

## **PLANT SCREENING “ENGINEERING EVALUATION AND ASSESSMENT OF PLANT COMPONENTS WITH AN EXAMPLE OF A CAVERN”**

Monika Uhmann

Dr.-Ing. Veenker Ingenieurgesellschaft mbH, Leipzig, Germany

### **About the Author**

Mrs. Uhmann is the authorized officer at VEENKER and manages the bureau in Leipzig for more than 10 years. She studied at Gubkin University in Moscow with specialisation in Engineering Gas and Oil.

### **Abstract**

Cavern operators intend to determine the required investment volume for the next years based on a system evaluation. This presupposes that all plant components are recorded and analyzed in-depth.

A cavern operator asked us for an engineering evaluation and assessment of his plant components. As a complex investigation program had just started at that time, exact information concerning the investment volume could not be provided.

To obtain reliable results, however, the plant components were assessed based on experience of the staff, contractors and specialist companies and classified in a first schematic assessment grid.

To make this schematic assessment as objective as possible, the failure probability for each plant component was determined as a result of operational issues and experience, design, wear including corrosion and third party impact. Furthermore, the impact of a possible failure was determined with respect to safety/health/fatalities, public impact/damage to reputation, environmental consequences and financial aspects.

Based on our rating schedule, we compiled maintenance and repair costs for the cavern operator's plant components over a specific period of time. We would like to share with you our project experiences and the results we have obtained in solving this task and introduce you to our assessment approach to determining the investment volume for the coming years.

**Key words:** Assessment, Integrity, Pipeline, Gas, Oil, Risk, Probability, Failure probability, Plant Components