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Interrogations to Learn from the Fukushima Accident

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Synopsis

On March 11, 2011, an earthquake in eastern Japan caused the reactors in operation at the Fukushima Daiichi nuclear power plant (NPP) to trip. The emergency generators started and then suddenly failed following the tsunami. The cooling water injection system no longer worked. Suddenly plunged into total darkness, the operators had to manage the accident.

Starting from the official reports and testimonies on the Fukushima accident, IRSN has conducted a survey "Human and Organizational Factors Perspective on the Fukushima Nuclear Accident."
Four years after the accident, however, as more witness accounts become available, IRSN feels useful to return to the human and organizational response to the accident inside the NPP itself. To what extent can the participants act and coordinate their actions when faced with such a dramatic situation? To what degree did their actions contribute to the disaster?

Rather than looking at the causes of the accident, this study examines the unfolding of the crisis, particularly in the most urgent early stages, and draws lessons for safety culture from the decisions and actions of key actors. The main results would be presented in three key areas:

1) How to make sens of the situation ?
People had to make sense of what happened and create new indicators. Since instruments and controls, as well as many communication technologies, were knocked out by the tsunami, all the standard means of determining the status of the reactors were impossible. Although they were under normal circumstances almost completely dependent on these indicators, and although (or because) their lives were most directly at risk, the operators managed this uncertainty through various means that will be successively presented.

2) What are the challenges for the emergency structure?
The Emergency Response Center (ERC) operations team was responsible for being in contact with the operators in the control rooms and providing them technical support as needed. The ERC support was more difficult to provide than expected due to the conditions of the emergency. Different key issues would be proposed to support ERC for coordination and innovation in extreme situations.

3) What is the dynamic decision of the crisis?
Beyond the firm's organization will be examined the relationship of the utility with a still larger organization involved in the response to the accident: the Japanese government.
How the different stakeholders are able to cooperate in addressing the challenges entailed by the accident, adjusting their actions and making decisions accordingly?

Country or International Agency

France

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