The 2011 Tohoku Pacific Earthquake and the Accident at Fukushima NPP, its Consequences in Europe and in Japan

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Contents

- Fukushima accident:
  - Sequence of Events
  - Radioactive releases and doses to the population in Japan
- Impact on Europe and EC Actions:
  - Basic Safety Standards
  - Urgent information exchange (ECURIE)
  - Import restrictions
    - Food & feed imports from Japan
    - Controls on non-food products
- Impact on EU NPPs

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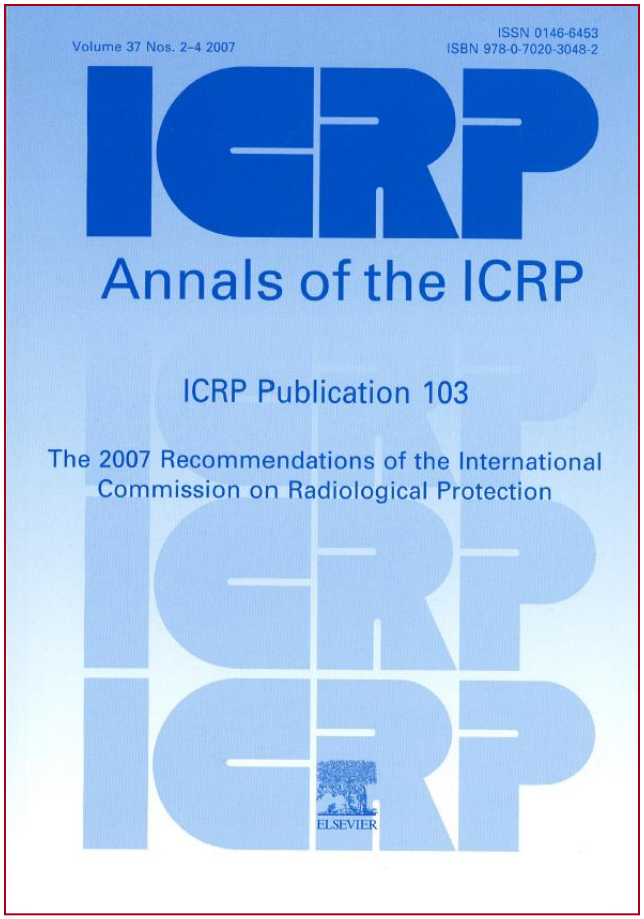
Revision of EU-BSS

- Allow for ICRP/IAEA
  - Exposure situations
    - rather than processes: practices/interventions
  - Incorporate natural radiation sources
    - Strengthen the requirements
- Review of regulatory control system
  - Graded approach to regulatory control
- Consolidation of current Directives



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Principles of protection

- Justification of practices
- Optimisation of protection
  - *constraints* in planned exposure situations
  - *reference levels* in existing or emergency sit.
- Dose limits
  - effective dose (stochastic effects)
  - organ dose (tissue effects)

Emergency exposure situations

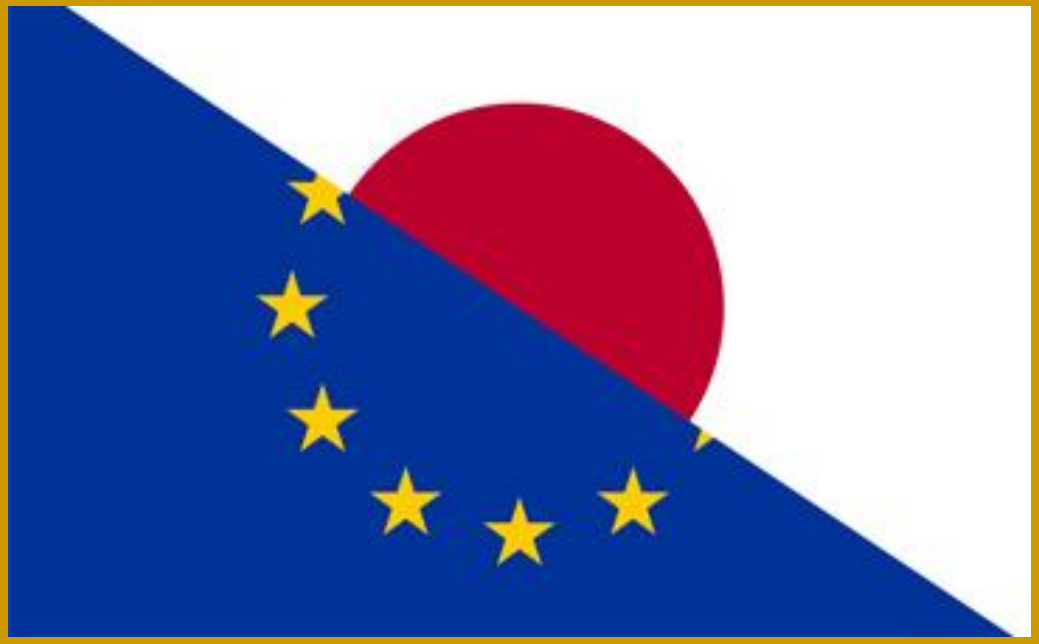
- More comprehensive system:
  - threat analysis
  - overall emergency management system
  - emergency response plans for identified threats
    - *reference levels*
  - pre-planned strategies for the management of each postulated event
- Compulsory cooperation between Member States
  - Member States shall (instead of …shall seek to)

