



**JOINT FAO/WHO FOOD STANDARDS PROGRAMME  
CODEX COMMITTEE ON CONTAMINANTS IN FOODS  
Seventh Session  
Moscow, Russian Federation, 8 – 12 April 2013**

**MATTERS OF INTEREST ARISING FROM OTHER INTERNATIONAL ORGANIZATIONS**

**ACTIVITIES OF THE JOINT FAO/IAEA DIVISION OF NUCLEAR TECHNIQUES  
IN FOOD AND AGRICULTURE RELEVANT TO CODEX WORK<sup>1</sup>**

1. For almost 50 years, the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture (the Joint FAO/IAEA Division) has uniquely promoted the mandates of both FAO, in its efforts to eliminate world hunger and reduce poverty through sustainable agricultural and rural development, improved nutrition and food security, and the International Atomic Energy Agency (IAEA), through peaceful uses of atomic energy to accelerate and expand the contributions of nuclear technologies to promote global health and prosperity.
2. The mission of the Joint Division is to strengthen capacities for the use of nuclear techniques for sustainable food security and to disseminate these techniques through international activities in research, training and outreach in its Member States. The Joint Division consists of five sections on food and environmental protection, soil and water management, plant breeding and genetics, animal production and health, and insect pest control.
3. The Joint Division will continue to strengthen its joint efforts with sister divisions in FAO Headquarters to improve food safety, protect consumer health, and facilitate international agricultural trade by providing assistance in four main areas, namely, coordinating and supporting research, providing technical and advisory services, providing laboratory support and training, and collecting, analyzing and disseminating information. The activities related to the work of Codex are the use of ionizing radiation, the control of food contaminants, and the management of nuclear and radiological emergencies affecting food and agriculture.

**PREPAREDNESS AND RESPONSE TO NUCLEAR AND RADIOLOGICAL EMERGENCIES AFFECTING FOOD AND AGRICULTURE**

4. FAO works in partnership with the IAEA through the Joint FAO/IAEA Division in preparing for and responding to nuclear or radiological emergencies affecting food and agriculture, including the application of FAO capabilities as a critical counterpart in defining and implementing agricultural countermeasures and remediation strategies in response to such events.
5. These activities are carried out within the context of FAO obligations as a full party to the [Convention on Early Notification of a Nuclear Accident](#) and on [Assistance in the Case of a Nuclear Accident or Radiological Emergency](#), and under the FAO cosponsored Joint Radiation Emergency Management Plan of the International Organizations (EPR JPLAN 2010), which provides the management tools for coordinating international organization arrangements in preparing for, and responding to, nuclear and radiological emergencies. These practical arrangements are also reflected in the Cooperative Arrangements between FAO and IAEA in Response to Nuclear or Radiological Emergencies.

<sup>1</sup> Document prepared by and under responsibility of the Joint FAO/IAEA Division on Nuclear Techniques in Food and Agriculture, IAEA Headquarters, Vienna, Austria.

Criteria for Food and Drinking (Potable) Water Contaminated as a Result of a Nuclear or Radiological Emergency

6. In the immediate aftermath of the Fukushima accident in March 2011, considerable attention focused on the radioactive contamination of food produced in Japan and sold on national and international markets. Japan quickly introduced restrictions on the distribution and consumption of contaminated food, milk and drinking (potable) water in terms of operational intervention levels and an extensive monitoring programme was put in place. Monitoring programmes were also put in place by importing countries which were often based on guidelines for international trade set by the Joint FAO/WHO Codex Alimentarius Commission. In April 2012 Japan revised downwards the maximum permitted concentrations in foodstuffs. In general, the values of activity concentrations established by Japan are lower than those recommended by international organizations for application within the accident state and state(s) impacted by a release following a nuclear or radiological emergency.
7. The criteria for the restriction of consumption of contaminated food, milk and water within the accident state and state(s) impacted by a release following a nuclear or radiological emergency (both in terms of generic criteria expressed in dose and in operational intervention levels expressed in measurable quantities) are presented in the [IAEA Safety Standard on Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency](#), (GSG-2, co-sponsored by FAO, IAEA, ILO, PAHO and WHO).
8. During its 32<sup>nd</sup> meeting in June 2012, the IAEA Radiation Safety Standards Committee<sup>2</sup> (RASSC) had detailed discussions on reference levels for foodstuffs contaminated as a result of a nuclear or radiological emergency, with particular reference to the situation in Japan following the Fukushima accident. In July 2012 the Joint FAO/WHO Codex Alimentarius Commission initiated a review of its guideline levels for radionuclides in foods contaminated following a nuclear or radiological emergency and applicable to foods traded internationally. The contamination of foodstuffs was also discussed at the 17<sup>th</sup> Inter-Agency Committee on Radiation Safety and at the 33<sup>rd</sup> RASSC meeting, both held in November 2012.
9. This topic was also considered at the [Fukushima Ministerial Conference on Nuclear Safety](#) held in Japan from 15-17 December 2012, specifically in presentations by FAO and WHO. The Chairperson's summary of [Working Session 3](#) reports that "it is important to globally strengthen methods for monitoring food, including agricultural and fishery products, at every stage of production and distribution, to secure conformity with the reference values related to radioactive substances in food in affected regions."
10. Currently there are several sets of international standards for radioactive substances in food and drinking (potable) water which are to be used in an emergency but for various purposes, for example, (i) for restriction of consumption of contaminated food, milk and water within the accident state and state(s) impacted by a release following a nuclear or radiological emergency and (ii) for foodstuffs traded internationally, which have been contaminated following a nuclear or radiological emergency. These standards differ in values of dose which are set as criteria for the population of an accident state(s) in an emergency and for non-affected countries.
11. In addition, there are international standards for radioactive substances in food and drinking (potable) water to be applied in existing exposure situations. Further confusion is caused as some States have established a different set of numerical values for specific radionuclides, for example due to different food production and consumption patterns. The discussions at RASSC have identified a critical need on the part of Member States for greater clarity in relation to the use of the various national and international standards that are currently in place as a first step towards improved harmonization.
12. The IAEA is addressing in detail the technical basis and explanation for criteria to be used for restrictions on the distribution and consumption of contaminated food, milk and water within the accident state and state(s) impacted by a release following a nuclear or radiological emergency within the process of review and revision of the [IAEA Safety Standard on Preparedness and Response for a Nuclear or Radiological Emergency](#), (GS-R-2, co-sponsored by FAO, IAEA, ILO, OECD/NEA, PAHO, OCHA and WHO).

