

PP No. 11 Years 1979 about Occupational Safety for the Purification and Management of Petroleum and Gas: Integrated into Occupational Safety and Health (OSH) Policy

Amiroel Oemara Syarief

Department of Industry, Sekolah Tinggi Teknologi Dumai, Jl. Utama Karya Bukit Batrem II Dumai, Riau, Indonesia

Keywords: OSH policy, PP No. 11 Years 1979, Purification and Management of Petroleum and Gas

Abstract: Occupational Safety and Health (OSH) becomes a public policy that can protect workers in both the formal and informal sectors. The OSH policy can prevent the possibility of accidents and occupational illness and ensure the integrity and perfection of both the physical and spiritual workforce. This research aims to identify and analyze OSH policy against PP No. 11 Years 1979 Occupational Safety on the purification and processing of petroleum and gas. This type of research is a normative (juridical) legal research that aims to examine legal principles, legal systematics, proper synchronization, legal history, and legitimate comparisons using a method of statutory approach. The results showed that the OSH problem is not on the existence of legislation itself, but government supervision is still weak about the implementation of OSH according to PP No. 11 the year 1979 on the purification and processing of petroleum and gas. Also, the awareness, support, and involvement of operations management against the efforts of Hazard control are very lacking.

1 INTRODUCTION

Sustainability of Occupational Safety and Health (OSH) integration is critical to the useful (realization of increase working productivity (Schulte et al.,). Industry competition requires the company to increase working productivity through an occupational health and Safety Program (OSH) applied by the company. According to Okky in (G. and Nugraheni, 2013) Occupational Safety and Health (OSH) is a program created by the government that has to be followed and implemented by entrepreneurs and workers in an effort to prevent a work accident with Identify potential accidents and occupational diseases and anticipatory actions in cases of accidents and occupational illness. Safety, health, and welfare people closely related to occupational safety and Health (OSH) in work. It aims to promote and maintain the mental and social welfare of workers as part of adaptation to the working environment (Micheli et al., 2018) The goal is to create a comfortable and healthy workplace that can suppress as low as a possible risk of accidents and disease. Efforts that have been made to minimize the risk of workplace accidents in construction become a concern until now that the critical component of risk management for the industry is Occupational Health

(OSH) (Zhao et al., 2016). Occupational Health and Safety (OSH) is an effort to protect workers and other people entering the workplace against the dangers of disasters. Even cancel the risk of illness and work accident (CAC) and improve worker health so that the productivity of work increases (Purnomo et al., 2018).

Conditions that occur in the field on safety issues and occupational accidents in Indonesia are still often ignored; this can see from the still high number of occupational accidents. Manpower Social Security Administering Agency (BPJS) records the number of occupational accidents in Indonesia tends to continue to increase. A total of 123 thousand cases of occupational accidents recorded throughout 2017. Total work accidents in 2017 as many as 123 thousand cases with a claim value of Rp 971 billion. This figure increased from 2016 with a claim value of only Rp 792 billion. Also, based on data obtained in the year 2017, there is a working accident in PT. Pertamina RU V Balikpapan Two people have suffered severe burns due to the generating to get medical treatment in hospital. The form of efforts to create a safe, healthy, free of occupational accident and occupational disease and environmental pollution-free to increase productivity

is to be the implementation of occupational health and Safety (OSH). The design, implementation, and evaluation of Occupational Health and Safety (OHS) have become a destination in legislation (McNamara et al., 2017). As mandated in government regulation No. 11 years 1979 about occupational safety on the purification and processing of petroleum and gas reads:

- The work of installation, maintenance, and repair of electrical installations shall only be carried out by or under the supervision of the expert appointed by the Head of engineering.
- The work intended in paragraph (1) can do against the aircraft and the distributor being envied the low voltage electric current by heeding the accident precautions. Work with the high-voltage electrical current on aircraft and envy distributors are forbidden to perform jobs on aircraft

As for this research is to identify and analyze OSH policy against PP No. 11 Years 1979 Occupational Safety on the purification and processing of petroleum and gas.

2 METHODS

This research is normative (juridical) law, which aims to examine the principles of law, legal systematics, proper synchronization, legal history, and legitimate comparisons using the approach. The approach conducted by analyzing the OSH policy in government regulation No. 11 Years 1979 about occupational safety on the purification and processing of petroleum and gas.

