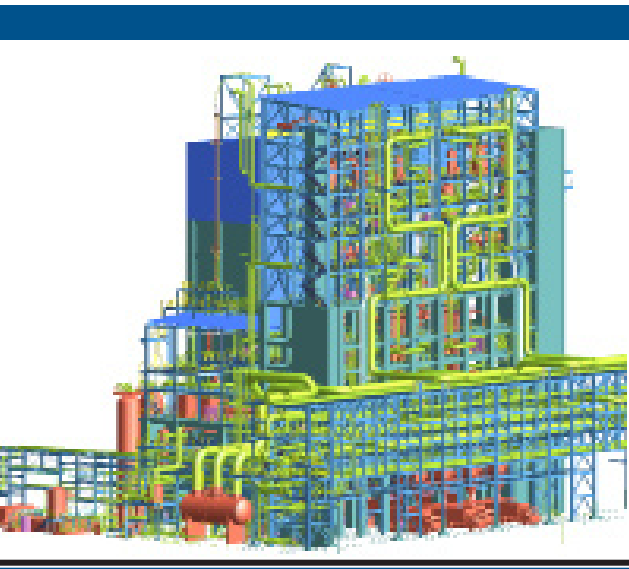


Ningxia Coal Based Propylene Project: Basic Engineering Design - Gasification Unit

Yinchuan, Ningxia Province, People's Republic of China



Client

Shenhua Ningxia Coal Industry Group Co. Ltd. (SNCG)

Project Value

USD\$ 500 million

Project Scope

Basic Engineering Design (BED)

Technologies

Coal Gasification Technology Licensor: Siemens Fuel Gas Technology, of Germany (SFGT)

Period of Work

October 2007 – July 2008 with Ongoing Support for Detail Design to the end of 2008

Project Description

SNCG has developed a Coal Based Heavy Chemical Industry at Ningdong Energy & Heavy Chemical Base, Yinchuan in the Ningxia Autonomous Region, PRC. The project is a grass-roots development, comprising Coal Preparation, Coal Gasification, CO Shift, Rectisol™, Methanol Synthesis, Methanol To Propylene (MTP™) and Polypropylene process steps to produce 520,000 metric tonnes per annum of polypropylene. The Coal Gasification plant is designed to produce adequate raw gas (CO+H₂) in order to provide for downstream synthesis of 5,000 t/sd of Methanol. The by-product water is treated in the Black Water Treatment (BTW) plant. The plants are designed for continuous operation for 3 years between major shutdown periods. There are 5 trains of Gasifiers, 5 trains of Blackwater Flash units and 3 trains of Black-water Treatment (BWT) Plant. The planned Raw Gas Production (CO+H₂) at normal operating conditions is 520,000m³/hr with 4 gasifiers on-line operating at 4.1MPa(g).

The gasifier technology was provided by SFGT for USAPL and its Chinese based partner, design institute Huanqiu Contracting & Engineering Company (HQCEC), to develop into a Basic Engineering Design package. This front end engineering work comprised some 80,000 man hours for each of USAPL and HQCEC, with the majority of the work being undertaken in the USAPL offices in Melbourne, Australia.