

October 24, 2003

MEMORANDUM TO: John H. Flack, Chief  
Regulatory Effectiveness Assessment and Human Factors Branch  
Division of Systems Analysis and Regulatory Effectiveness  
Office of Nuclear Regulatory Research

FROM: Julius J. Persensky, Senior Technical Advisor */RA/*  
Regulatory Effectiveness Assessment and Human Factors Branch  
Division of Systems Analysis and Regulatory Effectiveness  
Office of Nuclear Regulatory Research

SUBJECT: TRIP REPORT TO PARTICIPATE IN THE INTERNATIONAL ATOMIC  
ENERGY AGENCY (IAEA) TECHNICAL MEETING ON THE ROLE OF  
GOVERNMENTS AND REGULATORS IN FOSTERING A STRONG  
SAFETY CULTURE, SEPTEMBER 8 - 13, 2003, VIENNA, AUSTRIA

Attached is a summary trip report for my travel to Vienna from September 8 to 13, 2003, to participate in the International Atomic Energy Agency technical meeting on the Role of Governments and Regulators in Fostering a Strong Safety Culture. There were 25 countries represented at the meeting of 29 participants. There were both plenary and break-out sessions that addressed regulatory impact, cultural issues, regulatory strategies, and regulatory evaluation of safety culture as they relate to the role of the regulator in fostering safety culture within operators.

No Actions by the Commission are recommended as a result of this trip.

Attachments: As stated

cc w/att:  
W. Dean, AO  
J. Dunn Lee, OIP  
T. Rothschild, OGC

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## NRC INTERNATIONAL TRIP REPORT

**Subject:** Participation in the International Atomic Energy Agency technical meeting on the Role of Governments and Regulators in Fostering a Strong Safety Culture

**Dates of Travel, Country and Organizations Visited:** September 6-13, 2003, Vienna, Austria, International Atomic Energy Agency (IAEA)

**Author, Title, and Agency Affiliation:** Julius J. Persensky, Senior Technical Advisor, REAHFB, Office of Nuclear Regulatory Research

**Sensitivity:** Not applicable.

**Background/Purpose:** There is an increasing awareness of the importance of developing a strong safety culture for successful and sustainable nuclear safety performance. Challenges facing the nuclear industry, such as deregulation and the move towards decommissioning in some countries, and the accompanying changes introduced to meet these challenges, can have a substantial impact on the safety culture of the organization. It is also acknowledged that the strategies adopted by member state governments and regulatory agencies have an impact on safety culture, and hence safety performance.

Over last four years IAEA has hosted three consultants meetings on incorporating safety culture into the regulatory framework. The meetings have highlighted a number of important issues that needed to be discussed by a wider group of experts, and if possible, to obtain consensus on the topic. One key issue is the need for guidance on how governments and regulators can foster the development of a strong safety culture within their own, and their licensees', organizations.

The purpose of the technical meeting was to facilitate a broad exchange of practices and experiences between member states in the area of regulatory and government body promotion of safety culture. This included sharing good practices and lessons learned from the various ways in which this is being done, and share experiences in the area of government and regulatory body promotion of safety culture.

**Abstract: Summary of Pertinent Points/Issues:** Safety Culture is a concept recognized by many in the nuclear community as a fundamental prerequisite for the safe use of nuclear power. The question about the role of governments and regulators in fostering a strong Safety Culture has been the topic of many discussions among regulators the industry and at professional meetings. Therefore, the IAEA initiated an effort through consultant's meetings and this conference to address this issue. The objective of the meeting was to provide recommendations to Governments, Regulators and to the IAEA.

The meeting focused on four topics:

- The impact of the regulator on the Safety Culture of Licensees
- Cultural differences in regulatory aspects of Safety Culture
- Regulatory strategies in the area of Safety Culture
- Approaches to evaluate - analyze - describe Safety Culture

The final report of the meeting will be formatted to address each of these issues and recommendations related to them for the IAEA and the regulators. Highlights from the meeting are presented in the Discussion.

