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Gas Sweetening Process Simulation: Investigation on Recovering Waste Hydraulic Energy

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Abstract : In this research, firstly, a commercial gas sweetening unit with methyl-di-ethanol-amine (MDEA) solution is simulated and comprised in an integrated model in accordance with Aspen HYSYS software. For evaluation purposes, in the second step, the results of the simulation are compared with operating data gathered from South Pars Gas Complex (SPGC). According to the simulation results, the considerable energy potential contributed to the pressure difference between absorber and regenerator columns causes this energy driving force to be applied in power recovery turbine (PRT). In the last step, the amount of waste hydraulic energy is calculated, and its recovery methods are investigated.

Keywords : gas sweetening unit, simulation, MDEA, power recovery turbine, waste-to-energy
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