

385a A Regenerable Adsorption System for the Removal of Carbonyl Sulfide and Hydrogen Sulfide from a Syngas Stream Using Novel Adsorbents

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Integrated Methanol and Power Production from Clean Coal Technologies (IMPPCCT) has emerged over the past decade as a viable and environmentally sound process. In order to maximize the potential of this technology, the synthesis gas must be free of contaminants, in particular, sulfur compounds. Nucon International, Inc. in conjunction with Conoco Phillips Company (in a project managed by the National Energy Technology Laboratory under U.S. Department of Energy Cooperative Agreement No. DE-FC26-99FT40659) have tested a number of novel impregnated activated carbons for the removal of hydrogen sulfide and carbonyl sulfide from a synthesis gas stream. Laboratory studies were followed by a pilot scale test of a regenerable adsorption system under field conditions. All preliminary data suggests that the removal of hydrogen sulfide and carbonyl sulfide via chemisorption is a viable technology.