

# Natural Gas Storage Cavern Project at Peckensen, Germany

## Part 2

### Leaching Facilities

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## 1 Project requirements

The leaching plant and the solution mining process itself adjust to the general technical concept of the Peckensen/Ellenberg natural gas storage project. Therefore the same principles and guidelines were imposed on design, construction and operation of the leaching facility as on the other parts of the project. That means:

- Reduction of investment costs to a minimum
- Short erection time
- Implementation of the cavern construction process with low operation costs
- Only those technical solutions were permissible which are environmentally friendly, corresponding to the legal requirements and accepted by the public

It is obvious that such strict project requirements must lead inevitably to constraints in the design and development of processes and equipment. The following is to show, by what measures and solutions these requirements have been met and what risk was therefore taken.

## 2 Process Technology

### 2.1 General description of the leaching technology

The fresh water for leaching the cavern is supplied by a sewage treatment plant of the town Salzwedel (located in Gerstedt). After intake from an intermediate storage pond with a capacity of 150,000 m<sup>3</sup> (5 MMft<sup>3</sup>) the water is pumped through a steel pipeline of 16 km length (10 miles) where it feeds directly the leaching process pump without any intermediate storage. The leaching station, located near the village Ellenberg, consists of

- 1 leaching pump with a nominal capacity of 200 m<sup>3</sup>/h (118 ft<sup>3</sup>/min)
- a compact nitrogen plant for blanket supply
- tanks for degassing the brine coming out of the cavern
- a flow rate metering system
- 1 brine injection pump for disposing the brine off in deep horizons
- the manifold for the brine injection wells

The leaching process pump feeds the cavern located about 1,250 m (0.8 miles) far from the leaching plant. The cavern well site is equipped with a water/brine cross-over for switching from direct to reverse leaching and vice versa and the necessary safety equipment for preventing impacts on the water and brine system resulting from damages of the leaching strings.