



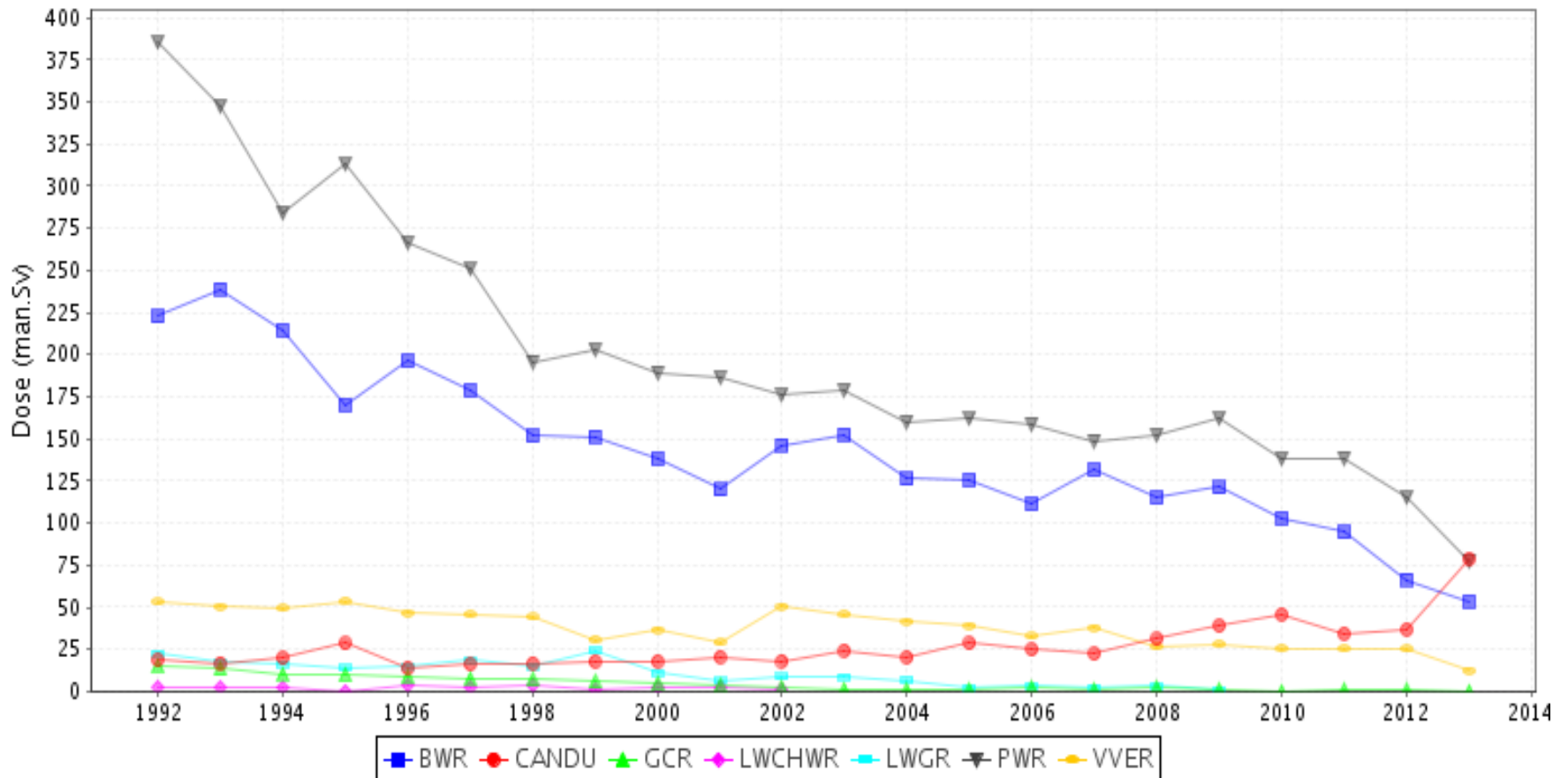
# CHALLENGES ON OCCUPATIONAL RADIATION PROTECTION IN NUCLEAR INDUSTRY

**Gonzague ABELA**  
EDF Nuclear Engineering Division, Saint  
Denis, FRANCE  
ISOE former President (2010-2012)



# A LOOK AT THE PAST

Dose collective annuelle totale par type de réacteur



#4-f4

Source: ISOE

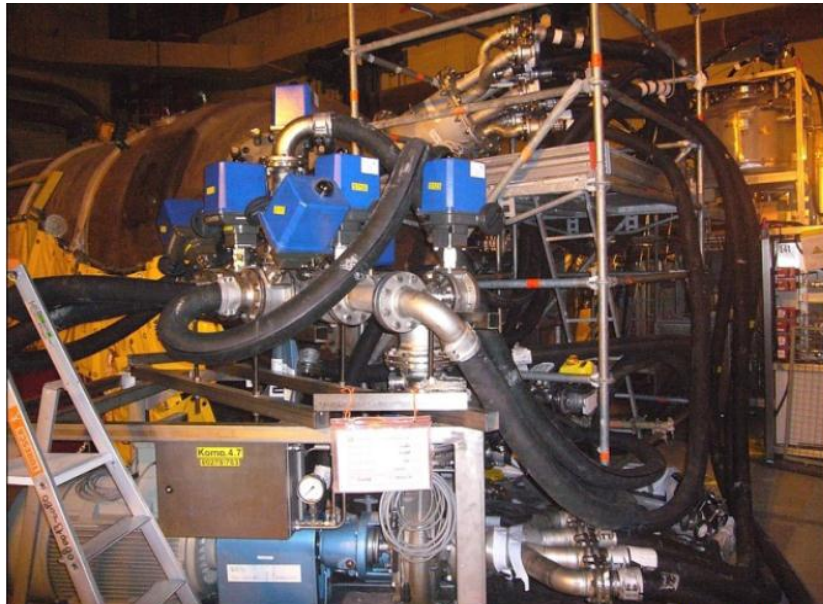
