

BENFIELD PROCESSES FOR SNG OR FUEL GAS PURIFICATION. D. H. McCrea and H. E. Benson. The Benfield Corporation, 666 Washington Road, Pittsburgh, Pa. 15222

Processes to produce Substitute Natural Gas or fuel gas from liquid hydrocarbons or coal reject excess carbon as CO_2 . In addition, a portion of any sulfur initially in the feed appears in the gas, principally as H_2S . In producing SNG, both CO_2 and sulfur compounds, if present, must be removed. However, it is often advantageous to remove the bulk of sulfur compounds while minimizing CO_2 removal when producing gas for turbine or boiler fuel. While purification methods have not received the coverage of gasification and methanation techniques, purification is an essential step in all gasification processes that can significantly affect overall cost and reliability. This paper discusses the use of Benfield potassium carbonate processes for SNG or fuel gas purification. Process chemistry is described as are means of selective absorption and concentration of H_2 . Benfield systems designed for use in producing SNG from naphtha, from heavier hydrocarbons, and from coal are outlined and their investment and operating costs given. Systems for purification of low BTU fuels are also discussed. Operating data from commercial units are presented.