INP Reference

Renewal of grid connection - hydropower plant

LOCATION: Albbruck, Germany

SYSTEM/TECHNOLOGY: Grid connection 110-kV plant

SERVICES: Basic-engineering and pre-engineering, Solution development / Feasibility studies

INDUSTRY BRANCH/TYPE OF PLANT: Power Generation

CLIENT: Schluchseewerk AG

ACTIVITY PERIOD: 2022

Project description

The Rheinkraftwerk Albbruck Dogern (RADAG) is a run-of-river power plant on the Rhine, in the district of Waldshut on the border to Switzerland. The plant consists of 3x 40 MVA machine sets near Albbruck and another 32 MVA machine set at the Dogern weir 3 km away. All machines are connected to a busbar in the 110 kV RADAG plant and to the 110 kV grid via three outgoing 110 kV overhead lines.

In a preliminary project, Schluchseewerk AG investigated whether the grid connection should be changed from an overhead line connection to a cable connection in the future and what options are available for this. The background is a possible cabling of the outgoing overhead line and since the 110 kV RADAG plant is a special design with installation above the outlet of the machine sets, extensive measures on the power plant‘s own switchgear are necessary for this.

INP Services

INP‘s services included supporting the customer in the conceptual design of a cable connection to the 110-kV grid connection. The services provided by INP were:

1) Creation of a concept for a cable connection of at least two outgoing 110-kV cables in the 110-kV existing plant. Based on the connection concept, determination of the rough costs and the power plant impairments during the conversion period.

2) Preparation of a concept for the replacement of the existing 110-kV switchgear with a 110-kV GIS system and cable connections to the machine transformers and outgoing power cables. Determination of the rough costs and power plant impairments during the conversion period to the GIS plant.

3) Preparation of a connection concept in order to optionally connect a part of the power plant output to the Swiss 110 kV grid via an additional 110 kV grid connection. Determination of the rough costs and power plant impairments during the conversion period.

POINTS OF CONTACT

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