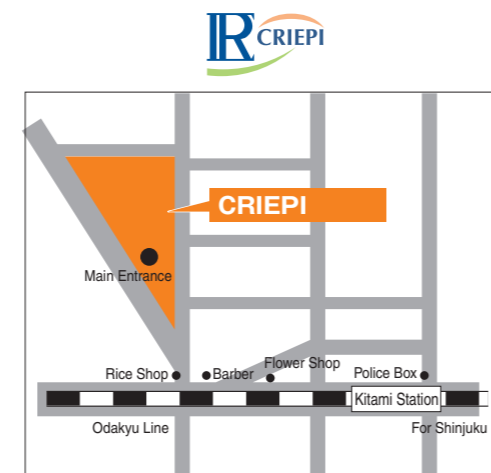




Four research fields and Contribution to society

Issues on human factors are not limited to nuclear power generation only, but also to other domains like power transmission, power system operation, thermal plant, etc. Furthermore, other industries such as petrochemical, medicine, etc. are facing the same kinds of the human factors issues that the electric power industry is facing.

Based on our accumulated research results and experiences, we are engaged in solving human factors issues in those industries and contributing to society.



For stability and safety of electric power facilities
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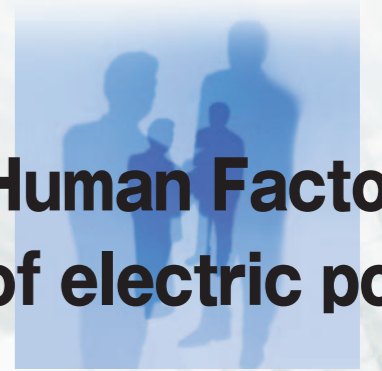
Human Factors
 Research Center



Human Factors Research Center
 Socio-economic Research Center
 Central Research Institute of Electric Power Industry



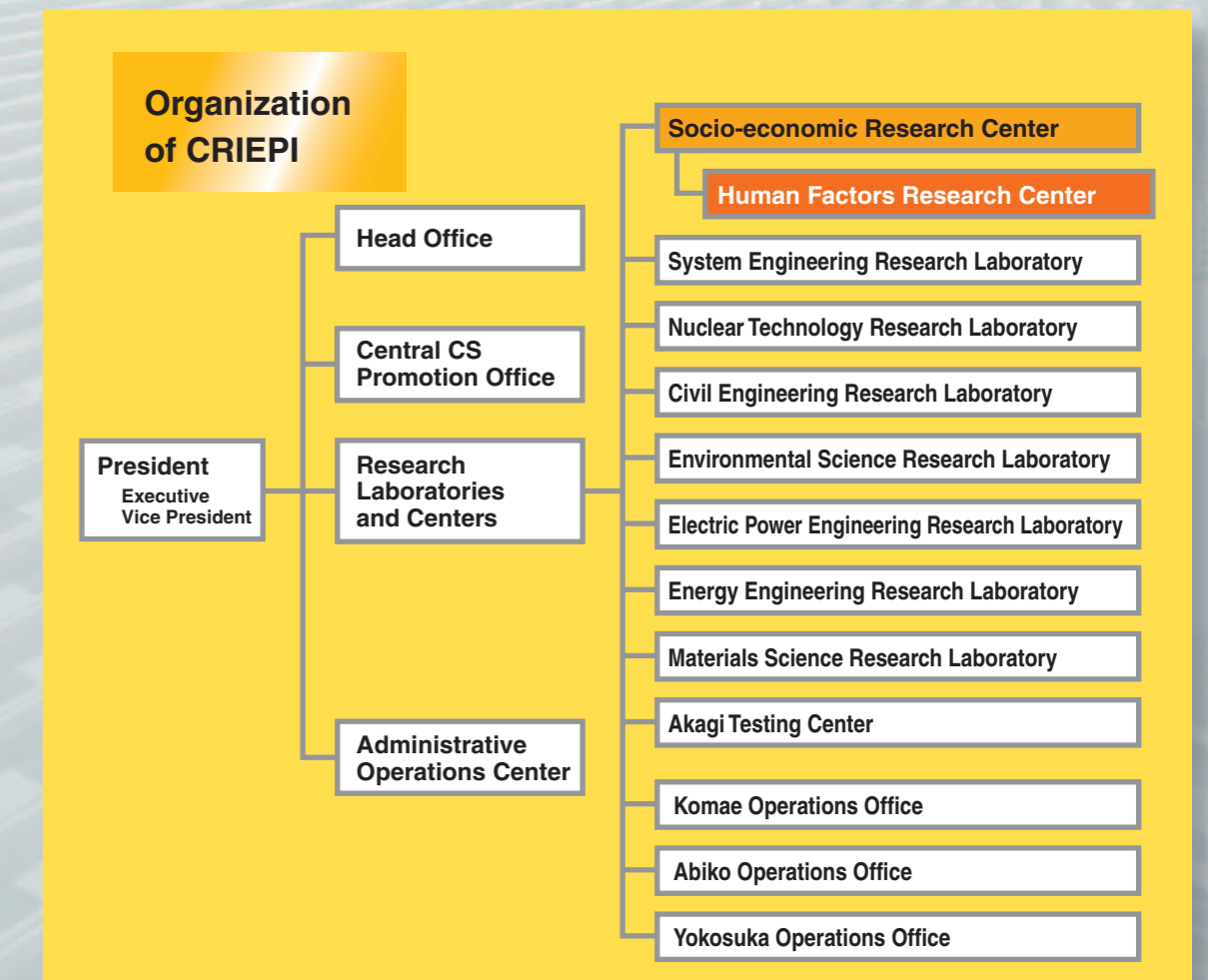
Studies on Human Factors for stability and safety of electric power facilities



