

ABSTRAK

PRARANCANGAN PABRIK *SODIUM SULFITE* DARI *SODIUM CARBONATE* DAN *SULFUR DIOXIDE* KAPASITAS 23.000 TON/TAHUN (Perancangan *Reactor (RE-201)*)

Oleh

FULLY RESHA RANGGANITA

Pabrik *Sodium sulfite* berbahan baku *sodium carbonate* dan *sulfur dioxide*, direncanakan didirikan di Batanghari, Jambi. Pendirian pabrik berdasarkan atas pertimbangan ketersediaan bahan baku, sarana transportasi yang memadai, tenaga kerja yang mudah didapatkan dan kondisi lingkungan. Pabrik direncanakan memproduksi *Sodium sulfite* sebanyak 23.000 ton/tahun, dengan waktu operasi 24 jam/hari, 330 hari/tahun.. Penyediaan kebutuhan utilitas pabrik terdiri dari unit pengadaan air, pengadaan *steam*, pengadaan udara instrument dan oksigen, pengadaan listrik, dan pengolahan limbah. Bentuk perusahaan adalah Perseroan Terbatas (PT) menggunakan struktur organisasi *line* dan *staff* dengan jumlah karyawan sebanyak 153 orang.

Dari analisis ekonomi diperoleh:

<i>Fixed Capital Investment</i>	(FCI)	=	Rp. 182.100.223.654,-
<i>Working Capital Investment</i>	(WCI)	=	Rp. 32.135.333.586,-
<i>Total Capital Investment</i>	(TCI)	=	Rp. 214.235.557.240,-
<i>Break Even Point</i>	(BEP)	=	41,87%
<i>Shut Down Point</i>	(SDP)	=	20,57%
<i>Pay Out Time before taxes</i>	(POT) _b	=	1,97 tahun
<i>Pay Out Time after taxes</i>	(POT) _a	=	2,455 tahun
<i>Return on Investment before taxes</i>	(ROI) _b	=	42,22%
<i>Return on Investment after taxes</i>	(ROI) _a	=	33,77%
<i>Discounted cash flow</i>	(DCF)	=	34,54%

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

ABSTRACT

MANUFACTURING OF SODIUM SULFITE FROM SODIUM CARBONATE AND SULFUR DIOXIDE CAPACITY 23.000 TONS/YEAR (Design of Reactor (RE-201))

By

FULLY RESHA RANGGANITA

Sodium sulfite plant with raw materials, sodium carbonate and sulfur dioxide is planned to be built in Batanghari, Jambi. 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 23,000 tons/year with 330 working days in a year. The utility units consist of water supply system, steam supply system, instrument air supply system, power generation system, unit coal mill and waste treatment system. The business entity form is Limited Liability Company (Ltd) using line and staff organizational structure with 153 labors.

From the economic analysis, it is obtained that:

Fixed Capital Investment	(FCI)	=	Rp. 182.100.223.654,-
Working Capital Investment	(WCI)	=	Rp. 32.135.333.586,-
Total Capital Investment	(TCI)	=	Rp. 214.235.557.240,-
Break Even Point	(BEP)	=	41,87%
Shut Down Point	(SDP)	=	20,57%
Pay Out Time before taxes	(POT) _b	=	1,97 years
Pay Out Time after taxes	(POT) _a	=	2,455 years
Return on Investment before taxes	(ROI) _b	=	42,22%
Return on Investment after taxes	(ROI) _a	=	33,77%
Discounted cash flow	(DCF)	=	34,54%

Considering the summary above, it is proper to study the establishment of Sodium sulfite plant further, because the plant is profitable and has good prospects.