

Design, technology and experience of cavern construction at Kaliningrad UGS in Russia

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Abstract

Construction of the first caverns of underground natural gas storage in Kaliningrad commenced in January 2010. Kaliningrad UGS is designed for controlling seasonal and peak variations in gas consumption in Kaliningrad region of the Russian Federation and also for short-term supply of gas to the region in case of gas pipeline accidents. The report describes storage designing and cavern construction management. It touches upon geomechanical calculations and cavern construction techniques. The peculiarities of underground storages construction by extending their volume during operation are discussed. The requirements for the initial configuration of underground storage to be 45% extended during operation are determined. Preliminary data obtained during first cavern leaching are given.

Key words: UGS, Natural gas, Kaliningrad UGS, Construction