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Formulation of a Stress Management Program for Human Error Prevention in Nuclear Power Plants

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Abstract : As for any nuclear power plant, human error is one of the most dreaded factors that may result in unexpected accidents. Thus, for accident prevention, it is quite indispensable to analyze and to manage the influence of any factor which may raise the possibility of human errors. Among lots factors, stress has been reported to have significant influence on human performance. Stress level of a person may fluctuate over time. To handle the possibility over time, robust stress management program is required, especially in nuclear power plants. Therefore, to overcome the possibility of human errors, this study aimed to develop a stress management program as a part of Fitness-for-Duty (FFD) Program for the workers in nuclear power plants. The meaning of FFD might be somewhat different by research objectives, appropriate definition of FFD was accomplished in this study with special reference to human error prevention, and diverse stress factors were elicited for management of human error susceptibility. In addition, with consideration of conventional FFD management programs, appropriate tests and interventions were introduced over the whole employment cycle including selection and screening of workers, job allocation, job rotation, and disemployment as well as Employee-Assistance-Program (EAP). The results showed that most tools mainly concentrated their weights on common organizational factors such as Demands, Supports, and Relationships in sequence, which were referred as major stress factors.

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