

The Effect of Safety and Risk Perception on The Public Acceptance of Nuclear Energy

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Abstract

The public acceptance does not fully depend on the scientific safety. The safety of nuclear power plants in Korea has been improved by several ten times over 20 years. In the 1970s the public acceptance of nuclear power in Korea was very positive because of necessity. Nowadays, however, people consider other environmental factors such as nuclear waste and are looking for the other environmentally sound energy sources. This article shows the progress of nuclear power plants' safety from the viewpoint of science and tries to reveal the structure of publics' attitude toward nuclear power in Korea from the viewpoint of a social study. We will quantitatively show that a significant improvement of the scientific safety has been made over last two decades and the public does not have any discriminative opinion against nuclear power in relation to risk management. However, as a matter of fact, there is considerable criticism toward the utilization of nuclear power. We establish a model in order to explain the relations among several important factors of public acceptance. It explains what the public thinks of the safety of nuclear power, what contributes to the perception of nuclear risk and what factors influence the acceptance of the risk. It is quantitatively found that Korean people regard nuclear power as necessary, but the nearby construction of a plant as another thing. The important factors for explaining such behavior are the judgment of safety and necessity as well as the subjective risk-perception on possible accident, health effect of radiation, and environmental damages. However we should point out that the variance of unexplained factors are high. We miss something important.