



**European
ALARA
Network**

ALARA NEWS AND ALARA INFORMATION IN EAN MEMBER COUNTRIES

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This document summarizes the main events dealing with ALARA in EAN Member countries discussed at the occasion of the May 2011 Steering Group meeting.



GENERAL TOPICS

ASN presented its annual report to the French Parliament

On the occasion of the presentation of the ASN annual report on the state of nuclear safety and radiation protection in France in 2010, ASN was heard on 30 March 2011 by the Parliamentary Office for Evaluation of science and technology assessment (OPECST).

ASN considers that the 2010 was quite satisfactory in France in terms of nuclear safety and radiation protection. Its assessment is mainly based on nearly 2,000 inspections, including 25% unexpectedly. 1 107 events including 140 Level 1 and three of Level 2 were reported to the ASN in 2010.

In the domain of small-scale activities, interventional radiology remains a concern for ASN. Indeed, high doses can be delivered locally to patients and staff radiation protection is not always properly secured.

ASN is also concerned about the increasing exposure of patients to ionizing radiation due to medical treatments, as observed in several countries in the world. In France, the challenge is to guide to devices of magnetic resonance imaging (MRI) rather than CT scans that can deliver doses up to 20 mSv for certain entire body examinations. Learned societies are mobilized to train and increase practitioner awareness. But to achieve real mastery of the dose progression delivered to patients, should be developed (doubled) the MRI fleets, MRI indications becoming more numerous and specific.

Regarding the situation at the Fukushima nuclear power plant, the recovery by TEPCO of the fuel cooling function via a continuous flow of fresh water, which could take several weeks, is the priority. The area near Fukushima would be contaminated for years or even decades. Since 2005, ASN leads a reflection on the post-accident situations, through a steering committee organized for that purpose, the Codirpa. The dramatic context created by the double shock of the earthquake and tsunami, increases the difficulty of managing the emergency situation and consequently the collection of information. ASN will draw lessons from these events.

ASN Annual Report 2010 (in French): <http://rapport-annuel2010.asn.fr/>

MEDICAL, INDUSTRIAL AND RESEARCH ACTIVITIES

1. Formalization of ASN and SFRO cooperation in the field of radiotherapy

On 8 October 2010, the ASN Chairman and the Chairman of the French Society for Oncological Radiotherapy (SFRO), signed a Framework Agreement for developing collaboration in the field of radiotherapy. The signing of this agreement formalizes cooperation between the two institutions. It aims to facilitate the carrying out of their respective missions and to achieve common or complementary actions to improve safety in radiotherapy.

The agreement defines the principles and modalities of such collaboration:

- Regulations on radiation protection of patients and workers and tools facilitating their implementation;
- Training;
- Information;
- Develop recommendations and actions to improve radiation protection including in the field of quality assurance;
- The feedback on the radiation potential incidents.

ASN and SFRO have worked closely since 2007, alongside other actors of healthcare safety in the framework of an action programme launched by the Minister of Health in order to improve the safety of radiotherapy treatments. In July 2007, ASN and SFRO have developed a communication severity scale for classification of radiation protection events affecting patients undergoing medical radiotherapy procedures.

The SFRO has also contributed to the development of ASN Decision No. 2008-DC-0103 issued on 1st July 2008 on the quality assurance obligations in radiotherapy.

2. Formalization of ASN and SFPM cooperation in the field of medical physics

ASN and the French Society of Medical Physics (SFPM), signed February 24, 2011, an agreement for cooperation in the field of Medical Physics.

The signing of this agreement formalizes cooperation between the two institutions. It aims to facilitate the exercise of their respective missions and to achieve common or complementary actions in the field of medical physics.

3. Quarterly report of ASN/SFRO level 1 radiotherapy events reported during fourth quarter of 2011

Seventy-nine significant radiation protection events, including four in brachytherapy, classified as level 1 on the ASN-SFRO scale, were reported between 1 July and 31 December 2010. Each event reported concerned only one patient.

Although these events are not expected to have any impact on patients' health, they are analysed to see if any lessons can be learnt from them (particularly in terms of organisation) and to avoid any recurrence.

