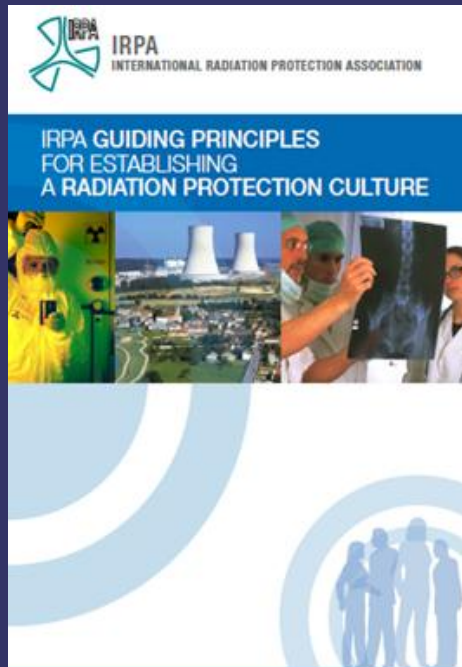




# IRPA guiding principles on Radiation Protection Culture drawn up by RP professionals for the benefit of RP professionals



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## Role of IRPA

# The international voice of RP professionals

### ***Value and strength of IRPA:***

***Enormous resources of practical knowledge and experience in radiation protection and neighboring specialist fields***

- 50 Associate Societies representing 62 countries ;
- Almost 18,000 individual members

*IRPA provides a medium for communication and advancement of radiation protection throughout the world -*

*and has recognised the importance of establishing a sound **radiation protection culture***





# RP Culture: Goal ?



- **From nuclear industry to the medical sector, this first IRPA Guiding Principle on RP Culture is a common document about culture from the perspective of professionals, geared towards professionals**

- **The purpose was to capture the opinion and standpoint of RP professionals on what constitutes a strong RP culture.**

- This guidance has been developed in an inclusive and consultative approach





# Enhancing RP Culture is a Process

- IRPA's Guiding Principles incorporate approaches from different countries and regions of the world, and from different sectors: medicine, industry and regulators.



**2nd IRPA Workshop on Radiation Protection Culture**  
Thursday 10 and Friday 11 February 2011



**1st IRPA Workshop on Radiation Protection Culture**

organised by



International Relation Commission

Monday 14 and Tuesday 15  
December 2009



**Jornada de Cultura de la Protección Radiológica**  
Día 15 de junio de 2.009  
Cátedra Rafael Mariño del Instituto de Ingeniería de España, Madrid

El objeto de esta Jornada es presentar las manifestaciones concretas de la cultura organizativa y su influencia en los resultados y en la producción radiológica de la radiación y dar a conocer las competencias mínimas y potenciales organizativas necesarias para gestionar los complejidades inherentes en organizaciones que regulan actividades de fiabilidad y seguridad.  
La Jornada está dirigida a profesionales de la producción radiológica con responsabilidades sobre la radiación y sus parámetros que la generan.

CULTURA ORGANIZATIVA, CULTURA DE SEGURIDAD Y DE LA PROTECCIÓN RADIOLÓGICA, INTEGRACIÓN DE LA CULTURA EN EL MODELO DE GESTIÓN, EVALUACIONES PRODUCTIVAS DE LA CULTURA, TÉCNICAS DE BIENESTAR, MEDICIÓN DE LA CULTURA DE LA PROTECCIÓN RADIOLÓGICA, INFLUENCIA DE LOS OBJETIVOS Y DE LOS COSTORES EN EL DESARROLLO DE LA CULTURA: UN RETO. COMPETENCIAS DIRECTIVAS.



con la colaboración de:



tecnatom, s.a.



UNION INTERNATIONALE  
DES CHEMINS DE FER  
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75015 PARIS





# Common Basis

There are no differences between sectors (medical, research, nuclear industry) whereby RP Culture can be understood as **a combination of habits and knowledge of RP:**

1. in all its aspects for patients, workers, population and environment,
2. and in all exposure situations,
3. combining scientific and social dimensions.



# Questions during the IRPA meetings

- What are **the elements of the culture** and how could we define it?
- Is it possible to **assess the RP culture** and what could be the criteria?
- How to **engage the stakeholders** (regulators, operators, professional organizations...) in the process of developing RP culture.
- What is **the role of RP professionals and IRPA AS** with regard to RP culture?
- How is **regional culture** included?
- What are the **criteria for success**?



# Safety Culture vs RP Culture

**Safety culture** is a concept that has been defined by different institutions, organizations, and there is a common understanding of its meaning

- Safety culture includes nuclear safety, RP, occupational safety, security, health, environmental safety, patient safety ...
- Hence, RP culture in our organizations should be seen as the implementation of RP principles inside the framework of safety culture
- RP Culture and Safety Culture are not opposed. **RPC is part of SC, with peculiarities: both are looking at human errors and the human side of safety.**

# What is meant by Culture?



- ❑ The ideas, beliefs and customs that are shared and accepted by people in a society.
- ❑ That complex whole, which includes knowledge, belief, art, morals, law, customs, values, symbols, rituals and any other capabilities and habits, acquired by people as members of society that determine appropriate attitudes and behavior





# Culture comes from three sources



- (1) Beliefs, values, and assumptions of the **founders** of an organization,
- (2) Learning **experiences** of group members as the organization evolves (Groups of people who have shared significant problems, solved them, observed the effects of their solutions, and who have taken in new members)
- (3) Beliefs, values, and assumptions brought in by **new members** and leaders.



