

Khanit Techochalalai 2012: Risk Assessment of the Elevated Train Station Against Lightning. Master of Engineering (Electrical Engineering), Major Field: Electrical Engineering, Department of Electrical Engineering. Thesis Advisor: Mr.Winai Plueksawan, Dr.Ing. 115 pages.

This thesis is a study of a risk assessment from the lightning to the elevated train station to understand the structure of the elevated station, the runway and lightning protection system, and to focus on the causes of a risk assessment in a reduction of damage causing the life loss or permanent injury. As the structures and public services have been consequently damaged, the elevated train station matters must be ensured that it is safe from harm in examples happening in foreign countries.

The study is collected from a data of the Purple Line (Bang Yai-Bang Sue) in a Consideration of the Engineering Institute of Thailand under His Majesty The King's Patronage Criteria (B.D.2553), Part 2 Risk Management. The necessary of protection and the Theory of the international will be applied in all necessary documents from the structural contracts and the summary of the elevated structure station and the elevated structure runway, and take a risk assessment from case of not having and having lightning.

The study shows results so that the method of a risk assessment of the lightning to the elevated train station and international case studies can be applied. The results of a calculation in areas which do not have a lightning protection are 1. The risk from 2.987×10^{-4} at the elevated structure station 2. The risk from 8.388×10^{-4} at the elevated structure runway. The results of a calculation in areas which have a lightning protection are 1. The risk from 5.976×10^{-8} at the elevated structure station 2. The risk from 4.196×10^{-7} at the elevated structure runway. For lightning protection case results which are less than the respective tolerable risk (10^{-5}) in a risk assessment, It shows that the elevated train station is sufficiently protected against lightning, guarantee no loss of life or permanent injury.

Student's signature

Thesis Advisor's signature