Most of the events reported – 55 out of 79 – related to patient positioning errors or target volume errors resulting in the exposure of areas not intended for treatment. Three of the four brachytherapy events reported involved incorrect positioning of

radioactive sources in the target volume or cases where the source moved outside this volume. Twelve events were due to mistaken patient identity caused by human error, some of which were combined with technical or organisational failures. Ten events concerned dose errors caused by either one or more unscheduled extra doses being administered after treatment, or by a fractioning error or a mistake in noting down the prescribed dose. One brachytherapy event was due to a mistake in calculating source activity. Lastly, one event was caused by a beam forming error connected with poor collimator design.

ASN investigates level-1 events during specific inspections and during its regular inspections of radiotherapy centres. After a centre has analysed an event, ASN systematically examines all the corrective measures proposed. ASN observes that events caused by incorrect positioning of the patient remain the most common: these events are most often due to failure to correctly locate the reference point used for identifying the target volume, treatment of the wrong side, failure to take into account offsets provided for when preparing the treatment, or confusion of the different reference points used for successive treatment phases.

4. ASN publishes its 2009 record of inspections carried out in radiotherapy centers: the safety of care has been steadily improving since 2008

ASN considers that the situation in radiotherapy is being improved. The record of inspections conducted in 2009 by ASN in the 178 radiotherapy centers shows that progress has been made since 2008, by most centers in the implementation of safety management and the quality of care provided to patients.

However, ASN considers it advisable to remain vigilant in the centers still considered “fragile” (six in October 2010) due to continued instability in radiological medical staff in these centers.

The mobilization of professionals, supported by the measures adopted under the cancer plan, must be maintained to meet all regulatory obligations that will be in force from the end of 2011.

ASN also found improved in 2010 the reporting of incidents by the centers:

- 80% of facilities have at least made a notification, an increase of 9% compared to 2009;
- A total of 265 events were reported in 2010 against 244 in 2009, all without consequence for patient health. The majority of incidents reported were related to organizational failures and human origin;
- Six incidents were classified at level 2 of the scale ASN/SFRO in 2010, the others being classified at level 0 or 1.

Inspection of radiotherapy centers remains a priority for ASN, with special attention in 2011 for centers whose situation remains fragile due to low enrolment in medical radiation physics.

POST ACCIDENTAL MANAGEMENT.

Second CODIRPA Seminar

On 5-6 May 2011, ASN organized, with the support of the Parliamentary Office for the Evaluation of Scientific Choices and Technologies (OPECST), a seminar on the progress of the national doctrine's construction on the management of the post-accidental phase of a nuclear or radiological accident situation. The National Preparedness Guide for Exiting the Emergency Phase as well as the feedback from ongoing experimentation by voluntary prefectures and local communities were presented.

During this seminar, the need for a better coordination and an effective harmonization at European level on issues such as post-accidental zoning, exports from an "Accidental European country", the potential for pooling radioactivity measurements or compensations was stressed. Initiatives from the European Commission and the HERCA organization were also presented.

The parliamentary mission led by OPECST on the safety of nuclear installations held its first public hearing on Thursday, 5 May 2011. The seminar provided an opportunity for members of the parliamentary mission to learn about crisis and post-accident management of the major nuclear accident occurred in Japan at Fukushima.

The CODIRPA programme (Steering Committee for the management of the post-accidental phase of a Nuclear Accident or Radiological Emergency) was started in June 2005 by ASN, and was charged with developing French policy for the management of the post-accidental phase of a nuclear or radiological accident situation. An ambitious programme mobilising more than 200 people was put in place, including representatives of relevant national administrations and their local representatives, utility and industrial representatives, technical support organisations, nuclear safety authorities from bordering countries to France, Non Governmental Organizations and local elected officials.

In December 2007, a first international seminar had constructively challenged the work of CODIRPA with international experiences and analysis.

NUCLEAR SAFETY

1. Fukushima related issues - ASN tasked with carrying out the French audits

By a letter made public on 24 March 2011, the French Prime Minister asked ASN, in accordance with the regulatory framework (TSN Act), to conduct a safety audit of the French nuclear facilities, plant by plant, with regard to the on-going Fukushima accident in Japan. ASN Chairman sent a response to this letter on 25 March 2011 (Letter in

French:

<http://japon.asn.fr/index.php/content/download/29044/177693/file/lettre-reponse-aclacoste-a-ffillon.pdf>). This letter follows its announcement made on 15 March 2011 to the French National Assembly informing that an audit of French nuclear facilities will be conducted.

