Responders on-site in the late phase after an accident
The ALARA approach

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There is a crucial period (several years?) at the end of the intermediate phase and the beginning of the recovery phase, in which:

- The source may be stabilized without being totally secured
- Some aspects of the radiol. situation may be not fully characterised
- Significant hazards can still occur

**Work on-site**

- Dismantling of the damaged facility
- Management of releases and waste
- Management of people and equipment in a contaminated context

**The dismantling of a damaged facility is not the dismantling of a decommissioned facility**
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Who are the responders?

- Many workers are involved on-site
  - More than in normal operation
- Regular workers (from the plant) + outside workers (contractors)
  - Under the responsibility of the operating management and their employer
- Many are – or were – not radiation workers
- Recruited for normal job in abnormal conditions (civil engineering…)
- Stay a small part of their working life
What are the prevailing circumstances?

- Unprecedented and difficult conditions of work
  - The site suffered damages and is contaminated
  - No or a few experience
  - Characterisation in the course of work
  - Human error or external aggression may lead back to emergency

- Workers are still responders
  - Flexibility is needed, optimisation should be adapted
  - With time, management as occupational exposure
How to implement ALARA?

- Time, distance and shielding are questioned
  - Keeping number of responders and duration of stay on-site as required
  - Implementation of decontamination procedures
  - Use of IPE relevant for the task and the area
  - Development of risk-awareness and training (learning process focused on the way to do the job in the best conditions in the prevailing circumstances)

- Involvement of responders in their own prot.
  - Maybe a coaching to balance the lack of RP culture

- Some dispensations may be applied for a limited time
What about the dose restriction?

- The use of a reference level is preferable rather than a dose limit
  - Selected according to the circumstances after consultation
  - No more than 100 mSv/time or year at the beginning
  - Decreasing to 20 mSv/y or lower in the recovery phase
  - Might still evolve in the recovery phase
  - Dose should not exceed 100 mSv during the whole response
What when a radiation worker is involved as responder?

- The corresponding dose should be treated separately
- A medical examination may be appropriate before back to regular job

- This presentation is inspired by the work of the ICRP/TG 93 in charge of updating Publications 109 and 111 but does not necessarily reflect the views of the ICRP
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