ABSTRACT

MANUFACTURE OF CARBON BLACK
FROM RESIDU OIL
CAPACITY 55,000 TONS/YEAR
(Design Reactor -201 (RE-201))

By

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A plant producing Carbon Black by thermal cracking residu oil is planned to be in an industrial plant in the region of Karawang in West Java Province. The plant would be established by considering the availability of raw materials, transportation facilities, readily available labor and environmental conditions.

Plant production capacity is planned for 55,000 tons / year, with operating time of 24 hours / day and 330 working days in a year. The raw materials used are residu oil as much as 8488,32 kg / hr.

Provision of utility plant needs a treatment system and water supply, steam supply systems, instrument air supply systems, and power generation systems.

The total amount of labor needed is as much as 153 people with a business entity form Limited Liability Company (PT) which is headed by a Director who is assisted by the Director of Production and Director of Finance with line and staff organizational structure.

Following below are the result of economic analysis:

- Fixed Capital Investment (FCI) = Rp 469,843,877,198,16
- Working Capital Investment (WCI) = Rp 82,913,625,387,91
- Total Capital Investment (TCI) = Rp 552,757,502,586,07
- Break Even Point (BEP) = 31 %
- Shut Down Point (SDP) = 16,75 %
- Pay Out Time before taxes (POT)_b = 1,93 years
- Pay Out Time after taxes (POT)_a = 2,31 years
- Return on Investment before taxes (ROI)_b = 53,53 %
- Return on Investment after taxes (ROI)_a = 42,82 %
- Discounted cash flow (DCF) = 50,59 %

By Considering all the summaries above, it is proper to do a further study about the establishment of this carbon black plant, because the plant could be profitable with good prospect.