On 21 March 2011, the ASN Commission already published a deliberation in order to take into account the Prime Minister announcement and the European Commission decision (Stress Tests) and to ensure the consistency between both decisions (<http://www.asn.fr/index.php/content/download/29028/177611/file/2011-DL-0021-en.pdf>)

In his letter, the Prime Minister indicates that the audit should be conducted "openly and transparently" and should cover the flood and earthquake external hazards, the power supplies and cooling capability losses as well as operational management of emergency situations. He also mentions that the audit has to be conducted in cooperation with both the European Nuclear Safety Regulators Group (ENSREG) and Western European Nuclear Regulators Association (WENRA).

This audit should conclude on improvements to be implemented in light of lessons to be learned from the accident in Fukushima. The first conclusions are expected by the end of 2011.

Prime Minister's Letter :

<http://japon.asn.fr/index.php/content/download/29003/177367/file/12.03+Lettre+du+Premier+ministre-saisine+de+l%5C%27ASN.PDF>

2. Fukushima related issues – French Audits

On 5 May 2011, the ASN Commission adopted 12 decisions requiring to licensees of French nuclear installations to conduct a complementary safety evaluation of their installations in the light of the accident which occurred in Fukushima.

The French High Committee for Transparency and Information on Nuclear Security (HCTISN) has contributed to the decisions' drafting; during its extraordinary meeting which HCTISN held on 3 May 2011, this committee approved the specifications submitted by ASN.

This complementary safety evaluation will consist in a targeted reassessment of the safety margins of nuclear installations in the light of the events which occurred in Fukushima: extreme natural conditions challenging the installation safety functions and leading to a severe accident.

Three main aspects need to be reported in this assessment:

- Provisions taken in the installation design basis and installation compliance with its current licensing requirements;
- Robustness of the installation beyond its design basis; the licensee shall identify scenarios leading to a sudden degradation of accidental sequences and will describe preventive measures aimed at avoiding them;
- Any potential modification likely to improve the installation safety level .

These complementary safety evaluations will concern all French nuclear installations but will focus, first of all, on nuclear power plants.

Licensees must submit their reports to ASN by 15 September 2011.

ASN and the IRSN will review them by 15 November 2011.

(Link to ASN Commission Resolutions – in French - <http://www.asn.fr/index.php/S-informer/Actualites/2011/Cahier-des-charges-relatif-aux-evaluations-complementaires-de-la-surete-des-INB>)

WASTE MANAGEMENT

1. New edition of the French National Plan for the Management of Radioactive Materials and Waste (PNGMDR)

On 4 June 2010, the new edition of the national plan for the management of radioactive materials and waste (PNGMDR) has been jointly presented by ASN and the Ministry of Ecology, Energy, Sustainable Development and the Sea.

For further information: <http://classique.asn.fr/index.php/S-informer/Actualites/2010/Plan-National-de-Gestion-des-Matieres-et-des-Dechets-Radioactifs>

2. First international meeting on national radioactive waste management organisations held in Paris

An international meeting was held in Paris from 7 to 9 June 2010 on the establishment of a radioactive waste management organisation in each country. Organised by the International Atomic Energy Agency (IAEA) with the support of ASN, DGEC (Directorate General for Energy and Climate at the Ministry of Ecology, Energy, Sustainable Development and the Sea) and ANDRA (French National Radioactive Waste Management Agency), the meeting brought together around 110 participants from over 50 countries.

The meeting had been agreed at the last Joint Convention review meeting, held in Vienna in May 2009, the next review meeting being scheduled for May 2012. France organised the first meeting in Paris to provide continuity between two Joint Convention review meetings. It wanted the meeting to be open to all IAEA member countries, and not just to the Contracting Parties to the Joint Convention, so that more countries could benefit from the experiences discussed, could engage in dialogue and could promote the Convention.

Many French bodies from the radioactive waste management sector spoke at the meeting. There were rich discussions at the meeting on the subject of government responsibility for radioactive waste management, with French speakers (including ASN) defending a coherent management policy with appropriate waste management solutions for all types of wastes. Discussions also covered the model for centralised national waste management organisations, their status and resources, independence, R&D programme and policy on transparency. The meeting also provided an opportunity to highlight the way waste management is organised in France, and to compare this with other countries' approaches to this issue.

