

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



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Building a Safety Culture in New Comers-A Case for Turkey

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Synopsis

BACKGROUND

Nuclear safety is a dynamic field. The nuclear power industry has been continuing to improve the safety and performance of operating reactors. However since the Fukushima event, nuclear safety and safety culture has become one of the highest priority issues around the world.

Although a safety culture development program is necessary for all nuclear countries and companies, it is especially critical for new comers starting from the pre-operational phase.

SAFETY CULTURE ASPECTS IN NEWCOMERS

When a country embarking on a Nuclear Power Program, there are many aspects to consider. Building a national nuclear power infrastructure as one of the priority is a complex issue, requiring several years of planning. Implementation of nuclear safety infrastructure includes various steps. Major progressive steps for ensuring nuclear safety requires the availability of suitably qualified staff and the establishment of an effective safety culture in the country of concern.

However building safety and security culture in new comers is a complex process. It is a challenge! Major questions and debates are mainly on; how to build safety culture? How to assess factors influencing safety culture? How to implement program by utilizing lessons learnt from the past experience of nuclear industry in the nuclear power countries and nuclear accidents. What is the best practice for creating a strong, positive, reliable, manageable, sustainable safety culture?

A dynamic newcomer -Case for Turkey

Turkey has undergone through various NPP bidding process during the past five decades. Although previous plans failed, they provided a valuable experience and helped to develop basic nuclear infrastructure required for the implementation of the current NPP projects.

Turkey has been developing legal and regulatory framework, human resources, safety security, safeguards, and waste management programs steadily. Also operational radiation safety program to meet the minimum radiation safety requirements of the IAEA's Basic Safety Standards for Radiation Protection.

Turkey emerges as a dynamic newcomer with two NPP project (namely Akkuyu and Sinop) under progress. According to the targets of MENR, the share of nuclear generation in the total installed capacity of Turkey is projected to be up to 5% until 2020, 10% until 2023 and as foreseen in national plans it is proposed to increase further in long term.

NUTEK SAFETY CULTURE DEVELOPMENT PROGRAMME (NUSAC) METHODOLOGY

Building a safety culture in Turkey and in other new comers is a priority of NUTEK. One of our purpose is to establish a methodology for an integrated strategy aiming at Safety Culture infrastructure for developing countries, non-major power reactor program.

The aim of NUSAC (NUTEK SAFETY CULTURE) Program is to contribute to improve Turkish industrial safety and occupational health status by building a « safety culture training program» along with the « localization

activities» Starting from the pre-operational phase of the Turkish national NPP program, NUSAC Plan has short, medium and long term objectives and will be implemented in phases progressively.

This comprehensive NUSAC program stipulates the cooperation with key authorities and stakeholders; MENR, regulatory authority, private sector, industrial chambers, universities and related NGOs.

Our resources are;

- Highly qualified and experienced national and international network of experts.
- Compilation of IAEA references on safety and security (safety requirements, safety guides and safety standards).

Current status of NUSAC under progress consist of:

- Training material modules - prepared in Turkish.
- Case studies on past natural hazards, technological disasters, mining accidents, traffic accidents ... occupational accidents and every day incidents in Turkey and in other selected newcomer countries.
- Reliable data base on accidents, analysis of near misses, component and equipment failures.
- Insights gained from the risk perception survey and human performance studies under stress integrated into the training modules.

CONCLUDING REMARKS

NUTEK core team members has a broad technical knowledge and experience in nuclear matters including safety and security. In addition, we can draw on our partner's knowledge and experience as well as the members of our network of national and international experts.

NUTEK having access to a technical knowledge and experience with its core team and members of network intends this valuable knowledge for the Turkish industry to use as guidelines for training and good practice by individual members for the development of safety and security culture.

This knowledge and experience is a valuable assets in developing of safety and security culture in Turkey thru training of all types of stakeholders. Industrial safety conditions and quality standards will be improved with parallel to the implementation of nuclear safety standards and building organizational safety culture in the local industries during preoperational phase of first two NPP projects.

Country or International Agency

Turkey

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