Introduction

Central Research Institute of Electric Power Industry (CRIEPI) was founded in November 1951 as a comprehensive research organization for Japanese electric power industry. Since then, CRIEPI has actively worked on tasks to support the activities of Japanese electric power utilities. The results of our researches have contributed to the development of not only the electric power industry but also science and society.

The accidents at Three Mile Island Nuclear Power Plant in 1979 and Chernobyl Nuclear Power Plant in 1986 motivated us establish Human Factors Research Center (HFC) in July 1987 to do researches for enhancing safety and reliability of nuclear power operations. Since then, we have conducted wide researches related to human factors, based on accumulated studies.



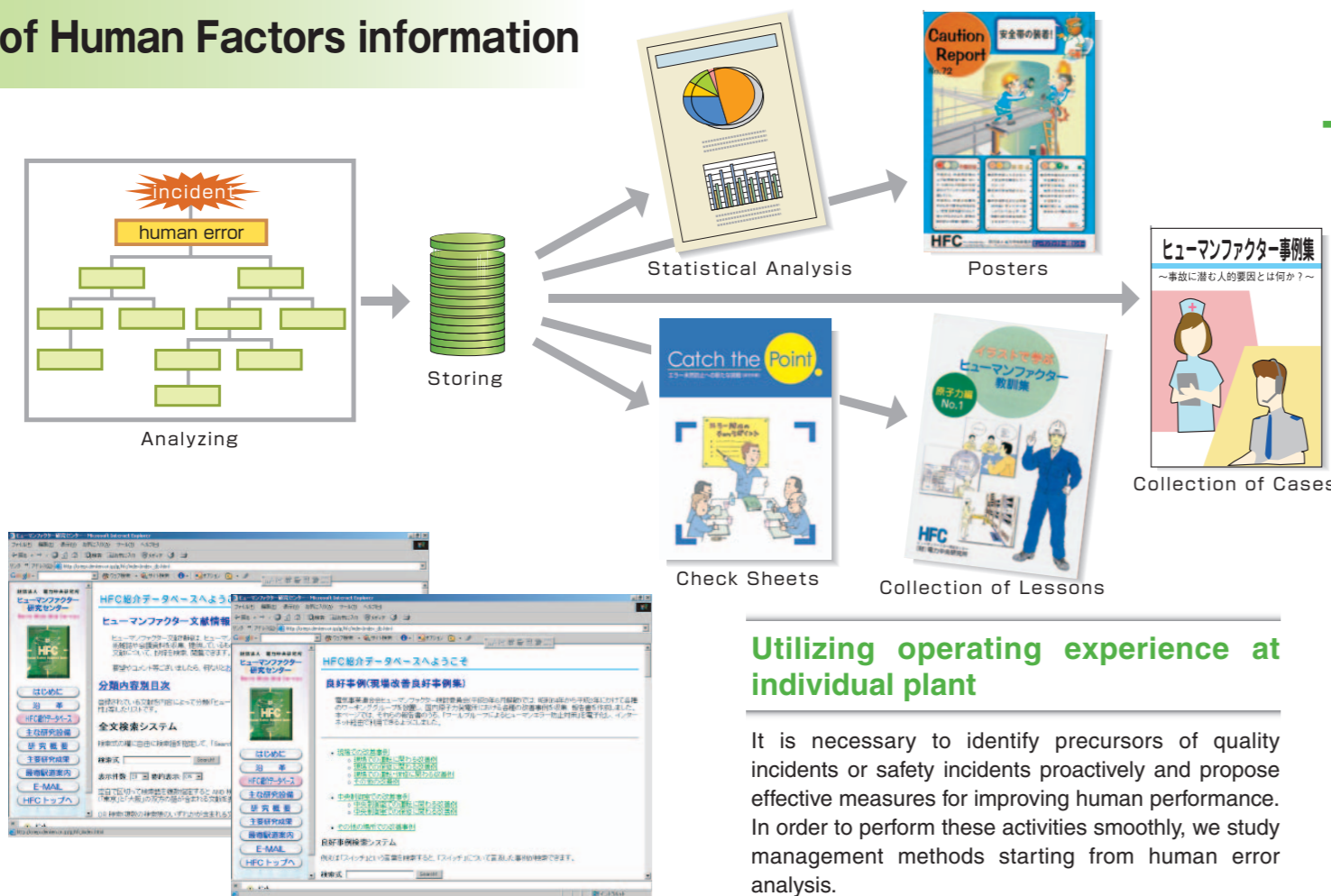
Analysis and evaluation of Human Factors information