Further information on IAEA website: <http://www-ns.iaea.org/conventions/joint-meeting-paris2010.asp?s=6&l=40>

THE FUKUSHIMA ACCIDENT - French Actions regarding radiation protection and information to the public.

1. Organisational Aspects

The events in Japan have highly mobilised French Government, Institutions and stakeholders. The emergency centers of ASN and IRSN were activated 5 weeks along (24h/24 during 2 weeks and 16h/24 during 3 weeks). Additionally 1 IRSN's expert has been sent at the French Embassy in Japan in Tokyo during 5 weeks for assistance. The main mission was the understanding of the situation from the radiation protection and nuclear safety perspective in order to inform and give advise to the Government, the National authorities and the Public. 200 agents have been involved in ASN emergency center during this time.

A coordination was implemented at national level for the definition of protective actions for travel and trade on : protective actions for French citizens living in Japan ; actions taken regarding travel to Japan ; actions regarding trade with Japan ; environmental surveillance in air, soils, foodstuffs and drinking water ; emergency assistance for Japan. Regular interdepartemental meetings took place in order to share information and decide and coordiante actions to be taken. At the international level, France has been in contact with other countries and international organisations to share information.

2. French actions, recommendations and governmental decisions

Recommendations with regard to French citizens living in or visiting Japan

Recommendations with regard to French citizens living in or visiting Japan have undergone the following principle: French citizens in Japan have to follow the recommendations of the Japanese health authorities and respect the instructions issued by the French Foreign Ministry (www.diplomatie.gouv.fr).

Nevertheless, during the first two weeks conservative actions were engaged due to the uncertainties of the local situation in Japan:

- Travel to Japan was strongly discouraged;
- In addition to the air capabilities of Air France, the French authorities have made available two government planes;
- French living in Tokyo were recommended to leave the Tokyo area for the south of Japan or for France;
- Travel in the prefectures of Hokkaido, Aomori, Iwate, Miyagi, Fukushima, Ibaraki, Chiba, was strongly discouraged;
- Recommendation to follow the instructions given by the Japanese authorities in case of announcement of a worsening situation.

At the end of March, the recommendations were softened:

- French having left the Tokyo area for the south of Japan were recommended not to return to Tokyo unless imperative reason
- Only travel in the prefectures of, Miyagi, Fukushima, Ibaraki et Tochigi was strongly discouraged.

- French citizens living in these prefectures were urged to follow the instructions issued by the Japanese authorities. Furthermore, some simple precautions were recommended regarding dietary and daily habits in order to reduce the risk of internal and external contamination.
- For French citizens living in the prefectures of Niigata, Gunma, Saitama, Shiba, Tokyo, Kanagawa and Yamanashi: No restriction for travelling or staying at outdoor public spaces. The same simple precautions were recommended as for those living in Miyagi, Fukushima, Ibaraki et Tochigi

During this period, a general recommendation was given: It was indeed necessary to maintain a prudent attitude as the situation of damaged Fukushima nuclear power reactors was not stabilized.

At present, two months after the earthquake and tsunami of 11 March the situation of nuclear reactors in Fukushima remains problematic and fragile and this is likely to last over time (medium to long term). Considering the current situation the recommendations from the French Foreign Ministry (as May 13th 2011) are:

- In general, travel in Fukushima Prefecture - particularly in the North-East quarter of the prefecture, especially at a distance of less than 40 km from the plant - is formally discouraged. It is of course forbidden to travel in the “planned evacuation zone” defined by Japanese Authorities. However, it is now possible to travel for professional activities or for serious personal reasons in the prefectures of Miyagi, Ibaraki and Tochigi, where radioactive doses potentially received are now extremely low. Travel for leisure activities or tourism in these areas remain, however, strongly discouraged.
- To reside or travel in Tokyo does not currently a risk to health. Reside or travel in the rest of the country does not pose any particular problem.
- However, in all cases, citizens are invited to continue to maintain a prudent attitude until the situation of the damaged reactor nuclear power plants in Fukushima is not stabilized.

Recommendations on iodine tablets

- Possibility to get iodine tablets at the French embassy (although information was given that Japanese authorities will proceed if needed to distribute iodine tablets to people);
- Information about the intake of iodine tablets and other recommendations for French citizens in Japan is available at <http://www.diplomatie.gouv.fr/>.

