

## عنوان مقاله:

(Exergy Recovery in Gas Pressure Compression Stations (GPCSs

## محل انتشار:

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## خلاصه مقاله:

The exergy analysis is a proper method for performance evaluation of industrial systems. A generic and detailed analysis of the GPCSs on the second gas pipeline of Iran is made by the means of exergy. The two main improvement measures of fuel pre-heating and steam injection technologies are presented for the current conventional stations. Steady state equations regarding the second law of thermodynamics and the chemical and physical exergy analysis are presented as well. The results indicate that the improved cycle is a more energy saving one, with an overall efficiency and net output power. The exergetic efficiency of every gas turbine of the improved station is increased by ۳۱% in average and their exergy destruction is decreased by ۸۴%. The amount of total exergy saving for the case study would be ۵۵۲ MW. A higher overall efficiency can be achieved by an increase in both the turbine inlet (temperature (TIT) and steam mass flow (SMF

## کلمات کلیدی:

Gas Compression Stations, Steam Injection, Exergy Analysis, Exergy Destruction

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