*will it be possible to continue the trend of dose reduction that has been successful since the late 1980s?*



# THE FACTORS THAT WILL PROMOTE A FURTHER DECREASE 1/4

the evolution of RP management

Source-Term management actions

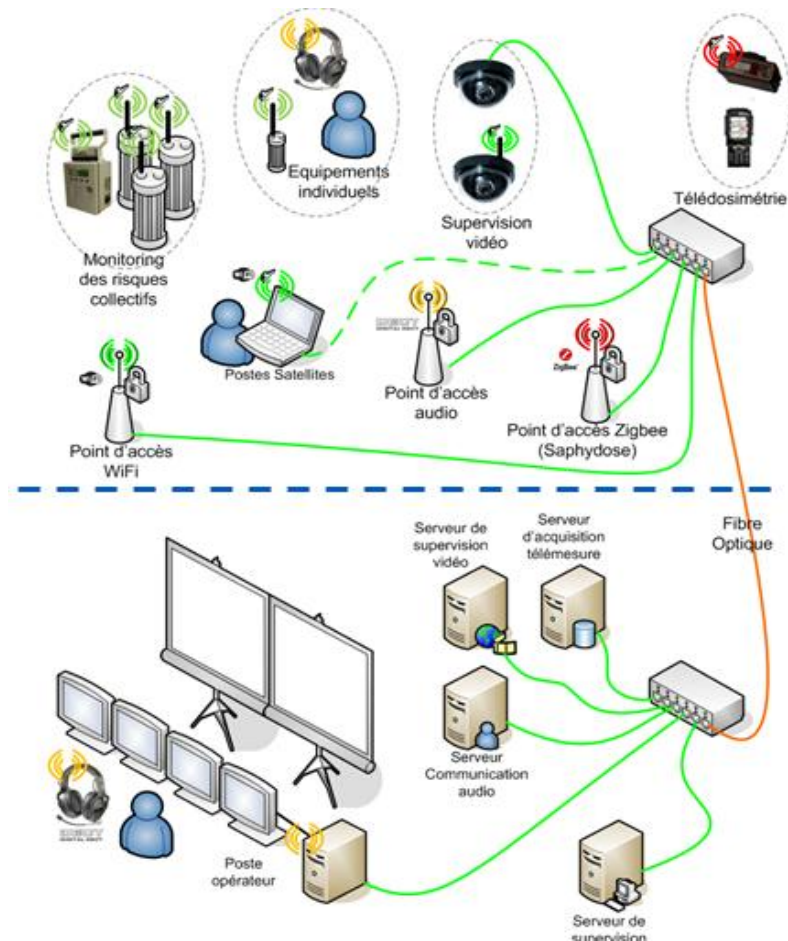


Picture: AREVA & EdF

*an example of decontamination carried out on the Chooz A (France) site in the course of dismantling*

