# Analisa resiko kebakaran terkait dengan kegagalan peralatan pada kegiatan pembongkaran dan penyaluran bbm Dl spbu "x" = fire risk analvsis related to failure on equipment in the activities of loading and unloading gasoline at fuel station "x"

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Abstrak

Kegiatan pengoperasian SPBU kemungkinan berisiko kebakaran. Kebakaran di SPBU disebabkan oleh faktor kegagalan peralatan, kegagalan manajemen pengelolaan keselamatan dan kesehatan kerja maupun kesalahan manusia. Kebakaran yang disebabkan oleh faktor kegagalan peralatan pada pengoperasian SPBU akan berdampak kepada pekerja, peralatan dan lingkungan sekitar yang menyebabkan kerugian bagi perusahaan dan masyarakat disekitamya. Kemungkinan te adinya diakibatkan kegagalan peralatan berupa kebocoran dan kemungkinan te adinya sumber panaslapi di SPBU dapat disebabkan karena:
1) pemeriksaan, pemasangan dan perawatan peralatan yang buruk menyebabkan kebocoran BBM;
2) terjadinya arus pendek dan/atau listrik statis sehingga menimbulkan panas.
Analisa resiko dilakukan untuk mengetahui faktor - faktor yang dapat menimbulkan kebakaran terhadap peralatan yang digunakan pada kegiatan pembongkaran (unloading) dan kegiatan penyaluran (loading) Bahan Bakar Minyak di SPBU.Penelitian ini bersifat deskriftif kualitatif, karena penelitian ini memberikan gambaran tentang faktor-faktor yang dapat menyebabkan kegagalan peralatan SPBU. Analisa resiko ini dilakukan dengan perhitungan faktor-faktor kemungkinan dan konsekuensi, selanjutnya dilakukan analisis terhadap konsekuensi yang dapat menimbulkan kerugian pada kegiatan SPBU. Kegiatan pembongkaran BBM (unloading) memiliki peralatan fillpot, selang bongkar, tangki pendam dan venting valve dengan kemungkinan kegagalan yang menyebabkan terjadinya uap hidrokarbon dari tumpahan BBM dan sumber panas/api dari listrik statis. Pada kegiatan pembongkaran BBM di SPBU "X" memiliki kemungkinan te adi kebakaran dengan kerugian finansial terendah sebesar (>Rp 100.000 - Rp 100.000.000) dan kerugian tertinggi sebesar Rp 17.200.000.000 (> Rp 10.000.000.000). Sehingga diperoleh nilai risiko 4 (untuk konsekuensi sedang) atau termasuk ke dalam low risk dan nilai risiko 8 (untuk konsekuensi sangat tinggi) atau termasuk ke dalam medium risk. Kemungkinan kebakaran pada kegiatan penyaluran BBM (loading) memiliki peralatan nozel, selang dispenser, pampa dispenser dan pipa hisap yang dengan kemungkinan kegagalan yang menyebabkan terjadinya uap hidrokarbon BBM dan adanya sumber panas/api dari listrik statis dan/atau arus pendek. Kemungkinan kebakaran pada SPBU "X" berada pada level rendah (tingkat 1). Dengan kisaran konsekuensi kenugian finansial terendah sebesar Rp1.300 (<Rp 100.000 ) dan kerugian finansial tertinggi sebesar Rp 1.300.000. (>Rp 100.000 - Rp 100.000.000) dalam 500 tahun. Sehingga diperoleh nilai risiko 1 (konsekuensi rendah) atau termasuk ke dalam low risk dan nilai risiko 2 (untuk konsekuensi sedang) atau termasuk ke dalam low risk.
<hr><i>The activity of fuel station operation could risk a fire. Fire at Fuel Station may be caused by failure factors on equipment, and management of occupational health and safety as well as human errors. Fire which is caused by failure factor on equipment at fuel station operation, will affect workers, equipment and area and will cause loss for company and public in this area. Possibility of happening on hydrocarbon vapor and source of fire which is resulted of failure on equipment as leakage and possibility of happening source

of fire at fuel station may be caused by:
1) Bad inspection, installation and maintenance of equipment which occur leakage of gasoline.
2) The happening of short and static electric.
Risk analysis of factors which generating fire to equipment which applied for loading and unloading activities of fuel in fuel station. This study is a qualitative descriptive, because this study give a describe concerning factors which are available for causing of failure on fuel station equipment. This risk analysis has been done by calculating the consequence and possibility factors. It has been done by analysis of consequence which available for causing loss at Fuel Station activity. Equipment for unloading gasoline activity consist of fillpot, unloading hose, underground tank and venting systems. Which with failure of these equipment cause the happening of hydrocarbon vapor from overland flow gasoline and source of fire from static electric. Loading gasoline activity at Fuel Station "X" has possibility of happening fire at medium level (Level 2). Gyration of fire consequence with loss of lowest financial (> Rp 100.000- Rp 100.000.000) and highest loss is amount to Rp 17.200.000.000 (> Rp 10.000.000.000). It was obtained by risk value 4 (for medium consequence) or including into low risk and assessing risk 8 (for very high consequence) or including into medium risk. Equipment for loading gasoline activity consist of nozzle, dispenser pipe, dispenser pump and suction pipe. Which with failure of these equipment cause the happening of gasoline hydrocarbon vapor and existence of source of fire from static electric and/or short current. Possibility of fire at Fuel Station "X" at low level (level1). With gyration of consequence loss of lowest financial. It is equal to Rp1.300 (< Rp 100.000) and loss of highest financiaL It is amount to Rp 1.300.000 (> Rp 100.000- Rp 100.000.000) in 500 years. It was obtained by risk value 1 (low consequence) or including into low risk and assess risk 2 (for medium consequence) or including into low risk.</i>