



## **YUANPING CHEMICAL COMPANY LIMITED**

### **Convert Air Gas Making Process into Oxygen Enrichment Gas Making Process**

#### **SUMMARY OF THE OPTION**

Yuanping city Chemical Co. Ltd is a middle-sized chemical plant with 1679 staff, located in Shanxi Province in China and is Asia's largest producers of oxalic acid, and also produced products like sodium format and formic acid.

During the assessment of the synthesis furnace in the synthesis plant, the Team learnt that the gas-making furnace uses coke and air to make CO gas. This process consumes 40% more coke than theoretical value and yields a very low percentage of CO and very high percentage of N<sub>2</sub> (68.4%), which in turn causes too much power consumption in the gas compress process. The Team asked for the possibility to change the current air gas-making process into oxygen enrichment gas-making process. The company has been considering the oxygen enrichment process for a long time and has cooperated with relevant research institutes on the study of oxygen enrichment gas-making technique. Recently, the company has spent US\$ 48,367 to make a small-scale test on oxygen enrichment gas-making technique in its branch factory. The test demonstrated that coke consumption was reduced by 20%, and concentration of CO in the gas was increased from 30% to 45~50%. And the power consumption in the follow-up compress process was reduced by 30%. But there were still some technical problems for industrial application at a larger scale, and there are potential safety hazards which must be addressed. Furthermore, financial constraint was another problem, as US\$ 0.36 million will need to modify all the gas-making furnaces into oxygen enrichment gas-making process.

#### **KEY WORDS**

China, Chemicals, Fuels and Combustion, Coal

#### **FOR MORE INFORMATION**

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