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New generation shale oil plant: design, construction and commissioning

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Development of solid heat carrier technology for oil shale processing proceeded independently in various countries during the last century. Technology approaches differ from each other widely, but the basic principle remains the same – mixing crushed oil shale with hot solids in an air-free environment. Among others, the GALOTER technology has a long development history that ended in 1980 with construction of two commercial units of 3000 tonnes per day each. After that time, development almost stopped for 25 years. Based on basic principles of the GALOTER process, a new modified technology was developed and a new first-of-its-kind commercial unit was designed in 2006-2007, followed by construction of the plant in 2008-2009. The presentation describes fully the process of design, construction, and commissioning of this new generation solid heat carrier shale oil processing plant. Schedules, overall budget, financing principles, and the design and construction process will be explained, as well as crucial bottlenecks of the construction period. Some examples of technical solutions and process modifications will be given. Forecasted operating conditions based on design oil shale will be explained. As a conclusion, the presentation will give some assumptions for using the same process concept for processing of oil shale from different locations.