

ABSTRACT

PRADESIGN OF SORBITOL PLANT FROM STARCH CAPACITY 60.000 TONS/YEAR (Design Liquefaction Reactor (LR-101))

**By
BIMA FIRMANDANA**

A plant to produce sorbitol from starch is planned to be located at Way Bungur, East of Lampung, Lampung. The plant is established by considering availability of raw materials, transportation facilities, readily available labor and environmental conditions.

Capacity of the plant is 60.000 tons/year operating 24 hour/day and 330 working days/ year. The plant required 4.896,96 kg/hr starch.

Quantity of labor is around 194 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. 503.119.970.159,-
<i>Working Capital Investment (WCI)</i>	= Rp. 88.785.877.087,-
<i>Total Capital Investment (TCI)</i>	= Rp. 591.905.847.246,-
<i>Break Even Point (BEP)</i>	= 42,37%
<i>Shut Down Point (SDP)</i>	= 27,14%
<i>Pay Out Time after Taxes (POT)_a</i>	= 2,14 years
<i>Return on Investment after Taxes (ROI)_a</i>	= 31,31%
<i>Internal Rate Return (IRR)</i>	= 37,5%

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

ABSTRAK

PRARANCANGAN PABRIK SORBITOL DARI PATI TAPIOKA DENGAN KAPASITAS 60.000 TON/TAHUN (Perancangan Reaktor Likuifaksi (LR-101))

Oleh
BIMA FIRMANDANA

Pabrik sorbitol berbahan baku pati tapioka, akan didirikan di Way Bungur, Lampung Timur, Lampung. Pabrik ini berdiri dengan mempertimbangkan ketersediaan bahan baku, sarana transportasi yang memadai, tenaga kerja yang mudah didapatkan dan kondisi lingkungan.

Pabrik direncanakan memproduksi sorbitol sebanyak 60.000 ton/tahun, dengan waktu operasi 24 jam/hari, 330 hari/tahun. Bahan baku yang digunakan adalah ubi kayu sebanyak 4.896,96 kg/jam.

Jumlah karyawan sebanyak 194 orang dengan bentuk perusahaan adalah Perseroan Terbatas (PT) menggunakan struktur organisasi *line* dan *staff*.

Dari analisis ekonomi diperoleh:

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Mempertimbangkan paparan di atas, pendirian pabrik sorbitol ini layak dikaji lebih lanjut, karena pabrik menghasilkan keuntungan yang besar dan mempunyai masa depan yang baik.