عنوان مقاله:

Power Consumption Minimization of Khormoj Compressor Station

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خلاصه مقاله:

Arguably, the natural gas transmission pipeline infrastructure in Iran represents one of the largest andmost complex mechanical systems in the world. The optimization of large gas trunk lines known asIGAT results in reduced fuel consumption or higher capability and improves pipeline operation. In thecurrent study, a single-objective optimization was conducted for Khormoj compressor station on theIranian gas trunk line V (IGAT5). The system consists of over 504 kilometers of 56-inch pipelinefrom South Pars to Aghajari. This system passes through a tortuous terrain with changes in elevationwhich makes the optimization process even more challenging. Genetic algorithm (GA) was used inthis optimization along with detailed models of the performance characteristics of compressors. Theresults show that in stations having the same compressor in parallel the minimum power (energy)consumption is reached when split flow in all the compressors is the same.

کلمات کلیدی:

Compressor Station, Single and Multi-objective Optimization, Genetic Algorithm