ABSTRACT

Ammonium Chloride is used in the chemical industry, both as a raw material and as auxiliary material. The main raw materials are usually used as the manufacture of dry cell batteries. Other uses is a feedstock in the fertilizer industry and supporting materials in the pharmaceutical industry, the manufacture of a wide range of ammonia compounds, electroplating, metal cleaning washing materials in industrial soldering. Ammonium chloride is made from reaction ammonium sulfate and sodium chloride in $100^{\circ}C$ of temperature and 1 atm of pressure. The reaction was recured within 1,5 jam to reach 95% of ammonium chloride convertion. This plant designed to produce ammonium cholida with 50.000 ton/year of capacity, 24 hour/day and 330 days/year of operating time. Material used are 7.795,60 kg/h of ammonium sulfate and 6.912,49 kg/h of sodium chloride. The utilities required are 299.314,51 kg/h of water supplay, 879,45 Hp of electricity supply, 4.311,54 kg/h of coal fuel and 70,22 m^3/h of air requirements. This plant will be established in the Industrial Area Gresik, East Java. It was considered of the availability of raw materials, transportation facilities, readily available labor and environmental conditions were quite stable. This plant was planeded in form of Perseroan Terbatas (PT) management with line and staff organization system that lead by President Director. An economic analysis showed this plant will have that percentage of 34,06 % of rate after taxes on investment (ROI), 2,9 years of pay out time after taxes (POT), 45,88% of break even point (BEP),17,94 of Shut Down Point (SDP). It was concluded that ammonium chloride plant visible to be built.