3 RESULT AND DISCUSSIONS

Indonesian state is the legal state. Development in the field of law is a necessity as an unavoidable consequence. It is a constitutional foundation that Indonesia is a country based on the law, the code place as the only rule of play in the Life of society, nation, and State (supremacy of law). The opening act of the Constitution of the Republic of Indonesia year 1945 mandated that the State and Government were established to protect all nations and land of Indonesia's blood, educate the nation's life, and the general welfare. The government in a country must have the highest authority (supreme) and unlimited. The consequence of Indonesia as a welfare country, the state must intervene in people's lives, including meddling in the field of employment.

According to Ismail Sunny in (Charda, 2015), provisions of article 27 sentence (2) CONSTITUTION 1945 above is a paper constitutional or a semantic constitutional by recognizing the right of citizens to get the job, then, in fact, Indonesia has determined and decided to eliminate unemployment, so the country dared to put the article in its Constitution. Meanwhile, in Law No. 13 of the year 2003 further governing the direction of government policy in the development of labor law is to involve the business element of the world and the community, conducting the construction of all Employment-related activities are carried out in an integrated and coordinated. Under Law No. 13 of 2003, that known the legislator requires the creation of a law that provides legal protection to the workforce, given its essential role and position as Actors and development objectives.

Labour must obtain legal protection against safety in work for the welfare of life and increase production and national productivity. Based on the law of the Republic of Indonesia No. 13, 2003 on employment Chapter X Section 5 of the paragraph of the Occupational Health and safety, in chapters 85 and 86 shall be governed by the rights of workers to occupational health and safety and the company's obligations to implement occupational health and safety management. Occupational health and safety is an essential part of labor protection, therefore in its implementation, occupational safety and Health (OSH) is a crucial element to be considered and implemented optimally Maybe that the risk of accident work on the construction can reduce to a minimum (Hidayat et al., 2014). Therefore, the application of occupational health and safety (OSH) in the construction projects of the building must be made correctly and adequately by the provisions of the legislation. Regarding the requirements of the bill can be seen in government regulation number 11 Years 1979 Occupational Safety on purification and processing of oil and gas, there is an OSH policy in article 8 reads:

- The workplace must be clean and well maintained.
- The workplace must be equipped with proper illumination by the requirements of occupational safety and health.
- The workspace must have appropriate ventilation adjusted to the number of people, and the air condition contained in the room.
- The workroom must arrange, so that the noise is below the specified threshold or if it is not achievable, the workers must equip with personal

protective equipment.

- The workspace must be reachable and abandoned quickly and securely through particular doors and must be well maintained.
- An appropriate place for emergencies should be available rescue tools to suit the needs.

Based on Government Regulation No. 11 Years 1979 about occupational safety in the purification and processing of oil and Gas, there is OSH policy in article 8 that the workplace should be clean and well maintained. According to (Busyairi et al., 2014) The company must understand that safety of good work is to give employees a personal protective equipment, pay attention to the condition of the work tools, do maintenance tools, provide suitable raw materials, Provide good lighting on the job site, as well as cleanliness and maintained order. The hygiene-well-maintained workspace makes the job fun, easy, and fast. One of the ways to manage the workplace is to move items that are no longer needed and maintain cleanliness by storing goods in a suitable place neatly for easy retrieval.

For the workplace must be supplemented with proper illumination, by the terms of occupational safety and health, allowing the workforce to see the work meticulously, quickly and without unnecessary effort. Adequate and well-arranged lighting will also help create a safe and comfortable work environment. The background of external human experiences such as light, sound, temperature, color, and other natural elements related to the environment, described according to Potter & Perry in (Kristian et al., 2018). According to Brewer and Sakai (Prayoga, 2014), Symptoms include headaches, decreased intellectual ability, concentration, and speed of thought. Poor lighting can lead to eye fatigue by diminishing power of work efficiency, mental fatigue, sore complaints in the eye area and headaches around the eye, visual impairment, and increased accidents. The potential of poor lighting can prevent or reduce, workplace lighting must be eligible to do the job. In-workplace lighting improvements, results are seen directly in improving productivity and reducing errors while working. Direct light tends to be comfortable with the number 200, which is a safe boundary of comfort (Kristian et al., 2018).

