

ABSTRACT

MANUFACTURE OF ALUMINIUM SULFATE FROM SULFATE ACID AND BAUXITE CAPACITY 50.000 TONS/YEAR (Design Evaporator - 201 (EV-201))

By

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Aluminium sulfate plant produced by reacting bauxite and sulfate acid was plan to be in industrial plant in Riau Province. Plant was established by considering the availability of raw materials, transportation facilities, readily available labor and environmental conditions.

Plant's production capacity is planned 50,000 tons / year, with operating time of 24 hours / day and 330 working days in a year. The raw materials used are much sulfate acid as 6.140,503 kg / hr, bauxite as 4.221,773 kg / hr, and iron powder as 174,071 kg/hr.

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

Labor needed as many as 125 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.

From the economic analysis is obtained:

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| <i>Fixed Capital Investment (FCI)</i> | = Rp 394.562.843.995, - |
| <i>Working Capital Investment (WCI)</i> | = Rp 40.002.928.191,- |
| <i>Total Capital Investment (TCI)</i> | = Rp 434.565.772.186,- |
| <i>Break Even Point (BEP)</i> | = 52,77 % |
| <i>Pay Out Time before Taxes (POT)_b</i> | = 2,2042 tahun |
| <i>Pay Out Time after Taxes (POT)_a</i> | = 2,6113 tahun |
| <i>Return on Investment before Taxes (ROI)_b</i> | = 30,06 % |
| <i>Return on Investment after Taxes (ROI)_a</i> | = 24,05 % |
| <i>Discounted Cash Flow (DCF)</i> | = 18 % |

Consider the summary above, it is proper establishment of Aluminium Sulfate plant to studied further, because the plant is profitable and has good prospects.