

# International Conference on Human and Organizational Aspects of Assuring Nuclear Safety –Exploring 30 Years of Safety Culture



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## The Role of the Regulator in the Field of Safety Culture to Shun Nuclear Accident

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### Synopsis

The 2011 accident at the Fukushima Daiichi nuclear power plant in Japan has, as might be expected, led to improvements in equipment at plants around the world that have fortified safety systems and allowed for better protection against rare, extreme natural events. Equally important to the process of improving nuclear safety is the emphasis placed on implementing quality improvements to the 'human' side of nuclear safety, a crucial element that is often not considered by those outside the nuclear sector. Ensuring nuclear reactor safety is not only a question of physical protection against all credible threats, enhancing robustness of important safety systems and increasing redundancy of back-up power and water cooling systems, but also one of making certain that qualified and trained staff are supported by effective procedures. However, these assets are valued only in an organizational culture that places a premium on ensuring high levels of safety, or implementing what is called an effective 'nuclear safety culture'. Principles/characteristics/factors for effective safety culture are to great extent similar between licensees and regulatory bodies and can be applied for developing RB's safety. Safety is the primary purpose of the regulatory body, Regulator plays a significant role in the field of nuclear safety even though the prime responsibility for safety belongs to the operator, and it is the regulator which actually decides what is considered to be safe. In order to effectively implement the international principle of high level of nuclear safety, nuclear safety culture should be clearly named as an objective in international nuclear legal acts and the regulator's responsibility for promotion of nuclear safety culture should be established. What is more difficult for the regulator is finding the right balance of firmness but fairness in dealing with the operator. In addition to enforcing safety regulations, the regulator should have a positive effect on the operator's safety culture. The regulator can promote safety culture in the operator's organization just through the mere fact of placing it on the agenda at the highest organizational levels. The operator's priorities are influenced by those matters regarded as important by the regulatory body. Thus, the regulator can stimulate the development of a safety culture by providing positive reinforcement for good performance and high quality in plant work processes, by encouraging good safety practices, by promoting the examples of operators having a good safety culture, and by recognizing initiatives of industry organizations. Moreover, Safety culture has been identified as having played an important role in allowing precursor conditions at Fukushima to go unaddressed, thus the main goal of this paper is to discuss the role of regulatory body in the field of the safety culture by determining the level of the safety culture and how to promote and assess safety culture. Also, this paper sheds the light on concerned with defining the attributes of a good safety culture and describing how nuclear plant operators can develop those attributes to produce effective nuclear safety culture.

### Country or International Agency

Egypt

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