Furthermore, the workspace must have proper ventilation adjusted to the number of people, and the air condition contained in the room. Indoor air quality is primarily determined by the use of the KOLOWA ventilation so that the movement of air from outer space to the place becomes easy (Vidyautami et al., 2015). Based on the research conducted by Indrani in (Pandiangan et al., 2013) The

existence of ventilation on buildings in the tropics is very important for thermal comfort and role in supporting the increase of productive working time. The dimensions of ventilation openings designed according to (Pandiangan et al., 2013) are 24 x 1.25 meters for the northern wall and 23 x 1.25 meters for the west wall and at a height of 3 meters above the factory floor to be able to improve the comfort In working mainly for production rooms using machines that emit heat.

Also, the noise factor affects OSH so that workers need personal protective equipment. Based on the data from the WHO in (Dewanty and Sudarmaji, 2015) is known that the hearing loss due to noise is the second most work caused by a lifetime accident. The machine has noise with high strength sound. The negative impact it brings to the employee is the noise. This condition can result in hearing loss known as Noise-Induced Hearing Loss. Hearing-impaired due to noise or Noise-Induced Hearing Loss is a hearing loss arising from repeated exposure, and long can be chronic that is after working more than 10-15 years according to Adding in (Dewanty et al., 2015). Research conducted by (Fithri and Annisa, 2015) several factors, namely environment influenced noise disturbance, inspection, and human. Noise level measurements are not routine and less thorough. Noise level is due to lack of human resources to perform noise measurements and when measurements are carried out only in a few samples, not exhaustive. While in terms of human, time is exposed to the noise of workers too long, this is because noise does not correspond to the level of noise that occurred expose the length of the worker. Also, many workers ignore personal protective equipment (PPE) on the grounds of discomfort when working with PPE, and a long working period for senior workers. Actual hearing loss can prevent in the following ways:

- Using an ear protector
Using earplugs when working with high noise exposure is the most significant preventative effort. You can use an earplug or earmuff that has an NRR (Noise Reduction Rate) value according to the noise value in the work area or with the largest NRR.
- Know the work area with high noise risk
Not all workers carry a Sound Level Meter (Noise level gauge) or Noise Dosimeter (noise gauge for personal monitoring) at work, so they do not know the magnitude of the noise frequency in the work area. Therefore, the company should install the ear protective safety sign for a working area with a high noise level exceeding 85 dBA. Also, workers should even know which areas of work can pose a

risk of hearing loss due to noise.

- **Technical control in Sound source**
Work Area with a noise level above 85 dBA for 8 hours, 40 hours per week, the law requires companies to reduce the level of noise in the area. The control of techniques in sound sources is entirely sufficient for reducing noise.

The workspace must be reachable and abandoned quickly and securely through particular doors and must be well maintained. A workspace is a place to spend most of the time each day. Because of this, it is essential to create a healthy working environment to make the workers feel comfortable. But not only that, the healthy working environment turns out to have a significant benefit for the company. In the event of emergency or employee work accident can quickly enter and leave the workspace immediately through particular doors so as not to inflict casualties. The infrastructure needed is a means of an exit for the building dwellers, methods of the entrance of the Fire Brigade/ambulance, plywood, assembly area, Technical command post. The required facilities include a page hydrant, a building hydrant, water that is minimal for a 30-minute blackout, an APAR, an alarm system, a detector, and a pressurized blower for the emergency stairs. The particular place for emergencies should be available rescue tools that suit the needs of many companies that still underestimate the safety, health, and safety procedures. The position of the body (ergonomics) and the location of work aids in the office is very close to work productivity. The provision of facilities and work, accident management equipment, is necessary to protect all assets of the company, especially the safety of all employees who are an essential part of the process of production. Emergency response facilities are indispensable for the rescue of building dwellers and assets of office buildings.

In the implementation of OSH policy based on PP No. 11, Years 1979 still has not been observed by some companies and not yet integrated so that the application of course not useful. The company has been implementing occupational safety and health, but there are still cases of occupational accidents. According to research (Aryantiningsih and Husmaryuli, 2015), the company has prepared the APD, but always, many workers do not use the complete APD. APD is due to the size or size of the inappropriate APD as well as the hot working environment making workers feel uncomfortable in using. Additionally, the provision of the APD depends on each type of work but the APD provided by the same company for each unit of work.

