

ABSTRAK

PRARANCANGAN PABRIK *PRECIPITATED SILICA* DARI BAGAS TEBU KAPASITAS 40.000 TON/TAHUN (Perancangan Reaktor (RE-101))

Oleh

ANNISA UL AKHYAR

Pabrik *precipitated silica* berbahan baku bagas tebu direncanakan didirikan di Terusan Nunyai, Lampung Tengah. Pendirian pabrik berdasarkan atas pertimbangan ketersediaan bahan baku, sarana transportasi yang memadai, tenaga kerja yang mudah didapatkan, dan kondisi lingkungan. Pabrik direncanakan memproduksi *precipitated silica* sebanyak 40.000 ton/tahun, dengan waktu operasi 24 jam/hari, 330 hari/tahun. Bahan baku yang digunakan adalah bagas tebu sebanyak 27.770,7367 kg/jam. Penyediaan kebutuhan utilitas pabrik terdiri dari unit pengadaan air, pengadaan udara *instrument*, unit penyedia listrik, dan unit pengolahan limbah.

Bentuk perusahaan adalah Perseroan Terbatas (PT) menggunakan struktur organisasi *line* dan *staff* dengan jumlah karyawan sebanyak 192 orang.

Dari analisis ekonomi diperoleh:

<i>Fixed Capital Investment</i>	(FCI)	=	Rp. 907.785.874.965,-
<i>Working Capital Investment</i>	(WCI)	=	Rp. 160.214.782.083,-
<i>Total Capital Investment</i>	(TCI)	=	Rp. 1.068.000.657.048,-
<i>Break Even Point</i>	(BEP)	=	44,6697%
<i>Shut Down Point</i>	(SDP)	=	29,1324%
<i>Pay Out Time before taxes</i>	(POT) _b	=	3,0732 tahun
<i>Pay Out Time after taxes</i>	(POT) _a	=	3,5169 tahun
<i>Return on Investment before taxes</i>	(ROI) _b	=	80,0078%
<i>Return on Investment after taxes</i>	(ROI) _a	=	64,0062%
<i>Discounted cash flow</i>	(DCF)	=	27,67%

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

ABSTRACT

MANUFACTURING OF PRECIPITATED SILICA FROM SUGARCANE BAGASSE CAPACITY 40.000 TONS/YEAR (Design of Reactor (RE-101))

By

ANNISA UL AKHYAR

Precipitated Silica plant with materials sugarcane bagasse is planned to be built in Terusan Nunyai, Lampung Tengah. Establishment of this plant is based on some consideration due to the raw material resources, the transportation, the labors availability and also the environmental condition. This plant is meant to produce 40.000 tons/year precipitated silica with operation time 24 hour/day, 330 hour/year. Raw materials used consist of sugarcane bagasse 27.770,7367 kg/hour. The utility units consist of water supply system, instrument air supply system, electrical supply system and waste treatment system.

The business entity form is Limited Liability Company (Ltd) using line and staff organizational structure with 192 labors.

From the economic analysis, it is obtained that:

<i>Fixed Capital Investment</i>	(FCI)	=	Rp. 907.785.874.965,-
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Considering the summary above, it is proper to study the establishment of precipitated silica plant further, because the plant is profitable and has good prospects.