

ABSTRAK

PRARANCANGAN PABRIK *BISPHENOL A* DARI *ACETONE* DAN *PHENOL* DENGAN KAPASITAS 20.000 TON/TAHUN

(Perancangan *Prilling Tower* (PT-401))

Oleh

INDAH PRATIWI GULTOM

Bisphenol A merupakan zat kimia yang banyak digunakan sebagai bahan intermediat (*binding, plasticizing, dan hardening*) dalam pembuatan polikarbonat dan resin epoksi. *Bisphenol A* umumnya dihasilkan dari reaksi antara *acetone* dan *phenol* dengan katalis asam. Penyediaan kebutuhan *bisphenol a* dalam negeri masih sepenuhnya diperoleh dari impor, sehingga peluang untuk didirikannya pabrik *bisphenol a* memiliki prospek yang bagus. Penyediaan utilitas pabrik berupa sistem pengolahan dan penyediaan air serta penyedia udara dan instrumentasi. Kapasitas produksi pabrik *bisphenol a* direncanakan sebesar 20.000 ton/tahun dengan 330 hari kerja dalam 1 tahun. Lokasi pabrik direncanakan didirikan di Serang, Banten. Tenaga kerja yang dibutuhkan sebanyak 154 orang dengan bentuk badan usaha Perseroan Terbatas (PT) dengan struktur organisasi *line* dan *staff*.

Dari analisis ekonomi diperoleh:

<i>Fixed Capital Investment</i>	(FCI)	= Rp415.977.051.740
<i>Working Capital Investment</i>	(WCI)	= Rp73.407.715.013
<i>Total Capital Investment</i>	(TCI)	= Rp489.384.766.753
<i>Break Even Point</i>	(BEP)	= 35%
<i>Shut Down Point</i>	(SDP)	= 27%
<i>Pay Out Time before taxes</i>	(POT) _b	= 1,57 tahun
<i>Pay Out Time after taxes</i>	(POT) _a	= 1,89 tahun
<i>Return on Investment before taxes</i>	(ROI) _b	= 46%
<i>Return on Investment after taxes</i>	(ROI) _a	= 37%
<i>Discounted cash flow</i>	(DCF)	= 32%

Berdasarkan hasil analisis diatas, maka pendirian pabrik *bisphenol a* ini layak untuk dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dari sisi ekonomi dan mempunyai prospek yang relatif baik.

ABSTRACT

MANUFACTURING OF BISPHENOL A FROM ACETONE AND PHENOL WITH CAPACITY 20.000 TONS/YEAR (Design of Prilling Tower (PT-401))

By

INDAH PRATIWI GULTOM

Bisphenol A is a chemical substance widely used as an intermediate material (binding, plasticizing, and hardening) for polycarbonate and epoxy resin manufacture. Bisphenol A commonly produced by reaction of acetone and phenol in the presence of acid catalyst. Domestic supply of Bisphenol A is still fully obtained from import, so the opportunity to establish Bisphenol A plant has good prospects. Provision of plant utilities in the form of water treatment and supply systems as well as air supply and instrumentation. The production capacity of the Bisphenol A plant is planned to be 20.000 tons/year with 330 working days in 1 year. The factory location is planned to be established in Serang, Banten. The required labors are 154 people with a bussines entity form Limited Liability Company (PT) with a line organizational structure.

From the economic analysis are obtained:

<i>Fixed Capital Investment</i>	(FCI)	= Rp415.977.051.740
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Based on the above consideration, the establishment of bisphenol a plant should be studied further, because it is a profitable plant from an economic standpoint and has relatively good prospects.