Emergency reference levels

- Bands of reference levels for public exposure and corresponding societal criteria
- RL in the range 1 to 20 mSv per year for existing exposure situations
  - indoor radon exposure
  - long-term post-accidental management
- RL in the range 20 mSv – 100 mSv for emergency exposure situations
  - below 20 mSv if no disproportionate detriment or excessive cost of countermeasures
  - below 1 mSv for specific pathways of exposure

Impact on Europe and EC Actions:

Urgent information exchange (ECURIE)



EC Reaction: ECURIE

- The **European Community Urgent Radiological Information Exchange or ECURIE** is the Commission's official framework for informing member states of Radiological Emergencies.
- The ECURIE system is managed and operated by *DG ENER D4 Radiation Protection Unit* in Luxembourg.
- It was set up by Council Decision 87/600EURATOM in 1987 in the aftermath of the Chernobyl accident.
- ECURIE is on standby on a 24/7 basis; the officer on duty is prepared to forward any incoming information to Member States within an hour of receipt.

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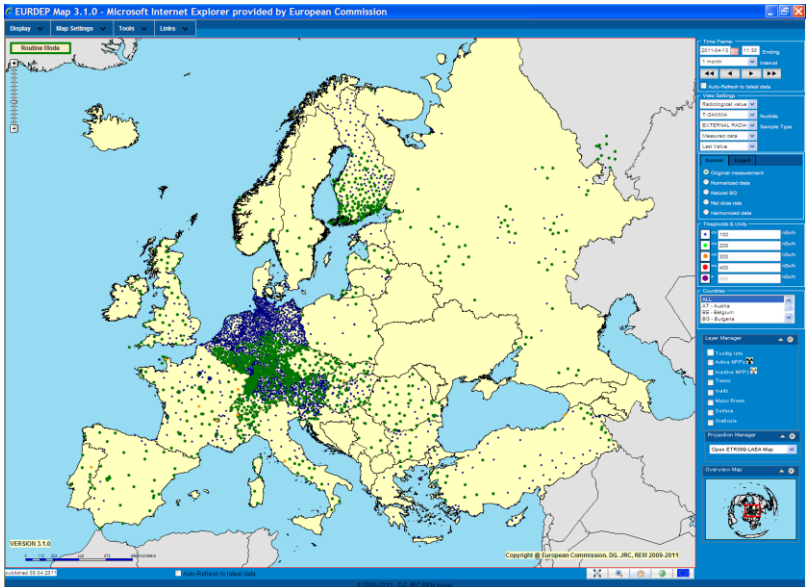
ENVIRONMENTAL MONITORING IN THE EU

- The **EUropean Radiological Data Exchange Platform, EURDEP** is the main tool for the monitoring of radiation levels in Europe and is part of ECURIE.
- EURDEP provides up to date information on the radiation situation at >4000 national monitoring points in 32 countries.
- **No enhanced levels of radiation have been detected as a result of the Fukushima accident**
  - » **Very low levels of airborne concentration measured in High Volume Air Samplers**



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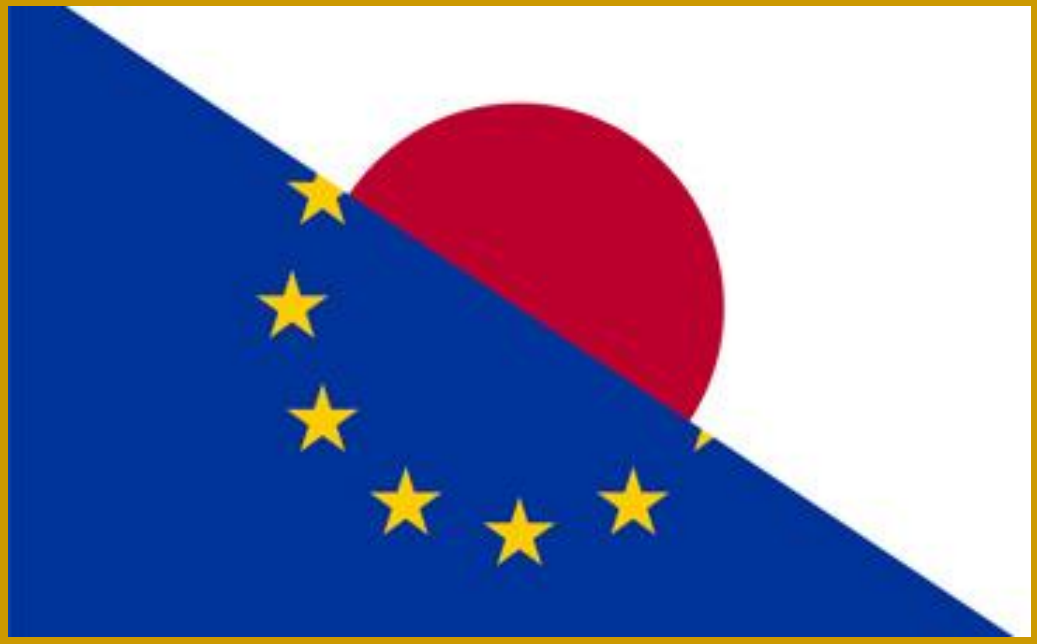
Impact on Europe and EC Actions:

