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# What level of safety perceived is enough?

- Korean Perspectives to the Communication to the Public -

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## 1. Introduction

Why the communication is talked about in nuclear safety regulation now? Communication is fundamental instrument in human life. Regulators have thought that the public trust them and accept nuclear safety when they are technically competent enough and perform their mission properly. Recently however, the public is not satisfied with the level of nuclear safety provided to them. It causes huge problems now. Today, the public understanding and trust on nuclear safety has become stunning issue to regulatory body as well as nuclear utility itself.

Korea is one of the nations suffering from the problem related with public confidence in nuclear safety. Democratization, growth of civil rights and expansion of NGO's and local resident's influential power is making nuclear development significantly difficult. Despite the government's struggle for 18 years, no local community is willing to host radwaste management facility. Government may re-consider energy policy, if this situation continues, which has been increasing and successful so far.

If we are confident that we are technically competent and thus engineering safety is attained by our efforts, why should we think about communication? The communication plays critical role to achieve the objectives of nuclear safety regulation. It is to provide the public with the confidence in nuclear safety, which is the societal goal to be ultimately achieved by the government regulation. The communication is very significant tool for the public confidence in nuclear safety. That's why we are here talking about it today.

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## 2. What is Regulation and its objectives?

If we are to handle the communication problem in regulation, it is necessary to know the characteristics and nature of regulation itself. Regulation is generally carried out **to achieve certain societal goal** and as for nuclear safety regulation, the goal is to ensure nuclear safety to the level with which the public is content. The regulatory activity is performed by the government on behalf of the public and it is in nature accompanied by deliberate intervention into industry's electricity production activities. Such governmental activity has to be effectively communicated with the general public, residents, media and NGOs in order for the public to be informed of and accept the level of safety achieved

Appropriate attention should be taken into the impact of the regulation on the public, particularly on the emotion of the public such as feeling of safety, satisfaction with the safety level perceived. In that regard, the question “**How safe is safe enough ?**” we frequently have used, I believe, should be changed to “**What level of safety perceived is enough ?**”

## 3. Current Public Related Nuclear Issues in Korea

In nuclear promotion, Korea Atomic Industry Forum and Korea Nuclear Energy Foundation have made efforts to communicate with the public adopting broad approach to the acceptance of nuclear energy. The Government also has made efforts to settle the matter recognizing that the present storage capacity of low and medium level radioactive waste and spent nuclear fuel is approaching its saturation. But it is still very unpredictable because of the opposition of the people in local community and environmental activists.

Lack of communication may be one of causes resulting in the opposition. Engineers wondered why it is so difficult to select a site for radwaste management facility which they think is technically safer than nuclear power plants in operation. They have employed various means to persuade local residents toward acceptance of the radwaste site but in vain. They thought that the facility is safe enough and they understood that local residents' opposition is directly connected with the amount of monetary compensation and unfair allocation of compensatory subsidy to neighboring communities. However, local residents expressed deep-rooted distrust on the government and violently responded to its strong pushing ahead. Finally the site selection issue looks like to go back to the starting point.



Korean people experienced rapid industrialization, modernization and democratization while achieving high economic growth in short period. During the period, civil society emerged, a civilian government took office to flourish the democracy, and the present government proclaimed a participative one to strengthen citizen's rights to speak and act freely. Associated with the changes in society, distrust and opposition to nuclear energy was amplified by the well-organized residents and NGO's activities and new media pandering to the public interest in conflicting issues. The government and nuclear experts have taken things too easy and responded behind time.

These days the public react to minor events occurred in nuclear power plants very sensitively and they don't believe investigation results of the government. Recent events such as Dislocation of thermal sleeves at SI injection nozzle at YGN unit 5 and 6 and radioactivity leak at YGN unit 5 gave rise to the culmination of distrust. The local residents and environmentalists demanded to establish a joint commission of citizen and the government for the investigation into events at YGN plants. The government accepted the proposal of constituting the joint commission. Under an agreement concluded at the commission, an independent investigation into the events will be conducted by a third independent expert organization in foreign countries.

This is an unprecedented case in that there exists a regulatory body that has to independently perform its mission to protect people. I am not sure whether it could be categorized as a 'regulatory failure' or not, however, it is evident that the situation entered difficult phase. Now the challenge that is most difficult is imposed to the government, that is, to regain the public trust and confidence in nuclear safety and regulation. Oscar Wilde said, "Burnt child loves fire". I hope and expect that government burnt by the local residents come to love them more than before.

#### **4. Korean Approaches for Effective Communication with the Public**

The Korean Government, recognizing the importance of communication, is promoting various strategies for improving communication at this moment. Korean approaches used for it are as follows:

**First**, regulators learn and understand what the nuclear safety regulation is. We understand increasingly more about the political and economical aspects of nuclear safety regulation. More attentions have been paid to get the insights on nuclear safety as public goods and a tool for reducing externalities(i.e. risk of radiation) caused by nuclear industries.

We recognize that we should be more active to understand the risk perception characteristics of the public and further understand the sentiments of residents and NGOs instead that we expect them to change their perception first. They are not the object of

education and PR activities by the nuclear engineers and scientists any more. The public is strong and they are ultimate customers of regulators. They have power and more important thing is that they realize it.

