CHAPTER I
INTRODUCTION

1.1 Research Background

Fire is a situation where a building in a place such as a house or settlement, factory, market, building, and others is hit by a fire that causes casualties and/or losses A situation where a building in a place such as a house or residence, factory, market, building, and others is hit by a fire that causes casualties and/or losses.[1] One of the places with potential fire hazards is at gas stations.

Throughout 2016 in Indonesia, there were 1,139 cases of fires that occurred at gas stations based on data from Pertamina. According to data from PT. Pertamina: The type of incident that often occurs is fire. Losses/victims of the incident died and burned to operators, supervisors, consumers, residents, and drivers. The type of incident that often occurs is fire. Losses/victims of the incident died and burned to operators, supervisors, consumers, residents, and drivers. Therefore, avoid and reduce the risk of danger and disaster, as stated in Surah al-Mulk; 16 Which means: Do you feel safe from the substance of the heavens, that is, the earth is immersed by it with you? The intensity of fires in East Java Province in 2016 reached 263 cases, including fire incidents at gas stations[2].

Gas stations are places that have a high level of fire risk (Major Hazard Accident), that is, if an accident occurs, it will cause very large losses, both loss of human life and other material losses. An accident at one of the gas stations has occurred in Ponorogo Regency, namely the Sinduro gas station on Ahmad Yani Street, Surodikraman village, Ponorogo Regency. The fire emerged from a car and grew.[3]

[1]Zaky Farhan Abror, "Classification of Fire and Non-Fire Images Using Convolutional Neural Network," *Scientific Journal of Technology and Engineering* 24, no. 2 (2019): 102–13, https://doi.org/10.35760/tr.2019.v24i2.2389.

[2]Ayu Mega Lestari, Reny Indrayani, and Kurnia Ardiansyah Akbar, "Overview of Active Fire Protection Facilities and Consumer Compliance with Warning Signs and Signs at Gas Stations as a Fire Prevention Effort," *Ikesma*, 2019, 93, https://doi.org/10.19184/ikesma.v15i2.17546.

[3] Nur Syah, "AUTOMATIC GAS STATION FIRE MITIGATION BASED ON TELEPHONE AND SMS. Thesis (S1) thesis, University of Muhammadiyah Ponorogo." 19, no. 11 (2023): 1.

Fire disasters can have a major impact on lives.[4] Gas stations have the potential for fire hazard because they are a place for the storage process. flammable materials. These fuel oil or gasoline include Premium, Pertalite, Pertamax, Pertamax Turbo, Pertamax Dex, and Solar. Pertamax is one of the flammable liquid materials, which has potential dangers that must be considered. Many factors can be the cause of gas station fires, one of which is the unsafe behavior factor of gas station operators. Based on fire monitoring data in 2010 at gas stations, there have been cases of fires caused by unsafe behavior factors, gas station officers during the process of filling fuel into hidden tanks, warning signs are not installed and there is a source of fire coming from gas station employees who are smoking [5]

The action to minimize the impact of fires at gas stations is by having fire protection facilities. According to the SOP from Pertamina, fire protection facilities at gas stations consist of active fire facilities and passive fire facilities[6]. Active protection facilities at gas stations are in the form of fire detectors, fire alarms, absorbents in the form of sand, hydrants, hose reels and fire extinguishers. Warning signs and signs found at gas stations include: no smoking, photography, using mobile phones, motor vehicles must be turned off, and no plastic jerry cans can be used[7].

Active fire protection facilities at gas stations are very important to be used as a research topic because it is to minimize the occurrence of fire events. Active protection facilities act as fire detectors and carry out emergency extinguishing before the fire brigade arrives at the location of the fire. Fires can occur due to the lack of tools to extinguish fires and consumer knowledge of signs and warning signs that can cause fires at gas stations. Based on the above background, the researcher

[4] Shah.

[5] Novita Affuwani, Jafar Amiruddin, and Nugroho Gama Yoga, "Analysis of Fire and Explosion Risk and Loss in Pertamax Hidden Tank at Public Fuel Filling Station (Spbu) X Using the Dow's Fire and Explosion Index Method," *Journal of Technical and Vocational Education* 4, no. 1 (2021): 13–22, https://doi.org/10.21009/jptv.4.1.13.

[6] Pertamina, "Edition I - 2004," no. pertamina gas station management standards and procedures (2004): 3.

[7] Pertamina.

is interested in taking the research title Analysis of the implementation of oil and gas safety at Ponorogo gas stations

1.2 Research Problem

How is implementation of oil and gas safety at Ponorogo gas stations?

1.3 Research Objectives

Analyzing the implementation of oil and gas safety at Ponorogo gas stations.

1.4 Research Benefits

1. Practical

   Increasing the awareness of workers at gas stations about the importance of implementing oil and gas safety in an installation and also as an evaluation for the future to be better.

2. Theoretical

   Adding knowledge and information in the field of OHS, especially in the field of oil and gas safety implementation and becoming an additional experience in assessing the application of oil and gas safety in a building or facility for the future.

1.5 Authenticity Research

Here is a table form of the authenticity of previous research:

Table 1. Authencity of research

Title of the study	Type of research	Variable	Result	Research differences
Fire safety practices at gas station operators in Blora district**,** (haris Setiawan, blora, 2013)	Explanatory research, the method used is a survey with *a cross sectional* study approach.	Independent: knowing the factors that affect fire safety practices. Dependent: affect fire safety practices, namely attitudes with significant values 0.044 and the OR value is 5.011	From the variables of knowledge and attitude that affect fire safety practices, it was found that attitude was the most dominant variable with the smallest p value of 0.044	The results of the study, where the previous research was to show the relationship between fire safety practices and age and gender. The result of this research are how to implement oil and gas safety at gas station.
Application of BPH Migas regulation number 6 of	descriptive method with qualitative	Independent: analyzing the implementation of BPH Migas	Supervision in the field by the Karawang Regency Government is	The location of the study where previous

2015 to Pertamini/Pommini business actors in Karawang district (Dadan Kurniansyah, 2018)	data analysis.	Regulation Number 6 of 2015 Dependent: Understanding of business actors	constrained by the absence of operational guidelines procedures issued by authorized agencies.	research was conducted on the mini station
The level of employee awareness in implementing occupational health safety and environmental protection (OHS) and Environment at the 44.571.13 Dagen gas station. (Utami Rahmawati, 2016)	This research is a descriptive research with a quantitative approach.	Independent: discusses occupational health and health, OHS environment Dependent: the level of awareness of employees in implementing health safety.	Employee awareness in implementing OHS and Environment is low category	Research instruments. In previous research, questionnaire and interview instruments were used.

The difference between the previous research and the latest research lies in the results of the research, where the result of this research is the feasibility of gas stations for oil and gas safety cheklist. The other difference is in the location and research instruments, where this research was carried out at the Ponorogo gas station and using cheklists the implementation of oil and gas safety. the last difference related to the aspects analyzed, this latest study discusses occupational safety and health as well as the work environment.