Learning from operating experience of other organizations and industries

It is effective to learn from incidents in other organizations and other industries for preventing human errors. In HFC, human errors that occurred in various industries are analyzed using an original analysis method, lessons learned are identified, and posters and booklets are published to share lessons learned.

Human Factors information database

Papers and good practices related to human factors are collected and shared via the internet to learn from domestic and foreign researches and practices.



Utilizing operating experience at individual plant

It is necessary to identify precursors of quality incidents or safety incidents proactively and propose effective measures for improving human performance. In order to perform these activities smoothly, we study management methods starting from human error analysis.

Making good use of experience

Making the best use of human competency

Contribution to Society

The results of our research activities are disseminated widely in various styles as listed below, not only to the nuclear industry but also to various industries in order to prevent human errors and solve various problems concerning safety.

- Providing educational materials for enhancing safety consciousness
- Supporting education/training on human factors
- Dispatching instructors to in-house safety training
- Supporting analysis and evaluation of human errors and incidents
- Offering human factors tools in order to prevent human errors

and so on.

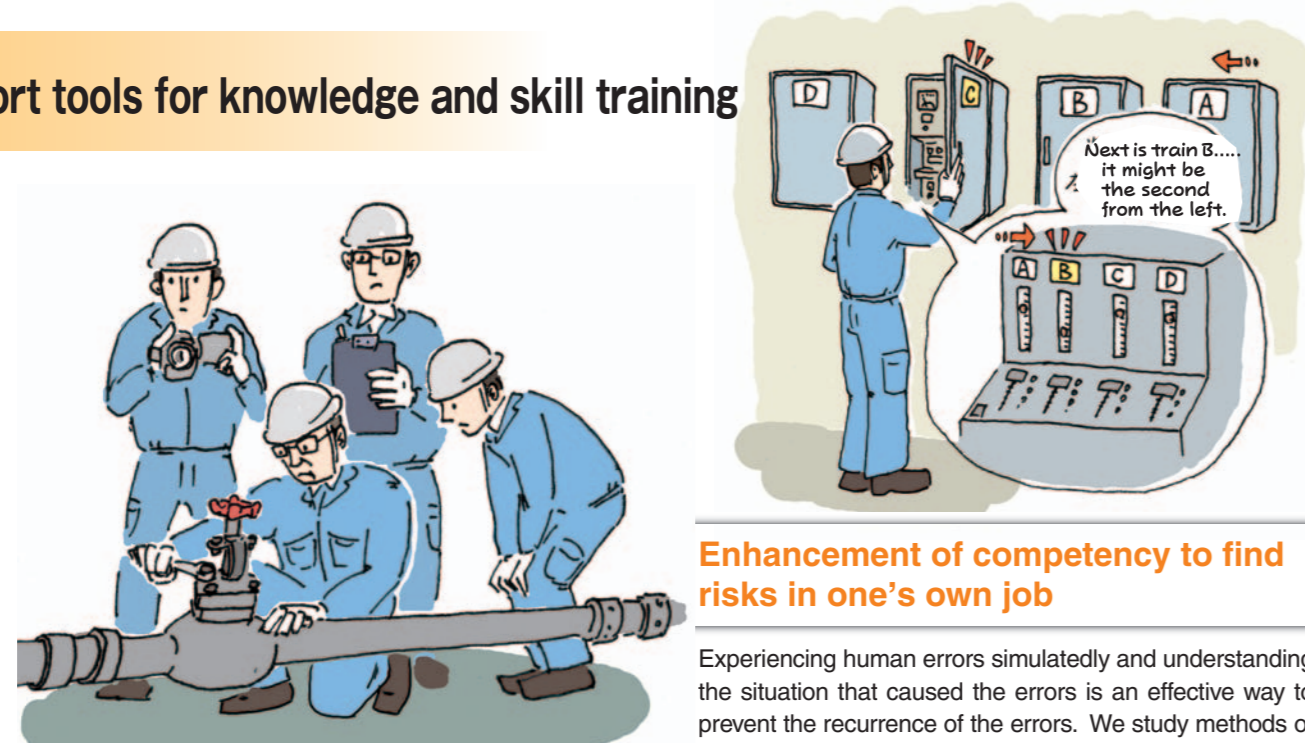
Studies on methodology and support tools for knowledge and skill training

Human factors training

Factors influencing human behavior are called human factors. In order to make human factors training more effective and efficient, we study the systemization of training programs and their contents for the proper understanding of human factors.

