

## **Abstract**

Generally it is sufficient to use axi-symmetric models for the numerical calculations of caverns in rock salt, especially in the design of new caverns. But in some cases this simplification can not be accepted if these assumptions are not conservative enough or lead to economical less favourable recommendations.

The assessment criteria for the results of the numerical calculations have to be attached to the same level of safety if either a two or a three dimensional model is applied.

The existing four gas caverns at Huntorf show geometrical configurations that can not satisfactorily be described by an axi-symmetric model. Therefore, it was necessary to use 3D- models for a new recommendation of the maximum gas pressures.

The paper presents the process of 3D- modelling and the assessment of the calculated results with respect to the recommendation of the maximum permissible pressure for each individual cavern at Huntorf.

**Keywords:** Cavern Design, Rock Mechanics, 3D- Calculations