The role of the European Community since the Chernobyl accident

Augustin Janssens

European Commission

DG TREN H4
The role of the European Community since the Chernobyl accident

- ECURIE-Decision (87/600/Euratom)
- Information Directive (89/618/Euratom)
- Basic Safety Standards (96/29/Euratom)
  - Title IX: Intervention
  - ICRP – 2006?
- Foodstuff legislation
  - Post Chernobyl
  - In case of a future accident
The role of the European Community since the Chernobyl accident

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Council Decision 87/600/Euratom

- ECURIE-IAEA Convention on early exchange of information
- Immediate transmission of nuclear alert
  - After checking the credibility of the source
  - Validity of the information
- Permanent duty arrangements (Bxl/Lux)
- Dedicated software (CoDecS) / fax
- Information exchange:
  - EURDEP (environmental monitoring)
  - ENSEMBLE (meteorological forecasts)
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1. Detection in Sweden in the UK

2. First meeting of Experts

- Recommended I-131 limit

- Ban on meat import
- Ban on other products

- Recommended Cs levels

Regulation 86/1707/Euratom
### National control measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>B</th>
<th>D</th>
<th>DK</th>
<th>E</th>
<th>F</th>
<th>GR</th>
<th>I</th>
<th>IRL</th>
<th>L</th>
<th>NL</th>
<th>P</th>
<th>UK</th>
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<tbody>
<tr>
<td>Wash vegetables</td>
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<td>250 Bq/kg vegetables</td>
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<td>1000 Bq/kg vegetables</td>
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<td>Prohibit vegetables</td>
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<tr>
<td>Storage of food</td>
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<td>Do not drink rainwater</td>
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<td>500 Bq/l I Milk</td>
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<td>Prohibit sheep and goats milk</td>
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<td>Prohibit sheep and goats meat</td>
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<td>No fresh fodder</td>
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<tr>
<td>Frequent washing</td>
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</table>
• 06.05.86 Recommendation 86/156/EEC on maximum levels in milk and vegetables
• 07.05.86 Decision 86/157/EEC on banned meat import
• 12.05.86 Ban on certain agricultural products (86/1388/EEC)
• 30.05.86 Import conditions for agricultural products (86/1707/EEC)

- 27.02.87 Extension of 86/1707/EEC (87/624/EEC)
- 14.12.87 ECURIE-Decision (87/600/Euratom)
- 22.12.87 Revised import conditions for agricultural products (87/3955/EEC)
- 22.12.87 Maximum permissible levels for future emergencies (87/3954/Euratom)
- 13.04.89 Additional levels for foodstuffs (89/944/Euratom)
- 18.07.89 Additional levels for foodstuffs (89/2218/Euratom)
- 18.07.89 Export of foodstuffs (89/2219/Euratom)
- 27.11.89 Information Directive (89/618/Euratom)
- 21.12.89 Amendment 87/3955/EEC (89/4003/EEC)
- 22.03.90 Renewal of import conditions for agricultural products (90/737/EEC)
- 29.03.90 Additional levels for feeding stuffs (90/770/Euratom)
- 22.01.91 List of excluded products (91/146/EEC)
- 09.03.92 New list of excluded products (92/598/EEC)
- 21.06.93 New list of excluded products (93/1518/EEC)
- 13.12.94 Positive list of products (94/3034/EC)
- 28.03.95 extension of 90/737/EEC (95/686/EC)
- 27.07.99 detailed rules (99/1661/EC)
- 20.03.00 extension to 2010 (2000/616/EC)
- 24.07.00 list of products (2000/1609/EC)
- 27.07.00 new entry points (2000/1627/EC)
Chernobyl Regulation

- Regulation 2000/616-1990/737
- applies in the aftermath of the Chernobyl accident
- only Caesium isotopes considered
- pertains to import from third countries
  - release for free circulation
  - possible higher limits to national produce for internal consumption
- ad-hoc list of products
Chernobyl Regulation

• 30 May 1986
• Caesium isotopes
  – 370 Bq/kg for dairy produce/babyfood
  – 600 Bq/kg for other foodstuffs
• extended till 31 March 2010
737/90 ad-hoc list

- live animals (not for reproduction)
- meat
- milk and milk products, eggs, honey
- potatoes
- mushrooms (except fresh cultivated)
- wild berries (vaccinium myrtillus)
- tea, herbs

Increase in 1998!
Commission Regulation (EC) 1661/1999

• Wild mushrooms
  – increase in import notifications (1998)
  – documentary checks
    • export certificates
    • each consignment > 10 kg
  – restricted number of customs offices
  – list of third countries
Regulation (EC) 1661/1999

- Animals for slaughter
  - specific customs rules
  - certificate
    - subject to system of checks
- General
  - proportionate intensity of controls
    - degree of contamination
    - export certificates
  - destruction or return
    - charges
  - Rapid Alert System (92/59/EEC)
COMMISSION RECOMMENDATION

of 14 April 2003

on the protection and information of the public with regard to exposure resulting from the continued radioactive caesium contamination of certain wild food products as a consequence of the accident at the Chernobyl nuclear power station

(notified under document number C(2003) 510)

(2003/274/EC)

• On health protection from certain wild food products contaminated as a result of the Chernobyl accident

  – game, mushrooms, berries
  – information to local population
  – restriction on placing on the market