Succession of skills and know-how on maintenance work management

Know-how obtained by experienced workers through the years is essential to make maintenance work more reliable and efficient. We study ways to succeed the know-how and risk information of the whole maintenance work efficiently and effectively.



Enhancement of competency to find risks in one's own job

Experiencing human errors simulatedly and understanding the situation that caused the errors is an effective way to prevent the recurrence of the errors. We study methods of enhancing competency to find risks in one's own job through experiencing past human errors.

Making good advances for the future

Making the most use of organization's potential

Studies on behavior of individuals and teams

Effective rest methods

Fatigue sometimes becomes a cause of a human error. To eliminate worker's fatigue effectively, we experiment with when and how people take a rest. We also examine the methods which can remove the sleepiness after a rest, in order that workers can return to work promptly.

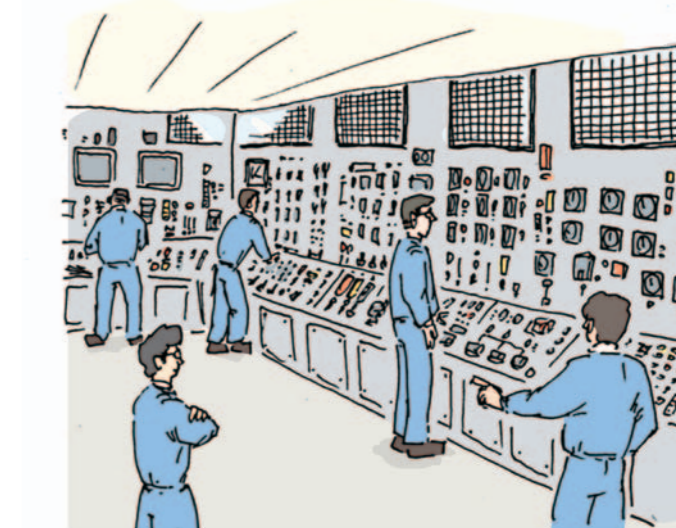


Improvement of motivation

It is the motivation in the job that promotes proactive tackling to safety. We clarify the various factors with regard to the motivation in work and examine the methods that support the improvement of the motivation.

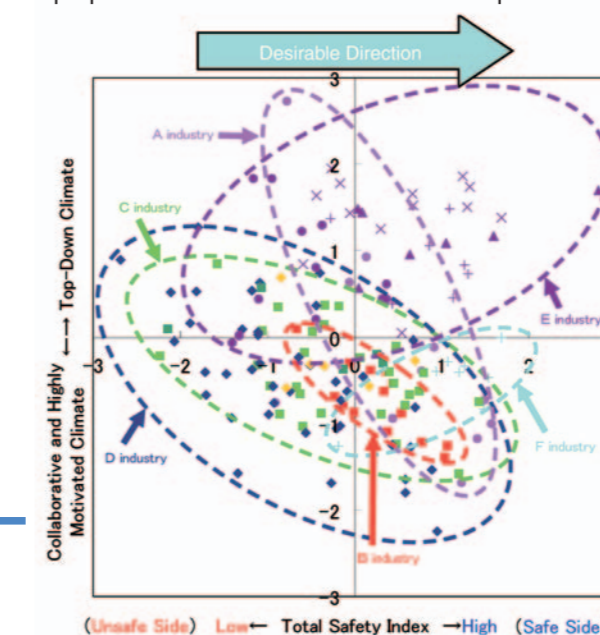
Enhancement of team performance

In addition to plentiful skills and knowledge, good teamwork is necessary for good work. We study methods of evaluating the level of teamwork and also training programs for better teamwork.



Organization factors that influence safety

Organization climate, management, and individual safety consciousness influence the safety of equipment and personnel. We develop methods that reveal the potential problems of organizations by means of a questionnaire survey and propose concrete measures to solve the problems.



Studies on organization climate and establishment of safety culture

Risk detection

It is indispensable to grasp the risks that lurk in the work place in order to carry out safety measures of work effectively. We develop methods that detect the potential risks in each work, utilizing expert's experience and past cases in addition to work analysis.

