



# Third European IRPA Congress

NSFS

14–18 June 2010, Helsinki, Finland

*Radiation protection – science, safety and security*

## 2010 - HELSINKI

From summaries of topical sessions  
... **Some « take-home messages »**  
**for the nuclear industry...**

B Le Guen

IRPA EC member

EDF Radiation Protection and Industrial Safety Vice President

# An active participation !

- **IRPA 2010** was :
  - A very interesting meeting : 850 participants from more than 44 countries
  - with a **high standard** of scientific contributions on all RP related topics
  - and a comprehensive **book available**: more than 3000 pages published, thanks to our Finnish colleagues!
  
- **IRPA 2010** was also an **appointment** for nuclear industry managers to exchange experience and promote operational RP.
  - Special workshop (nuclear industry): 109 participants



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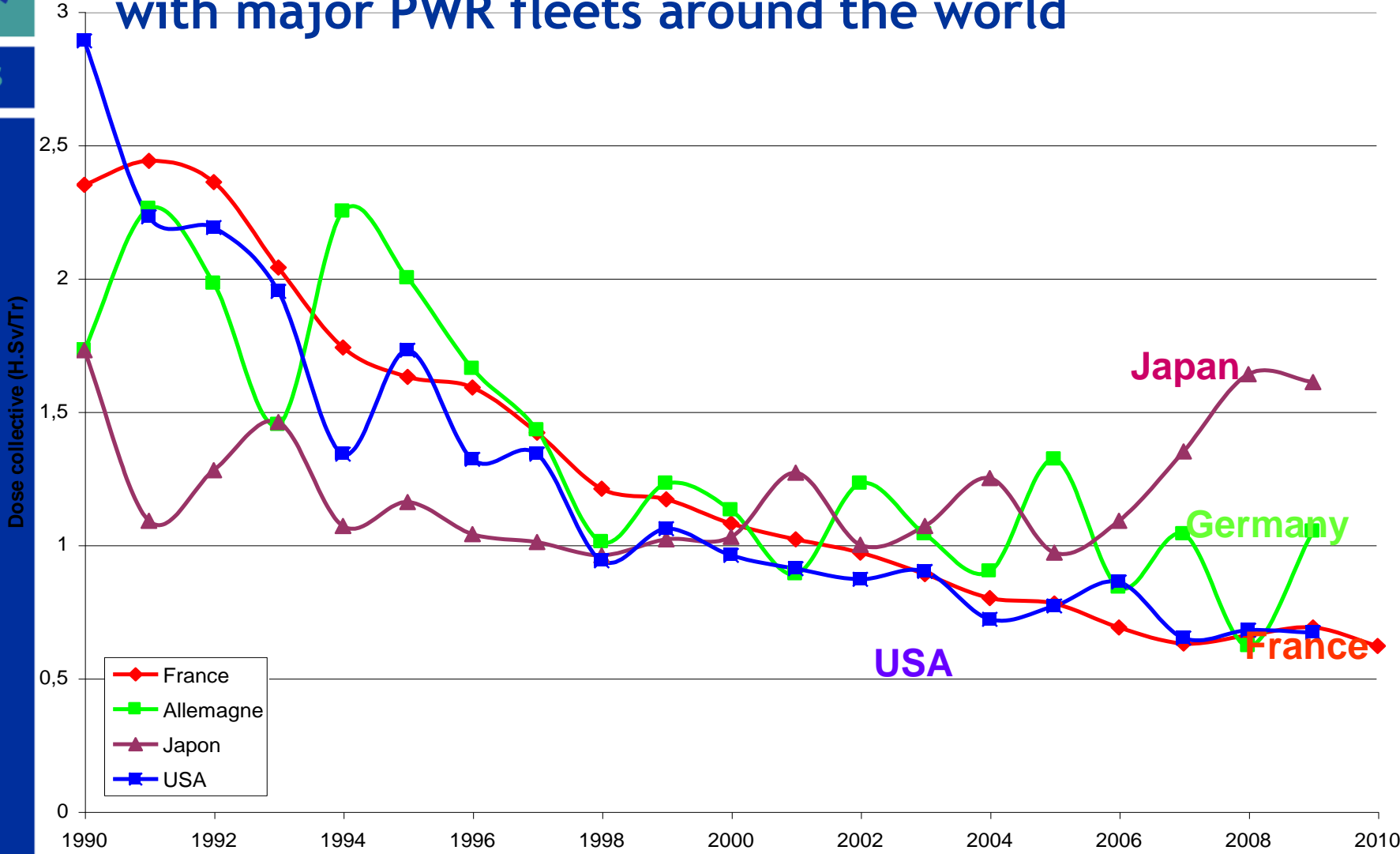
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## 1- Current fleets in operation



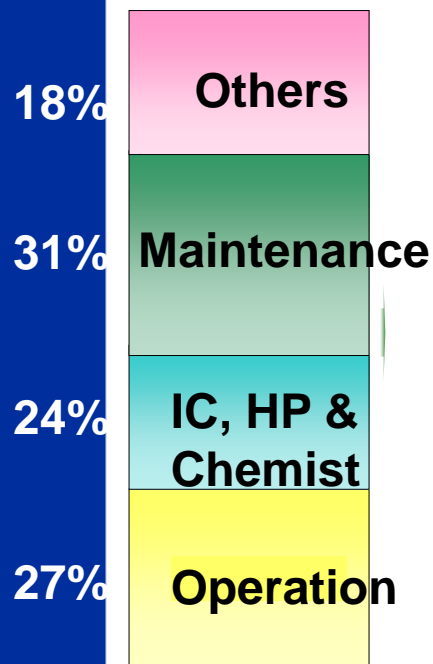
# 1 - Collective dose: International comparison with major PWR fleets around the world

