Dollaporn Kunlasarn 2007: Ergonomics Study of Employees in Clean Room for Electronic Factory. Master of Engineering (Safety Engineering), Major Field: Safety Engineering, Interdisciplinary Graduate Program. Thesis Advisor: Assistant Professor Prakob Surawattanawan, Ph.D. 80 pages.

Working process in electronic factory usually are routine and repeated works through work time. Working in Clean room of the factory, the workers was necessary to wear a smock suit for control dust and clean in the room. The smock suit were hard to breathe and movement of the workers. Many workers have problems with fatigue due to prolong work, resulting in health problem and low productivity. Ergonomics analysis can be used as a tool to deal with this problem. The objectives of this study were 1) to study organs of the workers that were injured and fatigued 2) to study relation between postures of the worker and injured and fatigued of the organs 3) to determine the solution for reduce injured and fatigued of the organs. The research work begins with data collection from a questionnaire. The questionnaire designed to extract useful information regarding to the objectives was applied to 214 workers. From analyzed data of the questionnaires, the organ of almost workers were injured and fatigued that was 5 organs; back, shoulder, hand, arm and head. For the first issues were found that the workers were usually use 4 postures while work in the clean room. The 4 postures was 1) Sitting and incline backwards posture 2) Sitting and turn to the side posture 3) Sitting straight posture and 4) Standing and turn around posture. Therefore, exercising 5-7 minute in break time (2 times per day) was proposed to reduce injured and fatigued of the organs. The grip strength dynamometer was utilized to measure the muscle strength of workers who did exercise and non- exercise for compare the data. Statistically, it was found that the measured strength of non exercising workers is less than the strength of exercising workers (p-value< 0.05) at confidence level 95%

Keyword: Ergonomics, Clean room, Working Fatigue

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