ABSTRAK

PRARANCANGAN PABRIK KALIUM HIDROKSIDA (KOH) DARI KALIUM KLORIDA (KCl) DENGAN PROSES ELEKTROLISIS KAPASITAS 30.000 TON/TAHUN (Prarancangan *Rotary Dryer* (RD – 301))

Oleh
JERI PARSAD AKRAMI

Pabrik Kalium Hidroksida (KOH) dari Kalium Klorida dan Air (H_2O) dengan proses elektrolisis, akan didirikan di daerah Karawang, Jawa Barat. 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 dengan kapasitas 30.000 ton/tahun, dengan waktu operasi 24 jam/hari, 300 hari/tahun. Bahan baku yang digunakan adalah Kalium Klorida (KCl) dan Air (H_2O).

Penyediaan kebutuhan utilitas pabrik Natrium Hidroksida terdiri dari unit pengadaan air, pengadaan udara instrument, *steam*, pengadaan listrik dan pengolahan limbah. Bentuk perusahaan adalah Perseroan Terbatas (PT) menggunakan struktur organisasi *line* dan *staff* dengan jumlah karyawan sebanyak 197 orang.

Dari analisis ekonomi diperoleh:

Fixed Capital Investment (FCI)	= Rp. 791.347.341.298,05
Working Capital Investment (WCI)	= Rp. 139.649.530.817,30
Total Capital Investment (TCI)	= Rp. 930.996.872.115,36
Break Even Point (BEP)	= 57,39 %
Shut Down Point (SDP)	= 46,08 %
Pay Out Time after Taxes $(POT)_b$	= 1,19 tahun
Pay Out Time before Taxes $(POT)_a$	= 1,69 tahun
Return on Investment after Taxes $(ROI)_a$	= 74,32 %
Return on Investment after Taxes $(ROI)_b$	= 49,05 %
Discounted Cash Flow (DCF)	= 49,42 %

Berdasarkan ringkasan di atas, sudah selayaknya pendirian pabrik Kalium Hidrosida(KOH) ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dan mempunyai masa depan yang baik.

ABSTRACT

PREDESIGN POTASSIUM HYDROXIDE (KOH) FROM POTASSIUM CHLORIDE (KCl) AND WATER (H_2O) WITH ELECTROLYSIS PROCESS 30.000 TONS/YEAR CAPACITIES
(*Rotary Dryer Design* (RD – 301))

By
JERI PARSAD AKRAMI

A Potassium Hydroxide (KOH) factory from Potassium Chloride and Water (H_2O) with an electrolysis process, will be establish in the Karawang, West Java. This factory was established by considering the availability of raw materials, adequate transportation facilities, easily available labor and environmental conditions.

The factory is planned to produce Potassium Hydroxide with a capacity of 30,000 tons/year, with an operating time of 24 hours/day, 300 days/year. The raw materials used are Potassium Chloride (KCl) and Water (H_2O).

Supplying the utility needs of the Sodium Hydroxide plant consists of water supply units, instrument air supply, steam, electricity supply and waste treatment. The form of the company is a Limited Liability Company (PT) using a line and staff organizational structure with a total of 197 employees.

from the economic analysis obtained:

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Based on the summary above, it is appropriate to study the establishment of a potassium hydroxide (KOH) factory further, because it is a profitable plant and has a good future.