

عنوان مقاله:

SIMULATION AND OPTIMIZATION OF STEAM NETWORK IN PETROLEUM REFINERIES

محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

Dominated Energy crisis in the world dictates to reduce energy consumption and identify energy saving opportunities in large and complex industries especially in oil refining industry. In this regard, steam networks in oil refineries must be analyzed and then optimized well. This causes that optimum conditions must be determined, energy saving potentials identified and operating costs reduced consequently. In this paper, a proper case study (Tehran oil refinery) is considered and its steam network analyzed. At the first step, through using STAR4 software, the system model is first simulated, and the pressure and temperatures of the steam main fixed. The model is then optimized using a linear program with the temperature of mains fixed. The network is simulated and optimized. Then, the results, which belong to both existing and optimized conditions, are analyzed; ultimately, considerable results such as fuel cost, heat load of process, and total annualized cost are determined.

کلمات کلیدی:

steam network, oil refinery, simulation, optimization

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