# Why are we interested in a specific Radiation Protection Culture?

**Embedding RP at a cultural level within an organization is by far the most effective way of delivering the performance to which we all aspire.**

- To give visibility to the fundamentals of RP
- To promote radiation risk awareness (conscience)
- To promote shared responsibility among practitioners, operators, manufacturers, management and regulators
- To maintain the RP heritage
- To facilitate its transmission
- To improve continuously the quality and effectiveness of RP
- To contribute to the general safety

# RP culture development and improvement

What are the ways to impact radiation protection culture?

- **Strong leadership,**
- **Education and training,**
- Establishment of **a positive behavior at the working place** ( Individual and collective behavior)
- A proper **communication** among all practitioners.
- Similarly, **learning from events**, incidents and near misses is an important part of culture development.





# The zero risk doesn't exist , Process must be fault tolerant that's why

- **Responsibilities must be Understood**
- **Responsibilities must be Manageable**
- **Early Warnings must be Available**
- **Must Learn from others Mistakes**
- **Corrective Actions must Occur**
- **Audits must be Conducted**
- **Peer Review must Happen**
- **Process should be Accredited**



# Example: 9 behavioral elements of general safety culture from U.S.NRC



<b>Leadership Safety -Values and Actions</b>	<b>Problem Identification and Resolution</b>	<b>Personal Accountability</b>
<p>Leaders demonstrate commitment to safety in their decisions and behaviors</p>	<p>Potential impacts on safety - promptly identified, evaluated, prioritized, addressed and corrected</p>	<p>All individuals take personal responsibility for safety</p>
<b>Work Processes</b>	<b>Continuous Learning</b>	<b>Environment for Raising Concerns</b>
<p>Maintain &amp; enhance safety when planning and controlling work activities</p>	<p>Seek opportunities to learn &amp; Implement safety methodologies</p>	<p>Personnel feel free to raise safety concerns <u>without fear</u></p>
<b>Effective Safety</b>	<b>Communication</b>	<b>Respectful Work Environment , Questioning Attitude</b>
<p><u>Communications focus on safety</u></p>	<p>Trust and respect permeate the organization</p>	<p>Individuals identify discrepancies in existing conditions &amp; inappropriate actions</p>



- **The assessment tools of radiation protection culture can be done in several ways,**
- **using a combination of quantitative and qualitative tools required to assess the level and quality of radiation protection culture,**
  - **not only to measure the identified criteria of success,**
  - **but also to stimulate judgments and observations about positive or negative trends for such a given criteria**
  - **and observations about positive or negative trends, or even to modify them with a view to determining trends and improvements or negative drifts in radiation protection culture**
- **Assessment of RP culture relates both to internal and external rules**





## Assessment of RP culture - 2

- At the local level, a RP application could provide for example:
  - A **formalized procedure** to assure that the workers know the principles of RP
  - Confirm that there is an established **internal procedure for refreshing and for updating courses and training** provided to workers and professionals.
  - Formally **entrust the position of the RP expert** with the responsibility to teach and refresh theoretical and practical knowledge and RP related duties;
  - Formalized **self-assessments to evaluate the workers' radiation protection culture**: random checks via questionnaires filled in by the patients about radiation protection culture;
  - Check first the existence of a **'blame-free' policy to report and track errors and near misses in an open and constructive way.**



## Assessment of RP culture - 3

- **At the level of third parties involved in the supply of RP equipment, the following tools can be applied:**
  - **Vendors** of ionizing radiation facilities (including nuclear medicine, radiotherapy, diagnostic imaging or industrial applications) or **service providers** in this area (maintenance, transportation of sources and other third-party services) should **undergo an external independent audit to establish the existence of an appropriate level of radiation protection culture among the staff directly involved;**
    - This point may imply the involvement of a regulatory body
  - **Review relevant documents in order to provide information on the level of radiation protection culture.**



# Role of RP professionals

The RP practitioners must be aware that interaction with wider stakeholders is essential for the development and application of workplace culture

## The main stakeholders:

- The workforce (at all levels)
- Senior managers and Directors
- Contractors
- Equipment manufacturers, vendors and suppliers
- Regulators and other authorities
- Medical and health professionals, especially but not exclusively those who are using ionizing radiation,
- Functional leaders and risk managers
- Patients

## RP professionals need to:

- Display **strong personal leadership and motivation**
- Develop **a narrative on radiation protection in all exposure situations**
- Develop **relationships with management, the workforce and the regulators**
- Consider following the NRC-style approach **to develop a policy statement on radiation protection culture**



# Conclusion

- Developing a “field culture” in addition to the “science, engineering or medical culture” is a way to anticipate problems and to obtain the commitment of all employees.
- Radiation protection culture is **a learned way of life**. It must be an **ongoing dialogue**
  - Among safety professionals, organizational management and the workforce
  - Between organizations and relevant stakeholders
- Associate Societies and all RP professionals should consider how best to use the IRPA guidance to develop RP culture within their national systems and organisations
- In due course, to feedback so that the IRPA guidance can be improved and expanded



## Process - Next Steps

- **IRPA is exploring now the possibility of developing more practical guidance for the medical sector in association with IOMP , WHO**
- **And all RP professionals**



# Conclusion

These guiding principles provide also an opportunity for celebrating IRPA's 50th IRPA anniversary



**This Guidance is a symbol for the IRPA anniversary:**

**“from the past, toward to the future, but with a common culture”**

International Radiation Protection Association

<http://www.irpa.net>