

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

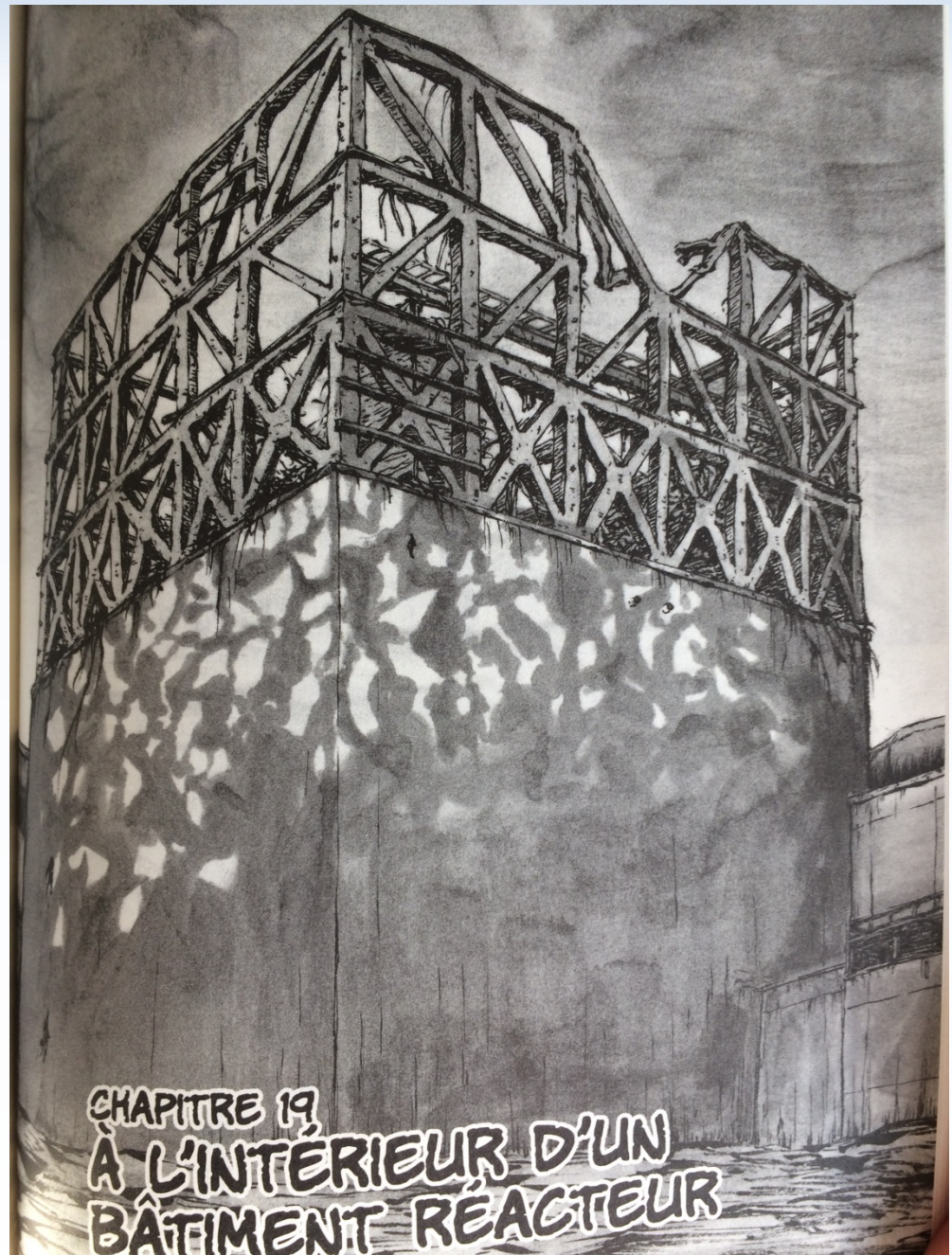
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What is the situation?