Recommendations with respect to the monitoring of passengers returning, by air, from Japan

A notice was issued from the French Foreign Ministry (<http://www.diplomatie.gouv.fr/>) to passengers coming from Japan

- No systematic screening for passengers and their baggage;

- Possibility under a voluntary basis of medical and radiological control (IRSN): Check of 144 air crews and air travellers from Japan by IRSN;
- Contact point to know more about radiation exposure from nuclear facilities;
- Contact point to know about relatives in Japan;
- A questionnaire was made available for those French people who where in Japanese territory since 11 March so that they could be contacted if needed. Questionnaire available at www.invs.sante.fr;
- FAQ Document from the Health Ministry on the situation in Japan and associated health risks as well as nuclear accidents and health risks.

Monitoring of radioactivity levels in foodstuffs or feedingstuffs imported from japan

Commission implementing regulation (EU) No 297/2011 is in force since 26 March (amended by regulation (EU) No 351/2011).

French authorities have decided to maintain a control rate of 100% on all foodstuff of animal origin produced after March 11 and fresh products (salads, vegetables, fruits, etc.) from Japan for foodstuff produced within the 12 Prefectures referred in Commission Regulation. Up to date, no detection reported under controls in France.

Screening of cargo

By the end of march French authorities asked airlines flying from Japan to France to monitor surface radioactivity in cargo by air. Similar measures were considered for maritime freight. Complementary controls on the content of these cargos remained the responsibility of the addressees of the packages.

A protocol for contamination control was established for air transport.

Currently the situation is as follows:

- For Air cargo: French Authorities have recommended to airline companies a monitoring of air cargo, consisting in systematic measurements of containers following a monitoring protocol provided by ASN. Since 11. April, the recommendation to airline companies has been changed to sample monitoring (1 airplane per day). Monitoring on aircraft (external contamination) is carried out on a random basis (1 aircraft per week). No detection has been reported so far;
- For ship cargo: French Authorities have informed supply chain companies about the possibility of sample monitoring using a radiameter on different workplaces. French custom administration is planning to proceed with sample monitoring of ship-imports from Japan.

Complementary controls on the content of these cargos remains under the responsibility of the addressees of the packages (IRSN's measurement protocol is available).

Monitoring of the radioactivity in the environment

A radioactivity monitoring system has been set up specifically in metropolitan France and overseas (including French Embassy in Tokyo) to monitor the environmental consequences of the accident in Fukushima. In addition to gamma dose rate, complementary measurements in aerosols, soils, rainwater, plants, foodstuffs and drinking water (in addition with the current measurements) has been made. The results up to date:

- Gamma measurements: under detection limit
- Maximum (I 131): few mBq/m³ in air; few Bq/kg in vegetables, milk or rainwater
- Maximum (Cs 137): lower than mBq/m³ in air.

IRSN (Institute for Radiological protection and nuclear safety) has issued since 24 March 13 newsletters reporting on the results of radioactivity measurements obtained. These results are consistent with estimates from models produced by the IRSN in collaboration with Météo France and have confirmed the low concentrations of artificial radionuclides present in different environments on French territory.

Measurements have been also made by nuclear plant operators as well as independent approved laboratories. There has been a consistency in the measurements carried out by all actors.

There has been a consensus on the absence of risk for the population and the environment in France.

All monitoring results of the French territory by IRSN are available in the mapping tool "Criter -Crisis in Japan" which is continuously updated based on new results acquired. This site provides historical measurements of radioactivity in air (data network Téléray) acquired since March 15, and the results of measurements laboratory on samples (filters aerosols, iodine cartridge, rain water, plants and foodstuff).

<http://criter.irsn.fr/exercice/acteur/>

3. Information to the public

Information and communication have been a major challenge during this crisis. ASN has contributed to the information of the media and the public in various forms (press releases, press conferences, electronic newsletters ...). This action was coordinated from the beginning of the crisis with the IRSN. ASN also informed the Government:

- Establishment of a dedicated website <http://japon.asn.fr/> : 700 000 visits;
- Establishment of a platform call: 1000 calls received;
- 1200 media requests
- Around 500 quotations in the media
- 28 press releases;
- 20 press briefings;
- 15 electronic newsletters.

