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Reliability of Rotating Equipment in Chemical Process Industry

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Abstract

Quite a number of petrochemical plants in Korea has more than 30 year's history and is exposed to in incidents of chemical industry were analyzed in terms of rotating equipment, high pressure vessel, and pipeline. Rotating equipment incidents were one of the most interested to investigate since they play the most important role in total loss of the facility.

Taxonomy to classify equipment has been study together with boundary between equipments. The taxonon was summarized to be rotating equipments, vessels, electric equipments, control equipments, and pipelines. A program was developed to analyze reliability of equipment in chemical industry. Failure data of rot equipments were collected and analyzed in ethylene plant, high-density polyethylene plant, and propylen plant.

Failure data of agitator, mixer, blender, compressor, centrifuge, fan, blower, and pump were analyzed

in terms of vibration, noise, and lubricant. The analysis results will be available to decide which equipment is maintained with care for reliability-centered maintenance.