Import restrictions



Japanese market

- The Commission confirms its solidarity with Japan, which includes preserving the economy of Japan from adverse effects on the market of the concerns of EU citizens.
- Hence there was an urgent need to ensure harmonised criteria for:
  - food and feed,
  - ships and containers,
  - and other goods.
- For this purpose the Commission has issued
  - binding requirements on import checks on food and feed and
  - non-binding guidelines for the contamination checks on ships and containers.
- The Commission will pursue international standards on permissible levels of contamination of goods, applicable in international trade.

Measures taken by the EC: Food and Feed

- The European Commission adopted implementing regulations under general food safety legislation:
  - on 25 March with reference to the pre-established maximum permitted levels of radioactivity for different categories of radionuclides laid down in Regulation 3954/87 Euratom,
  - on 11 April (corrigendum on 13.4) incorporating the action levels introduced in Japan for iodine and caesium isotopes (as well as plutonium) after the Fukushima accident.

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Measures taken by the EC: Food and Feed

- Imports from 12 prefectures in Japan may be imported only with confirmation by an authorized Japanese agency and an analytical report on radionuclides Iodine-131 and Caesium-134 +137.
  - 10 % check sampling at import in EU
  - 20 % monitoring for other prefectures
- Maximum permitted levels adjusted to those in Japan
- Recommendation to check marine produce from certain Pacific fishing areas
- So far, no contamination found

New food and feed EU regulations

COMMISSION IMPLEMENTING REGULATION (EU) No 297/2011

of 25 March 2011

imposing special conditions governing the import of feed and food originating in or consigned from Japan following the accident at the Fukushima nuclear power station

(Text with EEA relevance)

COMMISSION IMPLEMENTING REGULATION (EU) No 351/2011

of 11 April 2011

amending Regulation (EU) No 297/2011 imposing special conditions governing the import of feed and food originating in or consigned from Japan following the accident at the Fukushima nuclear power station

(Text with EEA relevance)

Corrigendum to Commission Implementing Regulation (EU) No 351/2011 of 11 April 2011 amending Regulation (EU) No 297/2011 imposing special conditions governing the import of feed and food originating in or consigned from Japan following the accident at the Fukushima nuclear power station

(Official Journal of the European Union L 97 of 12 April 2011)

Measures taken by the EC: ships and containers

- The European Commission issued on 15 April, through its urgent information exchange tool (ECURIE), an information message to Member States to request information on checks for levels of radiation on incoming ships and cargo from Japan, and proposing harmonised thresholds for further action (decontamination) and reporting.
  - Threshold: 0.2 µSv/h above background, at 1 m
  - Decontamination whenever possible (washing) of any contaminated surface
  - No reference level (Japanese value of 5 µSv/h?)

Criteria

- The criteria are based on the one hand on science and radiation protection principles, on the other hand allow for public expectation of lowest possible contamination levels as well as practical considerations and feasibility of monitoring compliance.
- Further efforts will be undertaken to explain the criteria, to define the measures and responsibilities more precisely, and to alleviate the fears of certain groups of people (e.g. customs officers).
- The Commission will also further examine its guidance on the basis of science and radiation protection principles, in particular at the meeting of the Group of Experts established under Article 31 of the Euratom Treaty (8-9 June)

Actions for IACRS

- Define a roadmap for the establishment of criteria for international trade and transport
  - Review Codex Alimentarius?
    - Strontium and iodine in one group
  - Review transport regulations?
  - Define maximum levels of radioactive contamination (mass, surface) in goods?
    - Cf post-Tarragona initiative for metal scrap
    - Prohibition in toys, ornament (“deliberate addition”)
- Information exchange
  - NEA, HERCA, …
- Emergency response
  - Draw lessons from the experience in Japan
    - Evaluation of doses , countermeasures, …
  - ICRP, IBSS, … (criteria for temporary relocation)