ASN communication actions have been highly appreciated by the public and the media.



4. The CODIRPA Programme

The CODIRPA programme on nuclear post-accidental management started in 2005 when ASN established a Steering committee for the post-accident management of a nuclear accident or a radiological emergency situation. The CODIRPA is responsible for developing the components of the corresponding policy. Thirteen theme-based working groups were formed, bringing together more than 200 experts from different backgrounds, including national administrations and their local representatives, utility and industrial representatives, technical support organisations, nuclear safety authorities from bordering countries to France, Non Governmental Organizations and local elected officials..

In December 2007, a former international seminar had constructively challenged the work of CODIRPA with international experiences and analysis.

A second international seminar organised by ASN has been held on 5-6 May 2011 in Paris. The 2011 seminar has reported on the progress of the national doctrine's construction. The National Preparedness Guide for Exiting the Emergency Phase as well as the feedback from ongoing experimentation by voluntary prefectures and local communities have been presented. The seminar has been also the opportunity to discuss about future challenges for post accidental preparedness.

Information about the seminar can be found at: <http://www.asn.fr/index.php/Bas-de-page/Sujet-Connexes/Gestion-post-accidentelle/Seminaire-international-post-accidentel-nucleaire-du-5-et-6-mai-2011>

Some examples of first insights into Fukushima accident on the CODIRPA programme:

- A need for analyzing the consequences of a significant duration of the emergency phase, regarding evacuation, sheltering and iodine prophylaxis ;
- The necessity to consider the overlapping of the accident phases (emergency and post accidental phase) ;

- The necessity to consider the significant contamination of the territory and need for implementation of post-accidental protective actions at a large scale (tens of kilometers).



IRELAND - RPII



Radiological Protection Institute of Ireland
An Institiúid Éireannach um Chosaint Raideolaíoch

1. Requirements for Clinical Audit in Medical Radiological Practices.

The Faculty of Radiologists, Royal College of Surgeons in Ireland and the Health Service Executive has recently published guidelines on practical and effective ways of conducting clinical audits of the quality of services provided by hospitals in Diagnostic Radiology, Radiotherapy and Nuclear Medicine. The guidance was produced following consultation with stakeholders and provides a summary of the relevant requirements, guidance on local structures and governance to enable providers to meet their statutory responsibilities in relation to an effective audit cycle. A copy of the guidelines is available at

<http://www.hse.ie/eng/about/Who/medexpradiatonunit/Clinical%20Audit%20Joint%20Document.pdf>

2. Population Doses from Dental radiology

The Health Services Executive has a legal obligation to collect and publish statistics on population dose levels from the use of medical ionising radiation. In 2008 the first modality chosen to be surveyed by the National Radiation Safety Committee was CT, and this work was completed in 2010. The second survey, which was carried out during 2010, looked at dental radiology in both the public and private sectors. This survey found that Ireland has 511 dental x-ray units per million of the population in comparison to other European countries where a range of 350 – 1390 dental x-ray units per million of the population has been reported.

The collective effective dose to the population from dental radiology was found to be 6 manSv. This can be compared to the collective dose from CT of 1368manSv determined in the previous survey. The dose per caput from dental radiology (Collective effective dose averaged over the population) was found to be 1.3 µSv. This can be compared with international reports of 1.8 µSv dose per caput from dental radiology in the UK and 6.4 µSv in the USA. Copies of the reports are available from :

CT survey:

<http://www.hse.ie/eng/about/Who/medexpradiatonunit/HSE%20CT%20Dose%20Survey%202009.pdf>

Dental survey:

<http://www.hse.ie/eng/about/Who/medexpradiatonunit/HSE%20Dental%20Radiation%20Dose%20Survey%202010.pdf>

3. Irish Fukushima Response:

On receipt of the initial notification of a developing situation at the Fukushima-Daiichi nuclear site on Friday March 11th, the on-call officers of the Radiological Protection Institute of Ireland (RPII), Department of the Environment, Community and Local Government and Department of Foreign Affairs initiated contact and shared information on protective actions being taken around the plant in Japan and on advice to be given to Irish citizens in Japan via the Embassy in Tokyo. As the situation deteriorated on March 12th the first meeting of the National Co-ordination Group was held and a statements issued by the RPII to inform the public of the available official information and provide some interpretation of that for them, establish the RPII as the relevant expert source of information and inform the public of what the RPII/Ireland was doing in response. Regular press releases were issued, based on confirmed information available to the RPII via official channels and reporting on RPII monitoring activities. Initially, they addressed the evolving situation in Japan and the low probability that radiation of any significance from a health perspective would reach Ireland. The release on March 29th reported that RPII had detected radioactivity of Fukushima origin in Irish air and subsequent press releases reported on new data from the RPII as it came available.