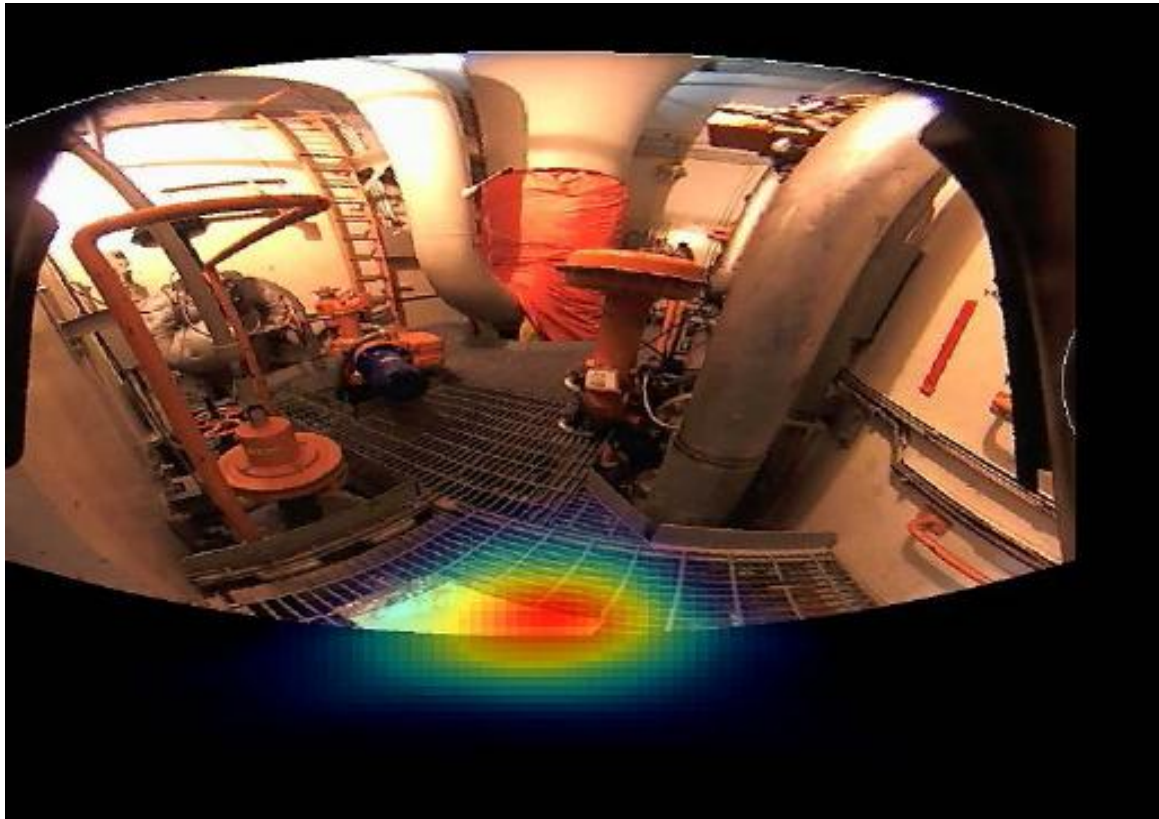
# THE FACTORS THAT WILL PROMOTE A FURTHER DECREASE 2/4

## The technical means of work monitoring



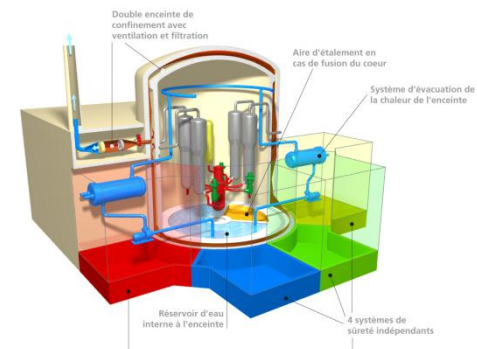
# THE FACTORS THAT WILL PROMOTE A FURTHER DECREASE 3/4

## The means for measuring the radioactivity



# THE FACTORS THAT WILL PROMOTE A FURTHER DECREASE 4/4

## The integration of RP in the design of new reactors



## Training and education of personnel

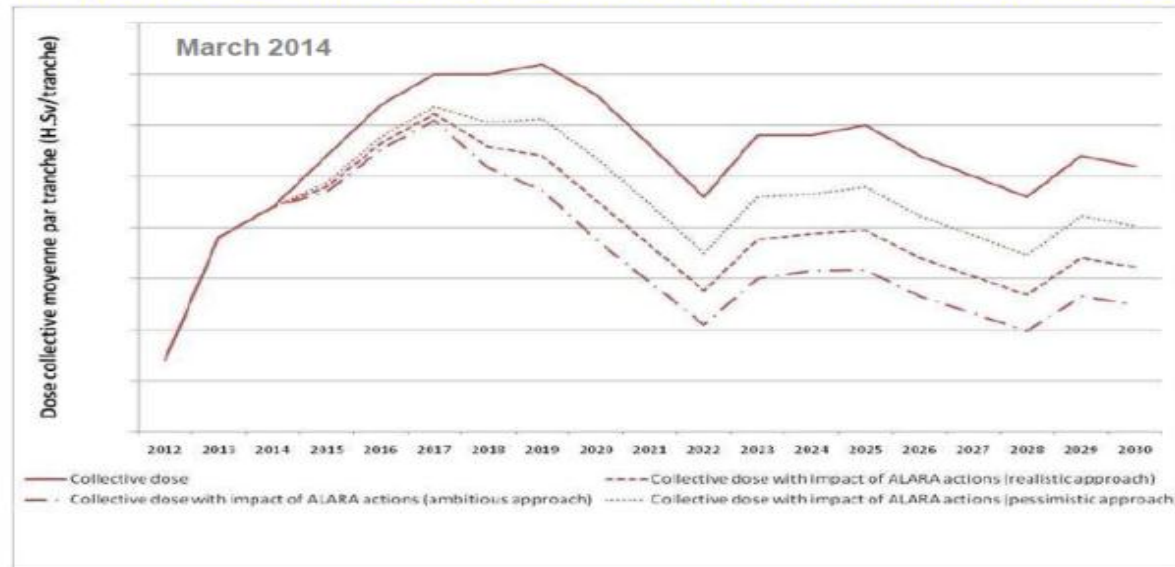
## The continuation of the benchmark



# CHALLENGES IF WE WANT TO CONTINUE THE COLLECTIVE DOSE DECREASE

## Aging facilities

Impact of ALARA action on the evolution of collective dose



*Possible dose saving until 16% of the collective dose by implementing the main ALARA technical means (work monitoring, decon, shielding)*

