ABSTRACT

Industrial growth in Indonesia has been growing rapidly. This condition should be matched by performing some risk management to control the hazards in working area. PT. X at Lumajang Regency in its production process has some big potential hazards. Therefore, risk assessment, which consist of risk identification, risk assessment, and risk control, should be performed to prevent further damage.

The purpose of this study was estimating risk assessment on production process at PT. X in Lumajang Regency. This study was using a cross-sectional design, and the result described in descriptive form. The object of this study was sugar production process at PT. X in Lumajang Regency, with one person of each Quality Control (QC) Department, Production Operator, and Supervisor as the informants. Primary data was obtained from interview with the informants, and the secondary data was obtained from company profile. The result from data processing would be described in descriptive form and matrix table.

The result of this study showed that there were nine failure modes which occurred in sugar production process at PT. X in Lumajang Regency. The knife of Cane Knife didn't work properly or motionless, Cane Knife was operated over speed, vapor vessels was blocked, clutch rope was broken off, gearbox didn't in its maximal condition, metallic pipe was peeled off, Super Heater pipe was broken, erosion on IDF's fan blades on each angle, and APK pipe was blocked. The risk control action of the hazards was good enough, because they were already performed risk control efforts such as technique control, administrative control and using personal protective equipment. Personal protective equipment that were given by the company was only safety helmet.

The conclusion of this study is hazard and machine failure mode that already had identified from sugar production process at PT.X in Lumajang Regency and had the highest score of risk is clutch rope of Cane Knife machine is broken off. Risk control that can be performed by the company is applying Standard Operational Procedure. Routine maintenance of the machinery should be performed in each milling session.

Key words: risk assessment, Failure Mode Effect Analysis (FMEA)

ABSTRAK

Pembangunan industri di Indonesia semakin berkembang pesat. Hal ini tentu harus di imbangi dengan penerapan manajemen resiko yang baik agar resiko bahaya di tempat kerja dapat dikendalikan. PT. X Kabupaten Lumajang, dalam proses produksinya mempunyai potensi bahaya yang besar. Untuk mencegah terjadinya kecelakaan perlu adanya *risk assessment*, meliputi identifikasi bahaya, penilaian resiko dan pengendalian bahaya.

Penelitian ini bertujuan untuk menilai *risk assessment* pada proses produksi di PT. X Kabupaten Lumajang. Rancangan. Penelitian dilakukan dengan cross sectional dan hasil dipaparkan secara deskriptif. Sasaran penelitian ini adalah proses produksi gula di PT. X Kabupaten Lumajang dengan informannya adalah 1 orang *Quality Control* (QC), 1 orang operator produksi dan 1 orang supervisor. Data primer di dapatkan dari hasil wawancara dengan informan dan data sekunder dari profil perusahaan. Hasil pengolahan data akan di deskriptifkan dan dalam bentuk matriks tabel.

Hasil penelitan menunjukkan terdapat 9 (sembilan) mode kegagalan yang terjadi di bagian produksi gula PT. X Kabupaten Lumajang. *Knife* Cane Knife tidak beroperasi dengan lancar / mati, Cane Knife over speed, jalur uap tertutup, tali kopling putus, gearbox tidak maksimal, pipa metal terkelupas, pipa Super Heater pecah, pengikisan sudu – sudu kipas pada IDF, pipa APK tidak lancar. Sementara untuk pengendalian resiko, tergolong cukup. Hal ini dikarenakan telah terdapat upaya pengendalian risiko meliputi pengendalian teknik, administratif, dan Alat Pelindung Diri. Alat Pelindung Diri hanya *safety helmet*, untuk yang lainnya perusahaan tidak menyediakan.

Kesimpulan yang dapat ditarik adalah bahaya dan mode kegagalan mesin yang teridentifikasi memiliki nilai risiko tertinggi pada proses bagian produksi PT. X Kabupaten Lumajang adalah tali kopling putus pada alat *Cane Knife*. Pengendalian resiko bahaya yang dapat dilakukan adalah penerapan Standart Operasional Prosedur. Perawatan alat secara berkala sebaiknya dilakukan selama masa giling.

Kata kunci: penilaian risiko, *Failure mode effect analysis* (FMEA)