From March 12th there was considerable media interest and demand for statements and interviewees for TV, and national and regional press and radio. It was decided from early on that RPII should respond positively to as many requests as possible. The objective in the approach was to avail of the maximum opportunity to inform the public, have the RPII response as widely communicated as possible and to support positive relationships with the media. A panel of spokespeople was established and other staff monitored the media coverage of events. This was important to inform interviewees of trends in media questioning. Out of hours contact details were made available to the media to maintain continuity over holidays and weekends.

Enquiries from individual members of the public came to the RPII from March 14th. A team was set up to receive calls, take details and call back with the requested information. A record of calls received was used as the basis for FAQs that were put on the website. The material was reviewed and updated as required. Topics that came to the RPII from callers included: need for iodine tablets, travel to/from Japan, reliability of Japanese advice, concern for family abroad and questions about the levels of radioactivity in the Irish environment. As the situation evolved the public callers were replaced in terms of numbers by callers from businesses importing foods and non-food goods from Japan. Advice was given on the low probability of goods being contaminated. For those companies which still had concerns or had a requirement to demonstrate compliance, advice was given on how to monitor for contamination (or where to source equipment/monitoring advice if not already available within the company).

The advice to Irish citizens in Japan was regularly updated by the Department of Foreign Affairs, with the advice being to follow the advice of the local authorities, avoid the areas affected by the tsunami, the evacuated areas around the plant and surrounding areas including Fukushima Prefecture. The general advice given was that Irish citizens should avoid non-essential travel to Japan and that those living/visiting there should consider the need to remain in north-east/east Japan (including Tokyo) based on the difficult and uncertain situation generally and the ongoing shortages of power and key supplies. The Irish Embassy remained in Tokyo and a supply of KI tablets were sent to the embassy and have been made available to Irish citizens in Japan, with the guidance that they should only be taken if instructed by the Japanese authorities or by the Irish Authorities via the Embassy.

In line with the EU regulation to limit possible risks to food safety, Ireland (FSAI) introduced controls on imports of food and feed originating in or consigned from Japan with the exclusion of products which have been harvested and/or processed before 11 March 2011. Ireland has very few direct imports from Japan but importers into Ireland are required to notify the Health Service Executive (HSE) or the Department of Agriculture, Fisheries and Food two days before the arrival of each consignment of food and feed from Japan, with samples to be analysed by the RPII. An analysis service is also provided by the RPII to private companies needing to demonstrate compliance with established limits for radioactivity content in products such as food, feed and pharmaceutical ingredients.

The RPII assessed data received from the Irish meteorological organisation (Met Éireann), the International Atomic Energy Agency, CTBTO network and from counterpart organisations in Europe and the USA in order to estimate the time of arrival of the radioactive material in Ireland and levels expected in air. The RPII carries out continuous testing to ensure that environmental radiation remains within internationally agreed and legal safety limits. The key elements of the RPII monitoring programme are the assessment of ambient radioactivity based on measurements of radioactivity in air and of external gamma dose rate from a network of permanent monitoring stations located throughout the country; assessment of levels of radioactivity in a variety of food products and drinking water; and assessment of levels of radioactivity in the Irish marine environment based on sampling and measurement of seawater, sediment, seaweed, fish and shellfish. The frequency of sampling and analysis for air filters, charcoal cartridges, rainwater and milk were increased. Results from the analyses were made available on the RPII's website and a series of press statements issued noting the detection of iodine-131, caesium-134 and caesium-137 in Irish air, rainwater and milk and explaining that the levels detected are all extremely low and of no health concern. Simultaneous statements on the detection in milk were issued by the RPII and FSAI.

