

**IMPLEMENTATION OF HAZARD IDENTIFICATION, RISK
ASSESSMENT AND CONTROL (HIRAC) ON CONSTRUCTION SITES**

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ABSTRACT

The construction industry plays a vital role in Malaysia's economy. However, construction industry is extremely dangerous and highly risky. In Malaysia, the number of accidents occurred on construction sites have been considered high if compared with other industries. Starting from the year 2007, DOSH has given their highest attention to the implementation of HIRAC on construction sites, and make it compulsory for construction projects exceeding over the costs of RM 20 million to implement HIRAC. This research has been done to identify the effectiveness of the implementation of HIRAC in reducing accidents on construction sites, based on 10 different projects which implemented HIRAC. From structured interviews made with 10 safety personnel who implemented HIRAC in their projects, the research has shown that the basic process of HIRAC was 100 % implemented and carried out. The study also shows each and all process of HIRAC was "effective". In addition to that, structured interviews were also made with 26 consultants from the construction projects, and their feedbacks about the effectiveness of the implementation of HIRAC were analyzed. Their feedbacks shows that HIRAC in identifying all potential hazards; assessing all the risks of hazards; making adequate risk control and accident preventive measures; acting as an occupational safety and health management system; and reducing accidents on construction sites was "effective". Finally, the research also compares the safety performance between construction projects which implemented HIRAC and construction projects which did not implement HIRAC. The research shows that construction project with HIRAC is actually more effective in reducing accidents on construction sites. In conclusion, the implementation of HIRAC is indeed effective in reducing accidents on construction sites.

ABSTRAK

Industri pembinaan memainkan peranan yang penting dalam ekonomi Malaysia. Meskipun demikian, industri pembinaan adalah sangat bahaya dan berisiko tinggi. Di Malaysia, bilangan kemalangan yang telah berlaku di tapak bina telah dianggap tinggi berbanding dengan industri yang lain. Bermula dari tahun 2007, JKPP telah memberikan perhatian yang sangat tinggi kepada pelaksanaan HIRAC di tapak bina, dan mewajibkan projek pembinaan yang melebihi kos RM 20 juta untuk melaksanakan HIRAC. Kajian ini telah dilakukan untuk mengenal pasti keberkesanan pelaksanaan HIRAC dalam mengurangkan bilangan kemalangan di tapak bina, berdasarkan 10 projek pembinaan yang melaksanakan HIRAC. Daripada temubual berstruktur dengan 10 kakitangan keselamatan yang melaksanakan HIRAC di dalam projek pembinaan mereka, kajian ini telah menunjukkan proses asas HIRAC telah dilaksanakan secara 100%. Kajian ini juga menunjukkan setiap satu dan kesemua proses HIRAC adalah “berkesan”. Tambahan pula, temubual berstruktur juga dijalankan dengan 26 perunding daripada projek pembinaan tersebut, dan maklum balas mereka tentang keberkesanan pelaksanaan HIRAC dianalisis. Maklum balas mereka menunjukkan HIRAC adalah “berkesan” dalam mengenal pasti semua potensi bahaya; menilai semua risiko bahaya; membuat kawalan risiko dan langkah-langkah pencegahan kemalangan yang memadai; bertindak sebagai sistem pengurusan keselamatan dan kesihatan tempat kerja; dan mengurangkan kemalangan di tapak bina. Akhir sekali, kajian ini juga membandingkan prestasi keselamatan antara projek pembinaan yang melaksanakan HIRAC dengan projek pembinaan yang tidak melaksanakan HIRAC. Kajian ini telah menunjukkan projek pembinaan yang melaksanakan HIRAC sebenarnya adalah lebih berkesan dalam mengurangkan kemalangan di tapak bina. Secara kesimpulannya, pelaksanaan HIRAC adalah berkesan dalam mengurangkan kemalangan di tapak bina.