it comes to risk management**

It is standard practice for BLS projects to be managed in the project management tool (PM tool). Risk and measures management is supported by workflows in the system and mapped in a 4x4 risk matrix. Contrary to this standard, the LBT project, due to its size, manages its RM in an Excel-based 6x6 matrix. On the project side, there are no plans to transfer the LBT RM to the PM tool. Due to the susceptibility to errors observed when working with Excel, BLS should examine a possible transfer to the PM tool. The SFAO has issued a recommendation in this regard.

### **Not all risks with possible cost consequences are monetised**

In the LBT project, only risks with the main risk driver "total costs" are monetised. However, main risk drivers such as "quality" or "deadline" are not monetised and included in the final cost forecast. This approach does not go far enough and is not fully in line with the requirements of the directive on the "Implementation of railway infrastructure developments" of

the Federal Department of the Environment, Transport, Energy and Communications (DE-TEC). As a result, there is a risk that not all risk costs are shown in the final cost forecast as required, and that important steering information is therefore missing both internally at BLS and at the FOT. The SFAO has issued a recommendation to this effect.

#### **Need for clarification in the risk strategies for defining measures**

At the time of the audit, different risk strategies were defined in various documents in the LBT project. Furthermore, there are different opinions regarding the validity of these requirements. There is a need for swift clarification and follow-up communication here, especially since the two guidelines are not known to the users. For this reason, the SFAO recommends defining a risk strategy and communicating it.

#### **Systematic risk-measure control mechanism not in place**

The measures defined for risk management are scheduled in project phases or defined as "ongoing". There is no substantive plan of measures, which shows possible costs, deadlines or services. This means that there is no central basis for a functioning control system for measures. Without such monitoring, a key management tool in risk and project management is missing. The SFAO therefore recommends that a systematic measure control mechanism be installed in the project.

**Original text in German**