Kajian Risiko Terkait Pajanan Bahaya Fisik di Empat Unit Pengolahan Minyak dan Gas di Indonesia (Berdasarkan Data Sekunder Tahun 2017 – 2020) = Health Risk Assessment Related to Physical Hazards Exposure in Five Oil and Gas Refinery Units in Indonesia (Based On Secondary Data For 2017 - 2020)

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Abstrak

Industri pengolahan minyak dan gas bumi merupakan industri yang dapat menghasilkan berbagai macam bahaya dan risiko diantaranya adalah risiko yang dihasilkan pajanan bahaya fisik. Penelitian ini bertujuan untuk memberikan gambaran penilaian risiko kesehatan atau Health Risk Assessment (HRA) terkait pajanan bahaya fisik di empat unit pengolahan minyak dan gas di Indonesia berdasarkan data sekunder sampel pada tahun 2017 hingga 2020. Metode yang digunakan dalam penelitian ini adalah metode semi-kuantitatif yaitu dengan mengalikan tingkat pajanan dengan tingkat konsekuensi bahaya kesehatan sehingga mendapatkan nilai Risk Assessment Matrix (RAM) berdasarkan kepada pedoman penilaian risiko kesehatan International Petroleum Industry Environmental Conservation Association (IPIECA) dan International Association of Oil & Gas Producers (OGP) pada tahun 2006.
Penilaian risiko kesehatan yang dilakukan pada penelitian ini menunjukkan bahwa terdapat 9 jenis bahaya fisik yang teridentifikasi diantaranya pajanan kebisingan, getaran tangan dan lengan, getaran seluruh tubuh, pencahayaan, iklim kerja panas, radiasi sinar UV, radiasi elektromagnetik, radiasi pengion, dan NORM (Naturally Occurring Radioactive Material). Dengan tingkat risiko tinggi atau kategori prioritas pertama untuk pengendalian sebanyak 62 sampel (16,66%), risiko menengah atau kategori kedua untuk prioritas pengendalian sebanyak 124 sampel (33,33%), risiko rendah atau kategori ketiga untuk prioritas pengendalian sebanyak 84 sampel (22,58%), dan risiko sangat rendah atau kategori tidak memerlukan tindakan pengendalian segera sebanyak 102 sampel (27,42%).
.....The oil and gas processing industry or refinery unit is an industry that can produce various kinds of hazards and risks, one of the risks is resulting from physical hazards. This study aims to provide an overview of Health Risk Assessment (HRA) related to physical hazards in four oil and gas processing units in Indonesia based on secondary measurement data from 2017 to 2020. The method used in this study is a semi-quantitative method, by multiplying the level of exposure and the level of hazard consequences to get the Risk Assessment Matrix (RAM) value based on the health risk assessment standard from the International Petroleum Industry Conservation Association (IPIECA) and the International Association of Oil & Gas Producers (OGP) in 2006.
The health risk assessment conducted in this study showed that there are 9 types of physical hazards that come from exposure of noise, hand and arm vibration, whole body vibration, lighting, work climate / heat stress, UV radiation, electromagnetic fields radiation, ionizing radiation, and NORM (Naturally Occurring Radioactive Materials). With the risk level of high risk or in the first category for control as many as 62 sample (16.66%), moderate risk or the second category for control priority as many as 124 sample (33.33%), low risk or the third category for control priorities as many as 84 sample (22.58%), and very low risk or the category does not require for immediate control measures as many as 102 sample (27.42%).