UNIVERSITI TEKNOLOGI MARA

STUDY ON THE PREVENTION OF MAJOR ACCIDENT HAZARD (MAH) OPTION BASED ON IDENTIFICATION OF ACCIDENT SCENARIOS FOR DEVELOPING FRAMEWORK IN LAND USE PLANNING (LUP) METHOD

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ABSTRACT

The major accident hazards and land use planning (LUP) is becoming a growing concern. This research wants to study identification of more hazard facilities with respect to LUP to solve the adverse consequences that threaten the nature and human life. There is an urgent need for better understanding of the current regulations and frameworks of major hazard facility (MHF) siting in order to adapt a strategic approach for LUP and preventing major accident hazards. This research main aim is to develop a checklist/framework to study LUP- MHF and validate its effectiveness with practical use in LPG's site planning. The results of applying this checklist in five LPG siting facilities in Malaysia which stored more than 50 tons in their premises and comparison with various standard of Consequence Based Method (CBM) applied from several countries show that most of the receptor who are standing within below than 100m will exposed to high lethality. However, degree of lethality is reduced when the distance of the receptor is increased. Based on results, French method is more stringent compared to Italy and Malaysia. According to findings from library –based research and practical use of developed checklist/framework in MHF-LUP, the Malaysia method is similar to UK standards that should be revised because there is increasing of 6.67% of the people around the LPG askolani vicinity that could be mentioned as unsafe. The research suggested that to impose additional criteria in between 4-12.5 kW/m^2 as practiced currently in Malaysia. The iterative cycles of evaluation and assessing the consequences of a number of scenarios, which then serve as a reference for the determination of protection zones around the installation is also suggested to avoid Domino Effect. It is hoped that this study can contribute and provide more information in the context of MAH-LUP and the developed checklist/framework could be used in MHF siting that is the key issue in LUP.

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