Pangka Sugar Factory installation unit still has a

working accident case which annually. The factory has set rules always to use the PPE when working and the provision of the PPE in each unit of work has been following the required, but the self-awareness of workers did not exist to use the APD for their safety with the reason APD damaged and have not bought APD. Based on the results of the study (Afini et al., 2012) showed that the characteristics of the worker's personality have less excellent features in working and violating the rules that have been established by the Pangka sugar factory. Also, the K3 training held that have not been routinely carried out by the factory is not thoroughly followed by workers because the K3 trainees' representatives supported of each section. In addition to the use of PPE and K3 training, noise is still a distraction for workers while working. Whereas every year do noise measurement reported to the head office. But the fact of field obtained noise level is still under the raw for the condition 8 hours working IE 53.8 dBA.

From the case of work accident above in the implementation encountered obstacles and constraints. There are macro barriers (at the national level) there are micro barriers (within the company) consist of:

- **Macro Barriers**
 - **The government**
There is still a lack of problems in coaching (formal & non-formal), guidance (Information Services, standards, Code of Practice), supervision (regulation, monitoring/monitoring and sanctions against violations).
 - **Technology**
Technological developments need to anticipate to minimize or eliminated at all with the utilization of skills in the area of hazard control.
 - **Social culture**
The existence of social culture gaps in the form of low discipline and public awareness of occupational safety issues. Insurance policies that are not oriented to hazard control, behavior of people who have not fully understood the dangers that exist in the industry with advanced technology as well as the culture of "relaxed" and "no matter" from the community or in other words there is no "culture" put safety in the society/workers.
- **Micro Barrier**
 - **awareness, support, and involvement**
The knowledge, support, and involvement of operations management against the effort of Hazard control felt still very lacking. This situation will be culturally ranging from the

bottom layer so that many employees have a low safety awareness, besides their knowledge of engineering and safety management is also very limited. Moreover, the assumption that OSH is the cost center that is quite the opposite.

- The limited ability of officers
The strength of occupational safety officers in operation Engineering, Industrial Safety engineering, management of hazard control feel less so that it is a constraint gained excellent professional safety performance. As a result of this deficiency, there is a gap between the advancement of applied technology and the higher negative impact with the ability of professional safety officers in anticipation of more dangerous conditions. Due to the lack of human resources development in the OSH field or the development of educational events in this field.
- Standard and Code of Practice
Still, the lack of standard-standard and code practice in the field of occupational safety and dissemination of information in the area of industry hazard control that is still limited will increase the risk faced.

4 CONCLUSIONS

Based on Government Regulation No. 11 Years 1979 concerning occupational safety on the purification and processing of petroleum and gas the implementation of OSH policy is still not observed by some companies and has not integrated so that application is not sufficient. In the implementation of government regulations are found, obstacles and constraints are the problems of coaching (formal & non-formal) in terms of guidance (information Services, standards, Code of Practice). Supervision (regulation, monitoring/monitoring and sanctions Against violations), the dangers of technological developments have not to anticipate, the existence of social-cultural gaps in the form of low discipline and public awareness of occupational safety issues. Insurance policy not orient to Hazard control, community behavior that has not fully understood the dangers in the industry with advanced technology. Awareness, support, and involvement of operations management against the efforts of Hazard control felt still very less. The ability of safety workers in the field of operations engineering, industrial Safety engineering, management hazard control felt very less, and again lack of standard-standard and code practice in the area of occupational safety and

dissemination of information in the field of industrial hazard control is limited.

ACKNOWLEDGMENTS

Acknowledgments: Director of Research and Community Service (DRPM), the Ministry of Research, Technology, and higher education who funded through research grants of beginner lecturers is gratefully acknowledged.

