

Conversion of Abandoned Salt Mine Near Cracow into Gas Storage Site

by

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1. Background of the Project.

The Salt Mine „Siedlec-Moszczenica” situated in the village „Siedlec”, near Bochnia about 35 km east of Cracow (Fig. 1) had been erected in years 1976-1989. According to the primary plans the mine was to produce brine for the Cracow Soda Plant „Solway” and the Tarnów Chemical Plant, as a back-up producer to substitute the „Bochnia” and „Łęzkowice” mines to be liquidated. The limited amount of the rock-salt was to be produced in the mine as well. A very long time of the mine construction was caused mainly by the Polish state economical crisis in the eighties. Finally the mine started operation in January 1989 and as soon as in July 1991 was according to the Decision of the Minister of Industry and Trade put into liquidation. The reasons of the decision were connected with the closing of the Cracow Soda Plant „Solway”, the lack of interest for the brine from the Tarnów Chemical Plant, the high production cost and the poor prospects for the profitable production of rock-salt.

The total volume of the underground workings of the mine exceed 250 000 m³, so the cost of the traditional liquidation would be significant. The mine is generally in good technical shape, so several concepts of using the space was developed. At first the underground storage of the hazardous industrial waste was to be prepared there. However the fierce protest of the local community caused by the lack of proper information decided of giving up the idea. Finally the underground natural gas storage was taken into consideration. There are numerous pro's for such a solution :

- the good technical condition and considerable volume of the underground workings;
- a very close distance from the mine to the main transfer gas pipe-lines - about 3 km;
- a leak tightness of the salt deposit, not disturbed by the mining operation;
- the general demand in Poland and in the region for the gas storage (especially peak shaving);
- the examples of successful completion of similar projects (including Burgraf - Bernsdorf mine).