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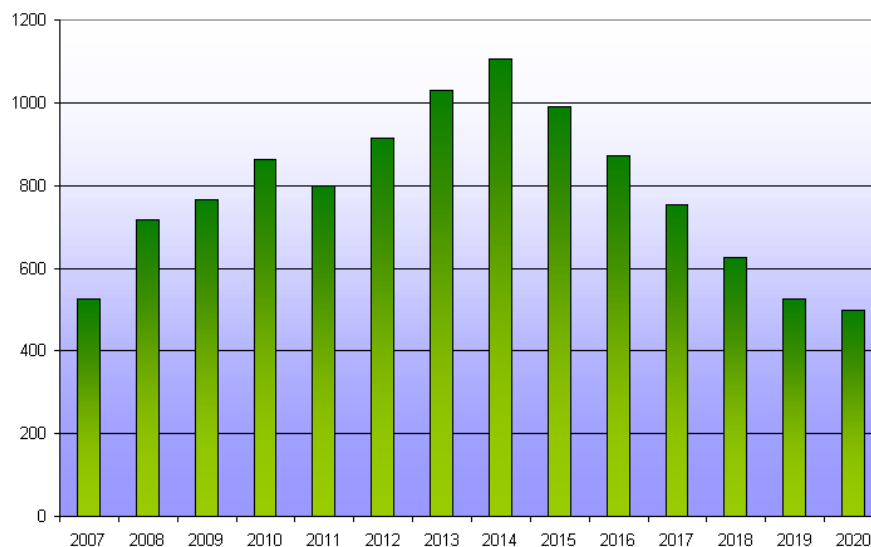
# 1 - Another challenge: Face the renewal of staff and competences

- Example of EDF NPP internal workforce, 2008: 19000 employees, 40% are being replaced in the next 8 years



“Talent Nursery”  
1000 people

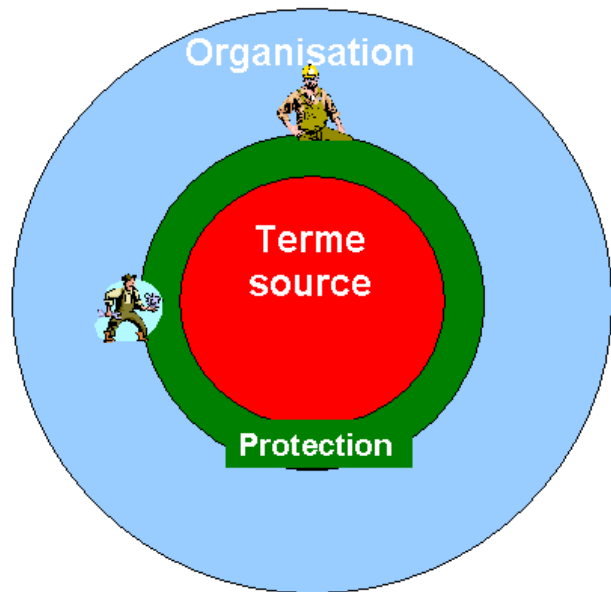
*Retirements*



Need to reinforce training in radiation protection and ALARA



# S08 Protection of workers: Future challenges



- A major stake: boost the ALARA approach
  - Achieve a continuous decrease of the collective dose
  - Focus on the most highly exposed workers
- Technical and organisational improvements:
  - Source Term management
  - Optimised shielding
  - RP monitoring station
  - RP and support services in the field
- Three managerial factors:
  - Reinforced work with plants
  - Partnership with contractors
  - Development of a RP culture

# OTHER CHALLENGES

## S08 Protection of workers

- High-dose radiation environments
- Cross-sector benchmarking
- Increasingly significant role of professional networks such as ISOE and the European ALARA network.



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## 2- NEW BUILD : EPR



# 1 - NEW BUILD

## RP and EPR

- Three important issues :
  - Technical issue
  - Optimized collective dose as early as the design phase
  - Involvement of the regulator at every stage
- Dose-targets for EPR presented through a joint French-Finnish presentation (P08-01), based on a 15-year partnership

### A significant lesson :

RP principles applied at the earliest design phase allow target doses as low as 0,35 man.Sv/year, representing a gain of 21%.

- Role of
  - Cooperation
  - Benchmarking



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## 3- DOSIMETRY

- Measurements of **FINGER-DOSES**  
8 years Polish experience (P08-18)  
(thermoluminescent detectors ) dedicated to individual monitoring, from 0,1 mSv to 1 Sv
- Measurements of **EYE-DOSES**  
See Serbian study on 3240 medical health workers (P08 21)
  - Doses vary from 2,6 to 48 mSv/year



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## 4- How to deal with an **EMERGENCY** in the nuclear field?

## 3 - EMERGENCY MANAGEMENT in the nuclear industry

- Presentation of the IAEA's Incident and Emergency Center. Standards and guidance for Strengthening Member States (S10-06) :  
practical tools - training programs - exercises - lessons learned from past emergency situations
- The Russian experience in Murmansk (S10-04) : crisis center - mobile radiation labs - scientific and technical support - exercises and information  
Cf. (P10-04)
- Post-accident management based on an ICRP recommendation as to the limit for annual dose to members of the public living in contaminated areas and problems linked to relocation after an accident

# CONCLUSION ON THE HELSKINKI MEETING

Our main challenge is to maintain and develop high safety culture standards, by increased international co-operation and cross disciplinary work by sharing experience, knowledge and information