ABSTRAK

The Ammonium Nitrate Plant from Nitric Acid and Ammonia with a limit of 75,000 tons/year is planned to be built in 2025 in Karawang, West Java. The raw material for corrosive nitrate was obtained from PT. Multi Nitro Kimia, Ammonia obtained from PT. Pupuk Kujang and Stearate Acid were obtained from PT. Dua Kuda Indonesia. The ammonium nitrate pooling interaction involves a Bubble Reactor that occurs in exothermic and isothermal conditions equipped with a cooling layer, the response is irreversible, operating at a temperature of 46 C and a strain of 3.4 atm. This processing plant is categorized as a high risk industrial facility because the voltage used is very high.

Ammonium nitrate synthesis is initiated by responding to the corrosive nitrate and alkali in the reactor (R-01). The object exits the reactor as a fluid which then differs from the fluid to become strong at the granular peak (PT-01). The ammonium nitrate item shipped was 8,510.02 kg/hour. The process support unit consists of a cooling water supply unit of 15933.95 kg/year, the need for make-up cooling water is 298.59 kg/hour, the need for sterilization water is 853.20 kg/hour and the need for steam feed water is 3681.86 kg/hour. Water needs are obtained from Citarum river water and electricity needs are met from PLN and a generator is used as an amplifier with the assumption that PLN experiences a power outage.

The results of the financial inspection of the ammonium nitrate processing plant obtained a profit before import duty of Rp. 42,800,892,073.63 every year, the benefit after costs is Rp. 32,100,669,055,22. Percent *Return on Investment* (ROI) before fees 54.2% and after fees 40.7%. *Pay Out Time* (POT) before charge is 1.6 years and after charge is 2 years. *Break Event Point* (BEP) is 44.05%, *Shut Down Poin*t (SDP) is 28.24%. From the possible examination information above, it can be concluded that this plant can be made.