Penilaian resiko keselamatan kerja (safety risk assessment) pada pelaksanaan konstruksi bangunan tinggi di DKI Jakarta dengan simulasi monte carlo = Safety risk assessment for the construction of high rise building in DKI Jakarta with monte carlo simulation

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Abstrak

Proactive accident prevention can only be efficiently and effectively implemented if hazardous conditions which may be occurred during the construction of high rise building have been clearly identified prior to construction. Safety risk assessment is an important step to quantify the risk level of hazardous conditions. The degree of control measures which will be applied, will have the same amount of the risk level of each hazards.

Statistic and probabilistic analysis are performed by computer program Crystal BaH® 2000 to decide the amount of risk each hazard has. Monte Carlo simulation is used to simulate nslt model of the data taken from 20 respondent by applying semi quantitative assessment. Data was collected from main contractors who have Significant experiences in high rise building construction.

In general, hazards which might happen during the construction of high rise building can be grouped into 3 energy sources, such as gravity, mechanic and kinetic and also electric. Gravity energy is the most dominant energy influencing, unless serious attention is given by the contractors it can bring many catastrophe. Analysis of construction fatalities from OSHA (1985-l989) and HSE (1981-1985) also show that gravity energy brings the highest contribution from all the construction fatalities.