

عنوان مقاله:

Energy Optimization of the Sweetening Unit of Gachsaran Natural Gas Refinery by the Use of Vapor Recompression

محل انتشار:

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خلاصه مقاله:

Globally, Iran ranks ۶th in natural gas production. Producing over ۱ billion cubic feet of dry natural gas, the Gachsaran gas refinery is a major revenue source for the country. Tens of thousands of barrels are sent to the Bandar-e-Emam petrochemical plant every day, and the Gachsaran oil and gas refinery always aims to partially supply the feed for this petrochemical complex by sweetening sour natural gas feed containing some H₂S and CO₂. Due to the high energy consumption of the sweetening unit, energy optimization of this process is significant. Vapor Recompression Column was used for optimizing sweetening process energy in the Gachsaran gas unit, and the distillation column's top vapor was compressed to transfer its thermal energy to the bottom. The results show that Vapor Recompression Column consumed about ۷۵% less energy than the conventional process mostly due to warm and cold utility savings. The output pressure of the compressor added in this process was calculated accurately. If the compressor output pressure .increases excessively, this method becomes inefficient and uneconomical

کلمات کلیدی:

شیرین سازی گاز ترش، گاز طبیعی، تراکم بخار، بهینه سازی انرژی

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