**Discussion:** Safety Culture is a concept recognized by many in the nuclear community as a fundamental prerequisite for the safe use of nuclear power. Since its formal introduction by the IAEA with the document INSAG-4 "Safety Culture", many organizations including the IAEA have been developing approaches to foster and to assess Safety Culture. In the 1990s new challenges to organizations operating nuclear power plants appeared including deregulation, retirement of the first generation of NPP staff, changes in the political climate. Regulators, operators, research institutes and international organizations then became aware of the important influence of human and organizational factors on the safety of nuclear installations.

In this context different organizations started new efforts to understand the nature of safety culture. The IAEA devoted special resources to this area and organized several meetings to discuss these issues. The question about the Role of Governments and Regulators in fostering a strong Safety Culture was brought up in almost all of these discussions. Therefore, the IAEA decided to organize a technical meeting devoted to this single subject.

The meeting was attended by 29 participants from 25 IAEA member states. The group was truly diverse, representing different cultures, regulatory approaches and nuclear programs. The participants also had different educational backgrounds - nuclear engineering, radiation protection, social sciences. These differing backgrounds presented significant challenges and opportunities to the discussion of regulating Safety Culture. The variety of ideas and concepts brought a broad perspective to the discussions.

The objective of the meeting was to provide recommendations to Governments, Regulators and to the IAEA. Due to the fact that the majority of the participants were members of regulatory bodies the discussions focused on the role of regulators. The role of government was not completely neglected and part of the discussions touched issues like political climate, involvement of the public, etc. However, the limited time did not allow detailed consideration of this area.

The report from the meeting will give a summary of the presentations, details and findings of the discussion as well as recommendations to regulators and the IAEA. There were break out sessions on:

- The impact of the regulator on the Safety Culture of Licensees
- Cultural differences in regulatory aspects of Safety Culture
- Regulatory strategies in the area of Safety Culture
- Approaches to evaluate - analyze - describe Safety Culture

The report will be formatted to address each of these issues and recommendations related to them for the IAEA and the regulators.

Some highlights from the discussions are:

There were some excellent presentations on established practices in member countries which gave a base for the discussion of the main discussions topics.

Some countries that have only materials licensees are making strong progress in the area of safety culture.

The discussions revealed the difficulty to give a single and commonly accepted definition of the role of regulators in the area of safety culture due to the differences in the culture and the legal framework of the countries.

The participants emphasized the need of professionals in this area and recommended the increase the use of Human and Organisational Factors expertise in the development and application of instruments to foster and evaluate Safety Culture. There was a stated need to employ Human and Organizational Factors experts at nuclear regulatory organizations. The fact that only about 1% or less of the members of Regulatory Bodies are Human and Organizational Factors Specialists questions the claims of senior regulators that Safety Culture is an important issue.

The influence of the regulator on the Safety Culture of licensees suggested the need for regulators to question their regulatory strategies, and to foster and evaluate their own Safety Culture.

There was a common understanding that many documents on safety culture exist. However, this documentation is not consistent enough to allow a commonly accepted approach for fostering and evaluating Safety Culture. Therefore, more guidance and support on an international base would be very helpful.

The leadership of the IAEA was acknowledged and the IAEA was encouraged develop guidance documents, evaluation tools and criteria in the area of Safety Culture.

IAEA sponsored a consultant's meeting on development of indicators for monitoring safety culture September 15-19, 2003.

Some individual countries are also pursuing the development of objective measures and performance indicators and are interested in possible collaboration.

On another topic, I met with Tom Mazour of the IAEA to learn what they are doing in the area of Knowledge Management. To date they have performed a survey to determine the extent of the problems associated with knowledgeable people leaving the industry. Their findings thus far are that the problem is mostly in countries where there is no growth or a reduction in support for the nuclear power industry. Where there is still growth, there is a vital pipeline of professional entering the industry. Some countries are taking the position that they will start to hire 3-5 years prior to individuals retirement.

**Pending Actions/Planned Next Steps for NRC:** In accordance with current Commission guidance to monitor international activities to measure and regulate safety culture and to monitor efforts to develop objective measures that serve as indicators of possible problems with safety culture, the staff will continue to participate in meetings similar to this as well as to interface with organizations and individual countries that are working to develop measures and indicators.

**Points for Commission Consideration or Items of Interest:** No action is required by the Commission.

**Attachments:** None.

Please contact J. Persensky, (301) 415-6759, for any additional information regarding this trip.