- **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

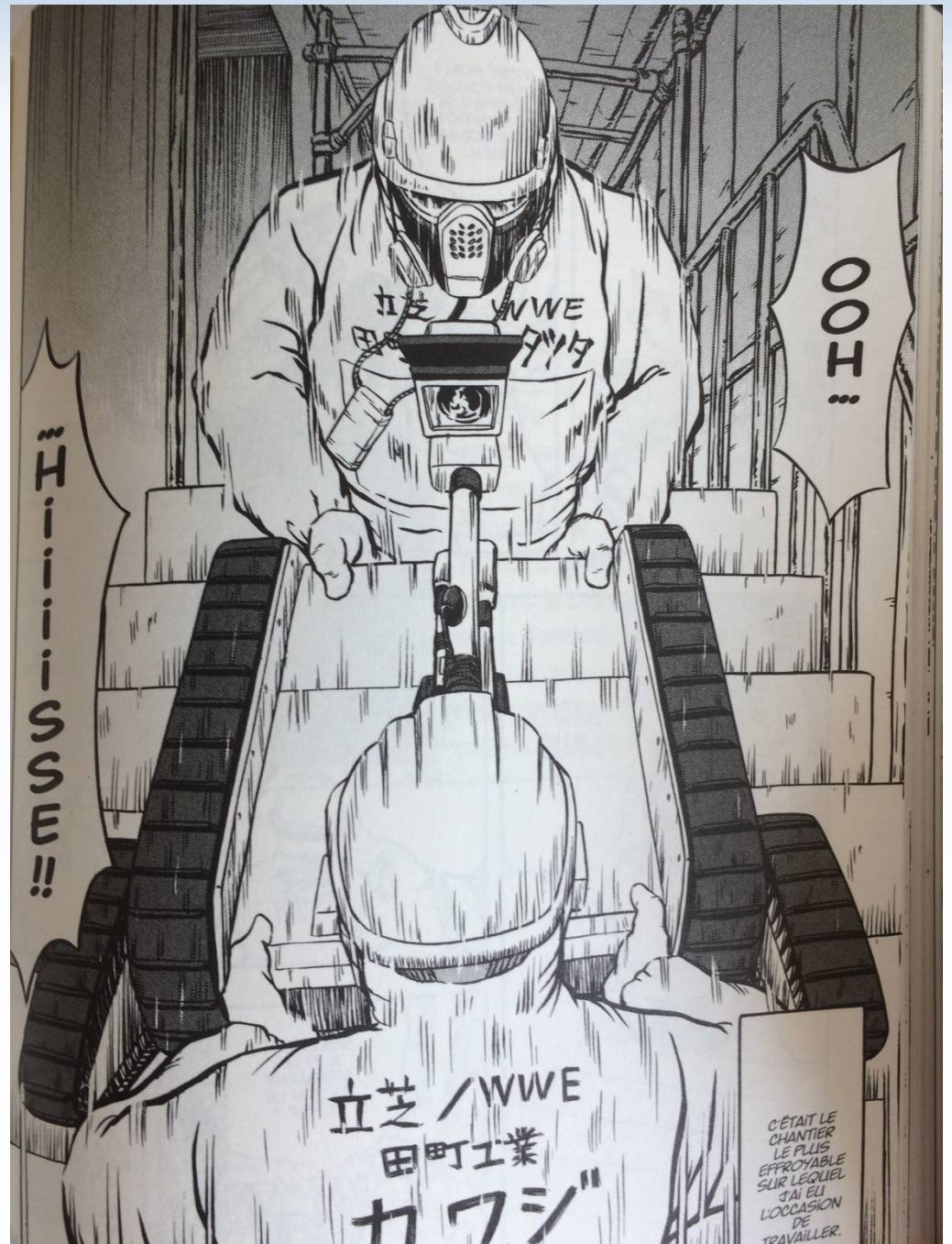
What when a radiation worker is involved as responder?

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

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- 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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