# A “POST ALARA” APPROACH 1/2

A new management dynamic

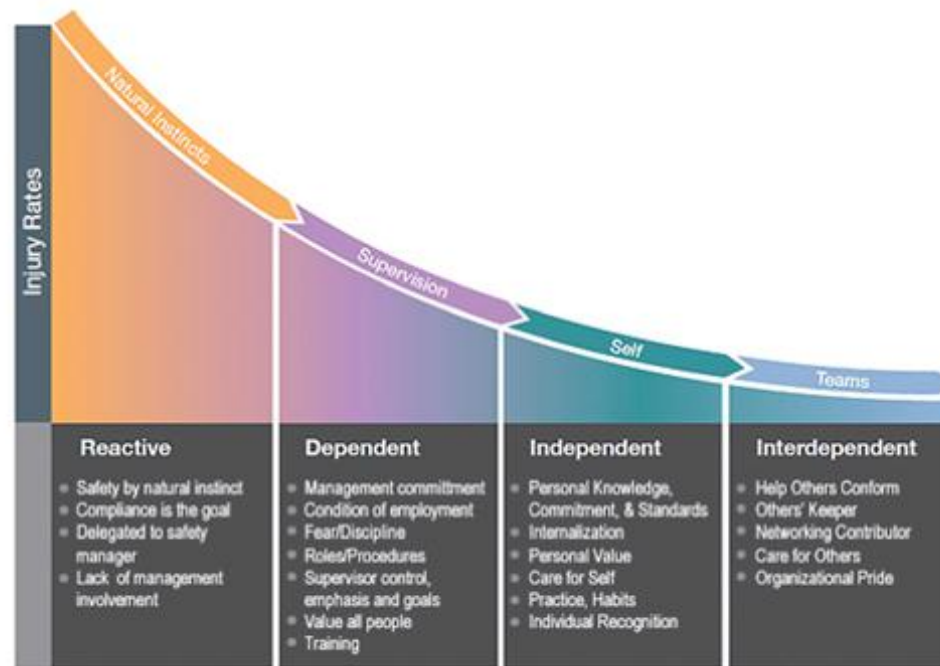
a dialogue between operators, contractors and authorities

Progress in management for the limitation of individual doses



# A “POST ALARA” APPROACH 2/2

## Progress in RP culture.



- A comprehensive approach to risk: the holistic approach

## reducing acute exposures risks

The Information System  
on Occupational Exposure  
in Medicine, Industry and  
Research (ISEMIR):  
Industrial Radiography





**I'D LIKE TO  
HAVE A WORD  
WITH YOU**



**CONTROLE RADIOGRAPHIQUE  
FRANCHISSEMENT INTERDIT**

**LE RADIOGRAPHIQUE  
FRANCHISSEMENT INTERDIT**



# Thank You

[Gonzague.abela@edf.fr](mailto:Gonzague.abela@edf.fr)