**Second**, attitude shift is being promoted, that is, we change from the attitude **that performing regulatory work hard is enough** to the one **that positive openness and transparency in regulatory activities is also important**. To promote the openness, several methods are being tried. From the year of 2003 KINS is holding information exchange symposium to invite local residents, media and NGO twice every year. And **Nuclear Safety Information Center (NSIC)** was established within KINS in 2003. Demonstration of the NSIC was being made at the sites. Development of **Perceived Safety Indicator** is underway to help the public understand easily the safety level of nuclear power plants.

**Third**, socio-psychological approach is experimented. There is good reason to try every possible tool to enhance public communication and also confidence. It is not enough to ensure engineering safety. Satisfying the public or the residents psychologically is also one of the roles of regulators. Just increasing the number of meetings with the public and giving information to the public are not enough to solve the distrust deeply rooted in their mind. A new approach to understand and feel the emotion of the public was tried in 2003 using the **socio-drama(role playing)**. Role playing, developed from psychodrama as one of socio-psychological methods, were performed at KINS together with local residents. We think it would be also one way of effective communication on nuclear safety perceived. We expect this socio-drama approach may promote mutual understanding among stakeholders, such as regulators, residents, NGOs and media.



## 5. Challenges ahead

I view challenges in regulator's efforts for better and effective communication with the public as follows;

**First**, regulatory body does not have enough human resources available in communication with the public. Most of staff working in regulatory body is technicians, engineers and scientists. They are not familiar with public communication and do not have

communication skills. The training of regulatory staffs on the communication and recruits of communication experts or to get advice from them would be necessary. The overcome of phobia for public and reluctance to expose themselves to the public is the prerequisite to the solution of this problem.

**Second**, the public's distrust on regulatory body is resulted from their doubt on the lack of regulatory independence, transparency and openness in regulatory administration. However, it is not easy to change regulatory structure soon. When many things are open to public, unfavorable information released may cause adverse effects to regulatory body in the short run. If regulators seem to be hesitating in the information release or the announcement was behind time, the public would suspect the manipulation of facts or cover-up. In addition, technical terms used in nuclear safety are generally difficult to understand. As the public is busy in their everyday life and there is no reason for them to pay attention to nuclear safety in its normal operation, it is not easy task to make them familiar with technical terms and basics on nuclear safety.

**Third**, as it may be characteristics of Korean people, they tend to act in a political way. Recent democratization and the presence of the participative government have encouraged interest groups to express their arguments and have allowed them to take advantage of nuclear events and accidents for their political purposes as well as safety. Although the regulator announces events and accidents in a timely and open manner, news media amplifies the conflicts between relevant parties and carries articles in disclosing and sensational manner. And NGOs are becoming more influential as well. However, the presence of interest groups, news media and NGOs is not harmful to nuclear safety, rather it bears positive effects in that it may awaken our consciousness before large accident occur in the long run. It is our task how to deal with them.

**Fourth**, the regulator should continue to enhance regulatory quality and pay attention to the performance of regulation, which is related to regulatory effectiveness. The performance or effectiveness is measured in terms of the satisfaction of the public with nuclear safety because the regulator took its mission on behalf of the public. Although public communication, if not properly dealt with, may become the most problematic issue, it is the most effective means to satisfy the public. In this regard, much attention should be paid in the evaluation of regulatory performance.

## **6. Concluding**

The public recognized that nuclear safety related issues are directly concerned with the utility, however, there are increasing recognition that regulators are their agent that performs regulatory mission on behalf of them. It has caused gradually degradation of trust in regulation and also confidence in nuclear safety. Realizing this situation, regulators are making efforts to solve the problem.

We are in the process of accumulating the experiences related with this public issue. Probably the dramatic situation and phenomena nuclear regulator is now experiencing in Korea that has constructed 18 NPPs so far during 35 years with the rapid economic growth, industrialization and also democratization will be a very interesting case for study for many countries worldwide.

There is no free lunch. Regulator should make every effort to satisfy the public and provide them with confidence in safety. The communication with the public would play, I believe, the most important role. The public confidence constructed may contribute to the enhancement of public acceptance of nuclear power, although it is not the primary objective of the nuclear safety regulation.

Finally, I would thank you for your attention and close my presentation introducing modified St. Paul's letter to Corinthians 13.

**"Though Regulatory body speaks with the tongues of experts, and have not mission, it becomes as sounding brass, or a tinkling cymbal. And though it has tens of Ph.Ds, and understands all mysteries, and all knowledge about nuclear fission and radiation; and though it has all faith, so that it could remove mountains, and does not satisfy people, it is nothing. And though it uses all their knowledge for people, and though it gives their body to be burned, and has big nuclear accident, it profits people nothing."**

( Attachment )

## **Recent Public Related Issues in Korea**

### **1. Selection of Radioactive Waste Disposal Site**

Last July, the Buan County that is located in south-west coast of Chollabuk Province applied to host the radwaste site. The application was possible by a full support, almost unanimous, of the resident people of “Wido”, which is a small island located 14Km off the west coast of Buan County. The resident people decided unanimously to host the radwaste site in their island and petitioned to the Buan County Administration. The Council of Buan County pass a resolution to host the radwaste site to the Wido island. As soon as the announcement was made by the County Administration, the media, the public, politicians and even the President praised the County leaders for their brave and wise decision that on other communities could dare to make.

