MODIFIED CLAUS PROCESS APPLIED TO NATURAL GAS FOR SULFUR RECOVERY

Nicuşor Vatachi
"Dunărea de Jos" University of Galați

ABSTRACT

Approximately 25% of the natural gas being brought into production from new sources requires H_2S removal and disposal. Consequently, sulfur removal processes will play an increasingly larger role in future gas processing. As late as 1950, over half of the world sulfur supply came from "voluntary producers," that is, companies whose principal purpose was to produce elemental sulfur. Now, these producers furnish less than 5% of the world's supply and "involuntary producers," primarily petroleum refineries and natural gas plants, are the major source of the element .The most common method of converting H_2S into elemental sulfur, is the Claus process or one of its modifications. Unfortunately, the exit stream from Claus plants cannot usually meet environmental emission requirements, and, consequently, a tail gas cleanup unit (TGCU) is often employed to eliminate the last of the sulfur compounds. The most commonly used processes are Shell Claus off Gas Treating (SCOT), SUPERCLAUS, and cold-bed adsorption (CBA). This paper describes Claus and tail gas cleanup processes.

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