

INP Reference

Planning of river water heat pump system

LOCATION: Bremen, Germany

SERVICES: Pre-project planning and tendering, Basic-engineering and pre-engineering

INDUSTRY BRANCH/TYPE OF PLANT: Green Energy

CLIENT: swb Services GmbH

ACTIVITY PERIOD: 12/2023 to approximately 2027

Project description

swb Services GmbH is planning to build two river water heat pump systems in the “Vordere Neustadt” district of Bremen, each with a thermal capacity of 2×5 MWth and 2×2 MWth. The aim is to use environmental heat from a branch of the Weser River or the Weser itself, through heat pump technology and feed it into the municipal district heating network. INP was ordered with the project-specific engineering including the review and refinement of existing urban development preliminary plans and convert them into plans that are suitable for approval and tendering.

INP was ordered to verify and supplement the existing preliminary investigations. This included the planning of the intake and discharge structures, the sizing of the heat pumps, the routing of the media supply lines, the connection to the district heating network, and coordination with the approval authorities and specialist planners. In addition, the tender for the plants was to be structured and prepared. The collaboration took place in close cooperation with the swb project management team.

INP Services

INP provided the following services:

- Review of existing documents for technical compliance and approval preparation
- Engineering and sizing of heat pump systems, including selection of possible technologies
- Planning of intake/discharge structures with dyke crossing
- Route planning for river water and district heating pipeline
- Preparation of tender documents, including lot structure for:
 - Heat pump systems (including EMSR and electrical engineering)
 - Operating buildings, including building services, air conditioning, and ventilation
 - Thermal energy storage
 - Intake/discharge structures with filters, pumps, and shut-off valves
- Support for approval planning by providing planning documents and coordinating with experts and public authorities

POINTS OF CONTACT



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INP Reference

- Detailed cost planning