

Refurbishment of Niederwartha Pumped Storage Power Plant Dresden / Germany

Client

Vattenfall Europe Generation AG & CO KG
 Cottbus / Germany

Consultant

IUB Engineering Ltd
 in consortium

Construction period

2007–2010

Construction costs

€ 120 million

Scope of services

Construction project,
 draft & approval planning,
 some tendering
 (detail / main project)

Description

New construction of pit power house,
 intake/outlet structure and refurbishment of
 penstock pipelines.

Responsibility within engineering consortium
 for planning electromechanical equipment:

- Variable speed pump turbine 120 MW including all auxiliary systems
- Variable speed asynchronous generator/motor 145 MVA with VSI activation via rotor
- Energy transmission
- Machine transformer
- Connection to 110 kV transmission network
- MV and LV sub-stations
- Ancillary facilities
- Auxiliary power requirement HPP / 1 MW with synchro generator incl. all auxiliary systems and secondary structures
- Refurbishment of penstock pipelines incl. refurbishment of all mechanical components
- Redevelopment of old plant
- EI&C upgrades for all equipment

Main Data

Pump operation:

Nominal discharge	73.5 m ³ /s
Nominal pumping	149 m
Nominal pump output	120 MW

Turbine operation:

Nominal water volume	108.5 m ³ /s
Nominal net head	129.5 m
Turbine output	120 MW
Speed	272.5-232.5 rpm

