

ABSTRACT

PRADESIGN OF ISOPROPANOLAMINE PLANT FROM PROPYLENE OXIDE AND AMMONIA CAPACITY 15.000 TONS/YEAR (Design Reactor (RE-201))

By

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A plant to produce isopropanolamine from propylene oxide and ammonia is planned to be located at Tanjung Siapi-API, Palembang, South Sumatera. The plant is established by considering availability of raw materials, transportation facilities, readily available labor and environmental conditions.

Capacity of the plant is 15.000 tons/year operating 24 hour/day and 330 working days/ year. The plant required 1746,11 kg/hr propylene oxide and 2944,534 kg/hr ammonia.

Quantity of labor is around 143 people. The plant is managed as a Limited Liability Company (PT), which is headed by a Director who is assisted by a Director of Production and Director of Finance. The company is organized in the form of line and staff structure. From analysis of the plant economy is obtained:

<i>Fixed Capital Investment (FCI)</i>	= Rp 240,590,020,360,-
<i>Working Capital Investment (WCI)</i>	= Rp 42,457,062,416,-
<i>Total Capital Investment (TCI)</i>	= Rp 283,047,082,776,-
<i>Break Even Point (BEP)</i>	= 55%
<i>Shut Down Point (SDP)</i>	= 25,11%
<i>Pay Out Time after Taxes (POT)_a</i>	= 2,63 year
<i>Return on Investment after Taxes (ROI)_a</i>	= 23,75 %
<i>Internal Rate Return (IRR)</i>	= 29,17%
<i>Annual Net Profit (Pa)</i>	= Rp 67,247,410,190/year

By considering above the summary, it is suitable study further the isopropanolamine plant since plant is profitable and has good prospects.