



« Exploring 30 years of safety culture »

Developing Nuclear Safety Culture within a Supplier Organisation – An Insight from AREVA

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To which extent the **safety culture** fundamentals, for example as developed by WANO, apply to **supply activities** ?

Design, construction, supply



From commissioning



***Some features of the safety management transformation
being implemented at AREVA***

► Genesis

- ◆ WANO (La Hague recycling facility) and INPO
- ◆ Internal independent oversight (general inspectorate, Comex safety)
- ◆ Generation changes + group reorganisation,
- ◆ New facilities (GB2, Comhurex) + EPR commissioning
- ◆ Regulatory framework

► Key drivers

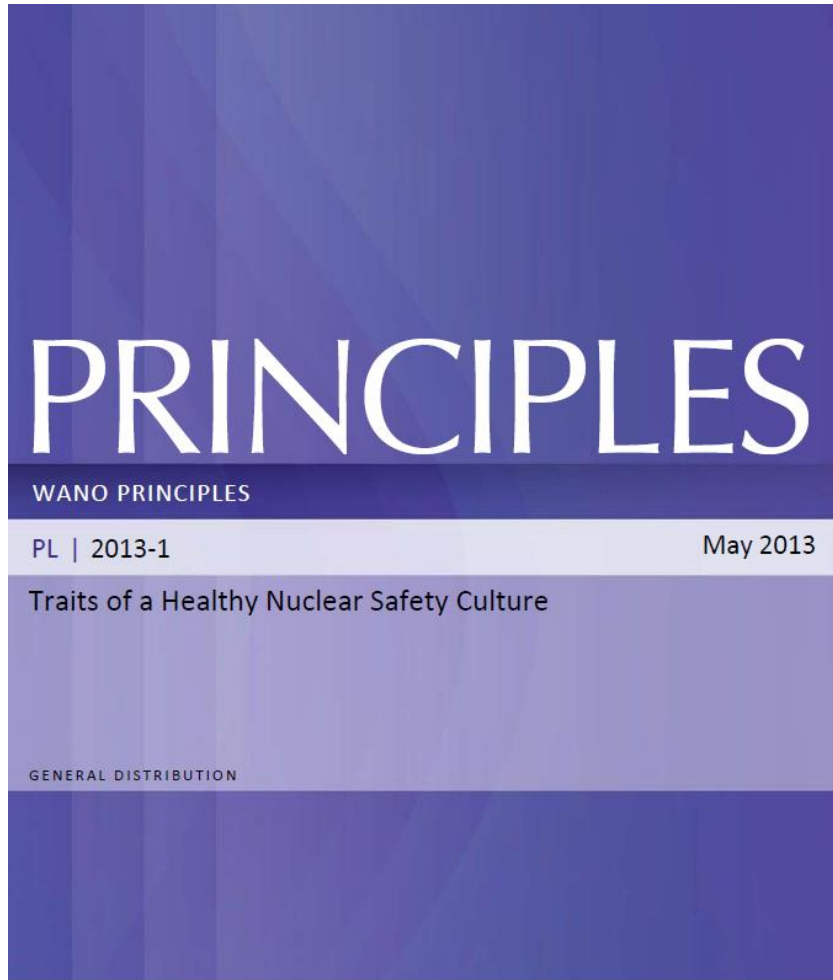
- ◆ Management in the Field
- ◆ Leadership
- ◆ WANO safety culture principles and good practices
- ◆ NSAC (Nuclear Safety Advisory Committee)



Top management involvement (Comex safety, NSAC, reorganisation).

Cascading principles from COMEX to all levels.

WANO principles: traits for a healthy safety culture



- ▶ **Individual commitment to safety**
 - ◆ personal accountability
 - ◆ questioning attitude
 - ◆ safety communication
- ▶ **Management commitment to safety**
 - ◆ leadership accountability
 - ◆ decision making
 - ◆ respectful work environment
- ▶ **Management systems**
 - ◆ continuous learning
 - ◆ problem identification and resolution
 - ◆ environment for raising concerns
 - ◆ work processes

Safety culture assessments at non nuclear facilities

NSAC triggered and supervised safety culture internal assessments in three European manufacturing facilities.

▶ Along WANO & INPO principles

- ◆ Referential : “traits for a healthy safety culture”
- ◆ Field observations (# 300 facts)
- ◆ Trending and regrouping : Areas for Improvement, Stengths, Observations
- ◆ Exit meeting, Exit Rep, streamlining, action plan, report to NSAC, follow-up planned.