The Utility KHNP, in the meanwhile, conducted a preliminary survey on the site in terms of geological formations, seismic activity, faults, and ground water, etc. The survey results showed that the site was adequate-from the technical point of view. The radwaste site selection committee was called upon almost immediately to consider the application and some other communities were in the process of consensus building among their people. The committee made a unanimous decision, “Wido is to be the candidate site for radwaste disposal.” And the Buan County will be automatically awarded a high tech research complex with a 100MeV proton accelerator at its center as an incentive offered by the MOST.

But, in a few days, they began to realize that the celebration was too early. People in the Municipality Buan began to stage demonstrations calling for the resignation of County Administrator and the withdrawal of the application. The demonstration turned into a violent social turbulence. A regiment of riot police was called into restore law and order, and security in Buan. The confrontation has been going on till now. Very Recently, the Korean Government and utility officials, Buan Community leaders, NGOs and many other stakeholders with differing views and opinions agreed to set up a special committee to facilitate a dialogue among organizations and groups of people to solve the problem peacefully considering the national interest involved. Dialogue and persuasion is going on now. The government and the utility are offering more incentives and special legislation to assure them. When these efforts are effective and successful, the Government will officially designate “Wido” as the radwaste disposal site in July next year pending completion of detailed geological investigation. But, the opposition still remains strong, and the general election is coming up in April next year. So even the lawmakers out of the county are joining the opposition.

Very recently, there was local referendum among residents in the southwestern county of Buan on the housing of Korea's first radwaste storage site in Wido, Buan. Buan residents vote down the nuke site, however, government reaffirmed that the outcome of the local referendum is not legally binding. The political situation around Buan is very sensitive and unpredictable. Everybody agrees that if the site selection fails this time, there will be no hope to find one in the future. Then each power plant site(4 sites in Korea now) should be responsible for building its own radwaste disposal and management facilities.

## **2. Scio-psychological approach for improving communication among stakeholders**

It is understood that enhancing perceived nuclear safety as well as the engineering the nuclear safety. Engineering safety would be maintained as the regulatory inspectors and operators keep their duties and become more mission-oriented as regulator and also licensee, respectively.

Role reversal is expected to reinforce such attitude towards their responsibilities/mission through which the regulatory inspectors and operators experience how the regulators and operators make efforts for the safety of NPP. It may improve their confidence in the efforts of regulators and operators for nuclear safety and, consequently, it will enhance the perceived safety.

Residents at NPP sites experienced significant change in their life by the NPP operation. They are concerned about the possible radiation hazards from NPPs and frustrated as the plants were not constructed in explicit agreements with them. They do not have much confidence in regulators as well as operators. They tend to believe NGO more than regulatory body.

Under that recognition, a socio-drama approach was tried to enhance nuclear safety culture of operator and regulator through role playing and also role reversal of operators, residents at NPP sites. KINS arranged socio-dramas three times last year, one for trial purpose, another for education of safety culture and the third for real performance with local residents. The response to the socio-drama was mixed; some positive and some negative. With keeping in mind the results, a revised socio-drama will be considered in the future to enhance engineering and perceived safety as well as build trust between regulators and residents.

## **3. Opening of the Nuclear Safety Information Center**

Recently in Korea, the public shows a heightened interest in nuclear safety, mostly focused on nuclear power plants and radwaste management facilities. Demand for opening the relevant safety information and getting access to them has been ever increasing as many NGOs, citizen groups and other stakeholders are growing stronger and vocal, and local or regional communities start to demand their "Rights to Know" as part of pursuing their cause.



So, KINS developed nuclear safety information system which will handle all the information, from collecting, processing, storing and up to disseminating them to the public electronically, utilizing today's information technology.

The Nuclear Safety Information Center (NSIC) that operates this information system opened officially on June 11 of last year. NSIC provides all nuclear safety related information, domestic as well as foreign, and licensing and regulatory information and documents. Users may interact with the designated information officers at the center. The system is designed to accommodate the public's desire to be "well-informed" as much as possible and integrate their comments and needs into the operation of the center.

Traditionally KINS has operated its homepage, an information system, to provide information to the public. But the system had to be expanded and upgraded integrating other existing ones to meet the public demand for more and better information services.

The newly established NSIC provides the public with better and improved "on-line" information service at its website in line with what the public demanded for :

- Timely disclosure of and easy access to nuclear safety information as well as regulatory and licensing information and major decision-making documents,
- More detailed information and documents with relevant substance, particularly for accidents and incidents at nuclear power plants, and
- Transparency in providing information to the public focused primarily on licensing and major rule-making process

NSIC is the culmination of national effort to foster public confidence in nuclear safety through opening up of all the decision making procedures and related information and promoting active communication with the public in due process.

The website is open to anyone at <http://nsic.kins.re.kr>. Comments is always welcome.