REFERENCES

- Afini, P. N., Koesyanto, H., and Budiono, I. (2012). Faktor penyebab kecelakaan kerja di unit instalasi pabrik gula pangka. *Unnes Journal of Public Health*. 1(1), 1(1):45–50.
- Aryantiningasih, D. S. and Husmaryuli, D. (2015). Kejadian kecelakaan kerja pekerja aspal mixing plant (amp) & batching plant di PT. *LWP Pekanbaru Tahun 2015. Jurnal Kesehatan Masyarakat Andalas*. 10(2), 10(2):145–150.
- Busyairi, M., Tosungku, L. O. A. S., and Oktaviani, A. (2014). Pengaruh keselamatan kerja dan kesehatan kerja terhadap produktivitas kerja karyawan. *Jurnal Ilmiah Teknik Industri*. 13(2), 13(2):112–124.
- Charda, U. (2015). Karakteristik undang-undang ketenagakerjaan dalam perlindungan hukum terhadap tenaga kerja. *Jurnal Wawasan Hukum*. 32(1), 32(1):1–21.
- Dewanty, R. A. and Sudarmaji (2015). Analisis dampak intensitas kebisingan terhadap gangguan pendengaran petugas laundry. *Jurnal Kesehatan Lingkungan*. 8(2), 8(2):229–237.
- Fithri, P. and Annisa, I. Q. (2015). Analisis Intensitas Kebisingan Lingkungan Kerja pada Area Utilities Unit PLTD dan Boiler di PT. *Pertamina RU II Dumai. Jurnal Sains, Teknologi dan Industri*. 12(2), 12(2):278–285.
- G., I. and Nugraheni, R. (2013). Analisis pengaruh keselamatan dan kesehatan kerja terhadap kinerja karyawan (studi pada pt. *Apac Inti Corpora Bawen Jawa Tengah Unit Spinning 2*). *Jurnal Studi Manajemen & Organisasi*. 10(2), 10(2):160–166.
- Hidayat, S., Putranto, E. H. D., and Syarifudin, N. (2014). Pengaruh penerapan keselamatan dan kesehatan kerja (k3) terhadap kualitas hasil kerja dan kenyamanan pekerja pada proyek pembangunan gedung di probolinggo. *Jurnal Info Manajemen Proyek*. 5, 5:27–36.
- Kristian, M. S., Leonardo, H., and A., E. (2018). Pengaruh cara distribusi pencahayaan buatan pada kenyamanan bercengkerama pengunjung kafe. *Serat Rupa Journal of Design*. 2(2), 2(2):148–162.
- McNamara, J., Griffin, P., Kinsella, J., and Phelan, J. (2017). Health and safety adoption from use of a

- risk assessment document on irish farms. *Journal Of Agromedicine*. 22(4), 22(4):384–394.
- Micheli, G. J. L., Cagno, E., and Calabrese, A. (2018). The Transition from Occupational Safety and Health (OSH) Interventions to OSH Outcomes: An Empirical Analysis of Mechanisms and Contextual Factors within Small and Medium-Sized Enterprises. *International Journal of Environmental Research and Public Health*. 15, 15:1–22.
- Pandiangan, K. C., Huda, L. N., and Rambe, A. J. M. (2013). Analisis perancangan sistem ventilasi dalam meningkatkan kenyamanan termal pekerja di ruangan formulasi pt XYZ. *e-Jurnal Teknik Industri FT USU*. 1(1), 1(1):1–6.
- Prayoga, H. A. (2014). Intensitas pencahayaan dan kelainan refraksi mata terhadap kelelahan mata. *Jurnal Kesehatan Masyarakat*. 9(2), 9(2):131–136.
- Purnomo, D. H., Indasah., and Melda, B. (2018). Analysis of implementation safety and health occupational management system in kertoso general hospital. *Journal for Quality in Public Health*. 1(2), 1(2):78–85.
- Schulte, P. A. et al. 2013. *Occupational safety and health, green chemistry, and sustainability: a review of areas of convergence*. *Environmental Health*. 12(31), 12(31):1–9.
- Vidyautami, D. N., Huboyo, H. S., and Hadiwidodo, M. (2015). Pengaruh penggunaan ventilasi (ac dan non ac) dalam ruangan terhadap keberadaan mikroorganisme udara (studi kasus: Ruang kuliah jurusan teknik sipil universitas diponegoro). *Jurnal Teknik Lingkungan*, 4(1):1–8.
- Zhao, D., Mccoy, A., Kleiner, B., and Feng, Y. (2016). Integrating safety culture into osh risk mitigation: A pilot study on the electrical safety. *Journal Of Civil Engineering And Management*. 22(6), 22(6):800–807.