• 600 Bq/kg
Chernobyl Regulation - Applicability -

• Until
  – 31 March 2010
  – ad-hoc list vanishes

• or entry into force of Regulation 3954/87
  – new radiological emergency
- 15.07.80 Basic Safety Standards (80/836/Euratom)
- 03.09.84 Amended Standards (84/467/Euratom)
- **26.04.86 Chernobyl**
- 06.05.86 Recommendation 86/156/EEC on maximum levels in milk and vegetables
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- **27.07.00 new entry points (2000/1627/EC)**
Regulation 3954/87

- in case of a nuclear accident or radiological emergency
- pertains to:
  - placing on the market
  - export (2219/89)
- babyfood, dairy produce, other foodstuffs, beverages, feeding-stuffs
- isotopes of Sr, I, Cs + other, alpha
Nuclide categories

• isotopes of strontium, notably Sr-90
• isotopes of iodine, notably I-131
• alpha-emitting isotopes of plutonium and transplutonium elements, notably Pu-239, Am-241
• All other nuclides of half-life greater than 10 days, notably Cs-134, Cs-137
  – C-14 and Tritium not included
EU maximum permitted levels in foodstuffs (future accident) Bq/kg

<table>
<thead>
<tr>
<th>Reconstituted FOODSTUFFS</th>
<th>Baby food</th>
<th>Dairy produce</th>
<th>other</th>
<th>Beverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sr-90</td>
<td>75</td>
<td>125</td>
<td>750</td>
<td>125</td>
</tr>
<tr>
<td>I-131</td>
<td>150</td>
<td>500</td>
<td>2000</td>
<td>500</td>
</tr>
<tr>
<td>Pu-239</td>
<td>1</td>
<td>20</td>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>Cs-134/137</td>
<td>400</td>
<td>1000</td>
<td>1250</td>
<td>1000</td>
</tr>
</tbody>
</table>
# Codex Alimentarius (FAO/WHO)

<table>
<thead>
<tr>
<th>Sv/Bq</th>
<th>Radionuclides</th>
<th>Bq/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>10E-6</td>
<td>Am-241, Pu-239</td>
<td>10 (1)</td>
</tr>
<tr>
<td>10E-7</td>
<td>Sr-90</td>
<td>100</td>
</tr>
<tr>
<td>10E-8</td>
<td>I-131, Cs-134,-137</td>
<td>1000</td>
</tr>
</tbody>
</table>
PROPOSED DRAFT REVISED GUIDELINE LEVELS FOR RADIONUCLIDES IN FOODS CONTAMINATED FOLLOWING A NUCLEAR OR RADIOLOGICAL EMERGENCY FOR USE IN INTERNATIONAL TRADE
(At Step 3 of the Procedure)

TABLE 1: GUIDELINE LEVELS (IN Bq/kg) FOR RADIONUCLIDES IN FOODS

<table>
<thead>
<tr>
<th>Radionuclides in Foods</th>
<th>Guideline Level (Bq/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Infant Foods*</td>
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<tr>
<td>238Pu, 239Pu, 240Pu, 241Am</td>
<td>1</td>
</tr>
<tr>
<td>90Sr, 106Ru, 129I, 131I, 235U</td>
<td>100</td>
</tr>
<tr>
<td>35S, 60Co, 89Sr, 103Ru, 134Cs, 137Cs, 144Ce, 192Ir</td>
<td>1000</td>
</tr>
<tr>
<td>3H**, 14C, 99Tc</td>
<td>1000</td>
</tr>
</tbody>
</table>

* When intended for use as such.
** This represents the value for organically bound tritium.
Regulation 3954/87
Cs-levels

<table>
<thead>
<tr>
<th>Foodstuffs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Baby foods</td>
<td>400</td>
</tr>
<tr>
<td>dairy produce</td>
<td>1000</td>
</tr>
<tr>
<td>other</td>
<td>1250</td>
</tr>
<tr>
<td>beverages</td>
<td>1000</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Feedingstuffs</th>
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<tbody>
<tr>
<td>pigs</td>
<td>1250</td>
</tr>
<tr>
<td>poultry, lamb,</td>
<td>2500</td>
</tr>
<tr>
<td>calves</td>
<td></td>
</tr>
<tr>
<td>other</td>
<td>5000</td>
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</table>
Radiological emergencies

ECURIE → Notification → Commission → IAEA

Regulation for the implementation of Regulation 87/3954/Euratom

Qualified majority

Consultation

Article 31
Group of Experts

Confirm or amend the proposal
Foodstuff regulation
- entry into force -

- notification of an accident
  - Community arrangements
  - IAEA convention
- adoption of a Commission Regulation
  - if circumstances so require
  - valid for less than 3 months
- within 1 month:
  - proposal of the Commission to adapt/confirm Regulation
  - upon advice of Art. 31 Group of Experts
  - as low as reasonably achievable
  - for a limited time period
- before expiration:
  - adoption by Council of proposal
  - if no decision: provisional Regulation continues to apply
Emergency response

• short term:
  – immediate application of pre-established levels
  – immediate countermeasures
    ⇒ animals
    ⇒ vegetables
  – prompt communication with public
• intermediate term:
  – rapid assessment of the contaminated area (GIS)
  – evaluation of the economic impact
  – envisage need for correction of the levels
  – establishment of adequate restrictions
• long term:
  – foodstuff monitoring
  – agricultural countermeasures/food processing
  – stakeholder/consumer involvement
  – return normal

The normalisation of the food market will be an essential condition for the rehabilitation of rural areas
http://europa.eu.int/comm/energy/nuclear/radioprotection/index_en.htm