

ABSTRACT

This project examines the preparation of an inventory model for mechanical seal in Thai Lube Base Refinery.

Thai Lube Base (Public) CO., LTD (THAILUBE) was founded in 1995. The business is refinery. This refinery was started in 1997. There are many equipment in this company. The equipment were distinguished in two categories: 1. Statutory Equipment: heat exchanger, furnace, etc. 2. Rotating Equipment: pump, compressor, etc.

During operating period, THAILUBE frequently encountered the mechanical seal failure problem. In this refinery, there are approximately 300 mechanical seals. But only some mechanical seals were failure, others were in good condition – no failure found. Therefore, this refinery must stock component parts of mechanical seal in the warehouse.

Since 1997, it has been found that some parts of mechanical seal were frequently used, but some parts were rarely used. Due to economic crisis, management level planned to reduce the inventory cost. Therefore, it was recommended to develop the inventory model of mechanical seals that maximize the productivity of the refinery.

The inventory model for mechanical seal was developed. The steps of developing the inventory model for mechanical seal are:

- (1) To do the criticality assessment of equipment.
- (2) To review the MTBF (mean time between failure of each equipment).
- (3) To review the component parts of mechanical seal
- (4) To develop inventory model according to criticality and MTBF.

After the inventory model was developed, the inventory cost of this refinery was reduced but the productivity of this refinery is still good.