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<sup>2</sup> The IAEA Radiation Safety Standards Committee (RASSC) is a standing body of senior experts in radiation safety, established by the Deputy Director General, Head of the Department of Nuclear Safety and Security. RASSC advises the Deputy Director General on the radiation safety programme for the development, review and revision of standards relating to radiation safety and the programme for their application. Its objectives are to provide feedback and recommendations to the Agency on the radiation safety programme and areas for improvement, and to achieve consensus, quality, coherence and consistency in the development of IAEA safety standards.

13. The IAEA Secretariat has decided to establish a Working Group, together with relevant international organizations,<sup>3</sup> to carry out work in relation to the control of foodstuffs and in support of the [IAEA Action Plan on Nuclear Safety](#). A Technical Document (TECDOC) developed by the Working Group will document the various national and international standards, the basis on which they have been derived and the circumstances in which they are intended to be used. The document will provide a full and detailed explanation of existing standards, including numerical values and their application. It will be developed and submitted to RASSC for consideration in late 2013; presented as an information document to the 8<sup>th</sup> Session of the Codex Committee on Contaminants in Foods in early 2014; and finalized for publication in mid-2014.

14. The TECDOC will be a valuable inventory that will be of use to all States as an information document and will form the basis for international discussions on ways to facilitate the understanding of numerical values and their application. The document will have added credibility through the involvement of other international organizations (EC, FAO, ICRP, NEA/OECD and WHO).

#### **FOOD TRACEABILITY, AUTHENTICITY AND THE DETECTION OF ADULTERATION**

15. The Joint Division provides support to FAO and IAEA Member States for the implementation of holistic food safety and control systems. This includes the development of isotopic and related analytical techniques to verify the origin of food and hence audit information-based traceability systems, and to verify the authenticity of foodstuffs or detect adulteration to combat fraud, enhance food safety and enable international trade in food commodities.

16. Capacity building activities in this field include a regional technical cooperation project on building technological capacity for food traceability and food safety control systems through the use of nuclear analytical techniques. The project involves 13 countries in South East Asia.

17. Joint Division activities also include the coordination of a current international research project on the implementation of nuclear techniques to improve food traceability, involving 15 countries world-wide, and a new international research project ([D52038](#)) on accessible technologies for the verification of origin of dairy products as an example control system to enhance global trade and food safety, to commence in 2013.

#### **MYCOTOXINS IN AGRICULTURAL COMMODITIES**

18. The Joint FAO/IAEA Division currently provides technical advice and support to FAO sister divisions in two projects focusing on the control of mycotoxins in food. One project aims to develop online tools to enable the calculation of the performance of sampling plans for mycotoxins in foods; the other, in collaboration with WHO, is to gather and collate statistically reliable data on levels of mycotoxins in sorghum in Ethiopia, Sudan, Mali and Burkina Faso.

19. The Joint FAO/IAEA Division also provides technical management and laboratory support for an IAEA Technical Cooperation project in Indonesia (INS/5/040) which aims to develop screening and confirmatory methods for aflatoxins in animal feeds to support national mycotoxin reduction programmes and enhance national reference laboratory activities of the Indonesian Research Centre for Veterinary Science.

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<sup>3</sup> The Working Group will include representatives from the Joint FAO/IAEA Division and the Joint FAO/WHO Codex Secretariat.