

ABSTRAK

PRA RANCANGAN PABRIK KALIUM HIDROKSIDA DARI KCL DAN AIR DENGAN PROSES ELEKTROLISIS KAPASITAS 20.000 TON/ TAHUN (Perancangan *Reaktor Elektrolisis (RE-301)*)

Oleh

IFFAH FITRIA

Pabrik Kalium hidroksida berbahan baku kalium klorida dan air, akan didirikan di Kebomas, Kediri. Pabrik ini berdiri dengan mempertimbangkan ketersediaan bahan baku, sarana transportasi yang memadai, tenaga kerja yang mudah didapatkan dan kondisi lingkungan.

Pabrik direncanakan memproduksi kalium hidroksida sebanyak 20.000 ton/tahun, dengan waktu operasi 24 jam/hari, 330 hari/tahun. Bahan baku yang digunakan adalah kalium klorida sebanyak 3.445,114 kg/jam.

Penyediaan kebutuhan utilitas pabrik ini berupa: pengadaan air, pengadaan *steam*, pengadaan listrik, kebutuhan bahan bakar, dan pengadaan udara kering.

Bentuk perusahaan adalah Perseroan Terbatas (PT) menggunakan struktur organisasi *line* dan *staff* dengan jumlah karyawan sebanyak 158 orang.

Dari analisis ekonomi diperoleh:

<i>Fixed Capital Investment</i>	(FCI)	= Rp 203.591.529.515
<i>Working Capital Investment</i>	(WCI)	= Rp 35.927.916.973
<i>Total Capital Investment</i>	(TCI)	= Rp 237.483.531.192
<i>Break Even Point</i>	(BEP)	= 54,33 %
<i>Shut Down Point</i>	(SDP)	= 37,53 %
<i>Pay Out Time before taxes</i>	(POT) _b	= 2,32 tahun
<i>Pay Out Time after taxes</i>	(POT) _a	= 2,74 tahun
<i>Return on Investment before taxes</i>	(ROI) _b	= 28,01 %
<i>Return on Investment after taxes</i>	(ROI) _a	= 22,44 %
<i>Discounted cash flow</i>	(DCF)	= 39,35 %

Mempertimbangkan paparan di atas, sudah selayaknya pendirian pabrik ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dan mempunyai masa depan yang baik.

ABSTRACT

MANUFACTURE OF POTASSIUM HYDROXIDE FROM CHLORIDE POTASSIUM AND WATER WITH ELECTROLYSIS PROCESS CAPACITY 20.000 TONS/YEAR (Design Electrolysis Reactor (RE-301))

By

IFFAH FITRIA

Potassium hydroxide plant produced by reacting chloride potassium and water was plan to be in industrial plant in the region of Kebomas in Kediri. Plant was established by considering the availability of raw materials, transportation facilities, readily available labor and environmental conditions.

Plant's production capacity is planned 20,000 tons / year, with operating time of 24 hours / day and 330 working days in a year. The raw materials used are much chloride potassium 3.445,114 kg / hr.

Provision of utility plant needs a treatment system and water supply, steam supply systems, instrument air supply systems, and power generation systems.

Labor needed as many as 158 people with a business entity form Limited Liability Company (PT) which is headed by a Director who is assisted by the Director of Production and Director of Finance with line and staff organizational structure.

From the economic analysis is obtained:

<i>Fixed Capital Investment</i>	(FCI)	= Rp 203.591.529.515
<i>Working Capital Investment</i>	(WCI)	= Rp 35.927.916.973
<i>Total Capital Investment</i>	(TCI)	= Rp 237.483.531.192
<i>Break Even Point</i>	(BEP)	= 54,33 %
<i>Shut Down Point</i>	(SDP)	= 37,53 %
<i>Pay Out Time before taxes</i>	(POT) _b	= 2,32 years
<i>Pay Out Time after taxes</i>	(POT) _a	= 2,74 years
<i>Return on Investment before taxes</i>	(ROI) _b	= 28,01 %
<i>Return on Investment after taxes</i>	(ROI) _a	= 22,44 %
<i>Discounted cash flow</i>	(DCF)	= 39,35 %

Consider the summary above, it is proper establishment of potassium hydroxide plant to studied further, because the plant is profitable and has good prospects.