▶ Internal assessment team Leadership

- ◆ 8 people
- ◆ French + US

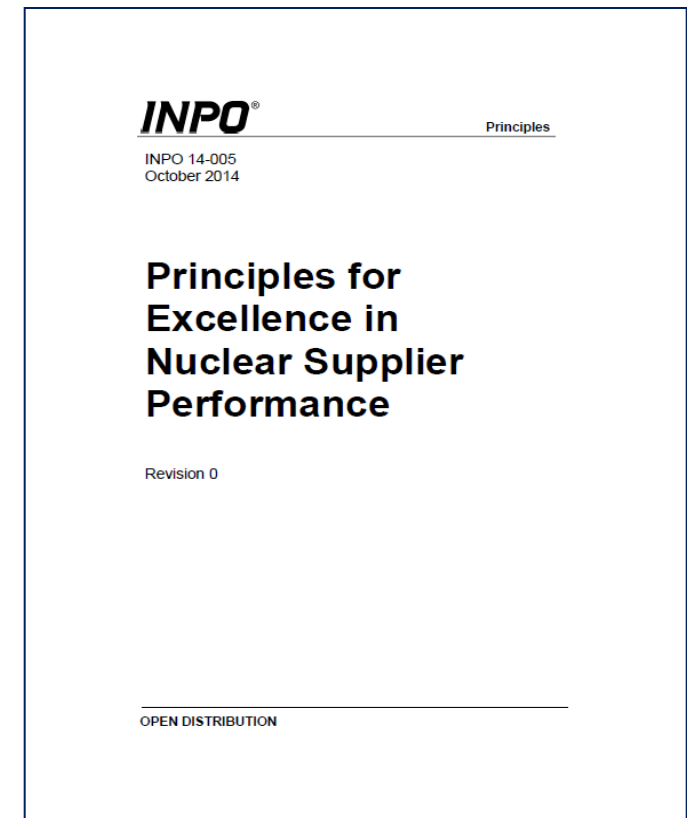
» *The methodology proves to work well in manufacturing facilities*

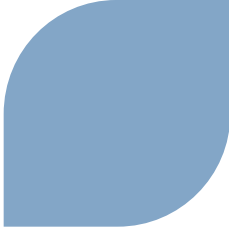
► Essential principles that support suppliers achieving excellence – INPO 14-005

- ◆ Developed by suppliers & several utilities
- ◆ To better align suppliers' with nuclear standards
- ◆ AREVA participated in developing the document

► 7 principles for excellence in nuclear supplier

- ◆ Nuclear Safety Culture
- ◆ Materials, Equipment, Configuration Control,, QA
- ◆ Human Performance
- ◆ Training & Qualifications
- ◆ Continuous Improvement
- ◆ O/E and Lessons Learned
- ◆ Procurement & Contracting of Materials & Services





► Requested Suppliers to Conduct a Self-Assessment Against INPO 14-005

◆ INPO Issues Self-Assessment Guide

◆ 111 Assessment Areas / Questions across the 7 Principles. E.g:

- Leadership engagement
- Training to processes / QAP / technical competencies, etc.
- Organization encouraged to identify and report problems

◆ Each Assessment Area Rated

- Strength, meets, Opportunity For Improvement (OFI), Not Applicable

► The principles were evaluated within AREVA Inc by an internal team.



Results are tabulated, reviewed, and genericized.

Next steps: assess gaps and develop actions.

Some conclusion (1/2)

Nuclear is recognized as special and unique. Nuclear safety to remain the overriding priority at all time.

Management style

*Presence in the field, Leadership,
Trust & openness, Accountability*

Independent oversight

*At all levels of the organization.
Report to the top level*

Change management:

Master creeping changes over time

Competences:

Master competences over time



Learning organisation

Some conclusion (2/2)

Questioning attitude

Individuals avoid complacency and continuously challenge existing conditions, assumptions, anomalies and activities to identify discrepancies ...that can have an undesirable effect on plant safety.

Individuals understand that complex technologies can fail in unpredictable way. They recognize and plan for the possibility of mistakes, latent issues and inherent risk.

Individuals stop when faced with uncertain conditions.



Safety culture principles & traits as established by WANO & INPO apply perfectly to the supply industry.