The screening of shipping containers from Japan was initiated by the Irish Customs service at the start of April, but to date, no positive detections have been made. Following the recommendation from the EC on screening of ships and

containers, the RPII developed a procedure for the screening of ships in case it is required, however, information from the Irish Department of Transport, Customs and Excise and Irish Coast Guard has indicated that only a handful of ships from Japan dock in Irish ports each year, typically towards the end of the calendar/fiscal year.

Between meetings of the National Coordination Group, the RPII provided daily updates by email to the key Government Departments on the evolving situation at Fukushima, protective actions being applied in Japan, actions being taken at and EU level and results of environmental monitoring being carried out in North America and Europe, including Ireland. In addition, there has been ongoing bilateral liaison between the RPII and Department of Foreign Affairs, Department of the Environment, Heritage and Local Government, Met Éireann, Food Safety Authority of Ireland (FSAI), Department of Agriculture, Fisheries and Food and Department of Enterprise, Jobs and Innovation on issues such as public communication, media management, advice to Irish citizens in Japan, monitoring of food imports from Japan, non-food imports from Japan and levels of radioactivity detected in the Irish environment and food. Irish environmental monitoring data was been shared on the RPII website and via the International Atomic Energy Agency's Incident and Emergency Centre and the European Commission's ECURIE system.



THE NETHERLANDS - NRG



Risk analysis guideline for working with radiation

The RIVM (Dutch Institute for Health and Environmental protection) has developed a guideline for carrying out ionizing radiation risk analyses. Dutch law requires that radiation risk analyses be carried out, but the Dutch Labour Inspectorate has signalled that compliance is low, primarily because many health physicists lack the necessary knowledge. Noncompliance is a reason for concern, as the risk analysis provides the basis for a proper understanding of the risks of working with radiation. Worker safety is enhanced when the guideline is followed.

Dutch law dictates that a risk analysis must be carried out before any individual starts working with radiation. Examples of activities falling under the auspices of this law are the detection of welding defects in gas pipes and the taking of X-rays by veterinarians. The guideline, which was commissioned by the Dutch Ministry of Social Affairs and Employment, is a roadmap in which the most important steps for performing a risk analysis are described. Those responsible for radiation worker safety are expected to modify and apply these guidelines to the specific working conditions of their respective professional groups.

Radiation risks in veterinary practices

In veterinary practices there is not enough attention to working conditions. The risks are physical heavy work, exposure to dangerous goods, contagious diseases and radiation.

Two thirds of the visited practices did not oblige to the rules. The radiation risks had not been well mapped or the maintenance of equipment was not in order. Furthermore personnel did not wear the obligatory personal dosimeters.

Veterinary surgeons and assistants are generally well informed about the health risks of X-ray radiation. Nevertheless the investigation has proven that in practice they don't act according to the risks by wearing personal protective equipment. This applies especially to mobile X-ray equipment, for example for diagnostics of horses legs. The risk for exposure to radiation with this equipment is much larger than for fixed X-ray equipment.

The Fukushima accident

Like in other European countries and countries world wide there was a large interest by the media and the general public in the consequences for the Japanese population and the environment of the Fukushima accident. Radiation Protection Experts of NRG, RIVM, the Dutch Society for Radiation Protection and other institutes gave interviews to a variety of media to inform about the status of the accident and the radiological consequences for workers, members of the public and the environment.

After their return home, NRG performed total body counting on reporters who were in the area short after the earthquake and the following tsunami and during the first explosions at the Fukushima NPP. In addition NRG gave advises concerning potential exposures to radiation to people going to Japan for business or planned holidays.

NRG was also asked to send Radiation Protection Advisers to a ship building yard in Japan to assist with radiation measurements and to supply a food monitor and subsequent training and instruction for a Dutch dredging company that is active at the Russian isle of Sachalin, north of Japan and in the prevailing wind direction during the summer season.

In the second half of April, one month after the accident, the first ships from Japan, that sailed out after the accident, arrived at the harbor of Rotterdam. Since that time all incoming ships and containers are measured by the Dutch customs in the harbor on radioactive contaminations. Up till now only a small number of containers was contaminated above the legal limit of 4 Bq/cm². These containers were set aside for decontamination. No products and goods from Japan with elevated radioactivity levels were detected yet.

In August the Dutch inspectorate published a report dealing on the unusual events in Dutch nuclear facilities in 2009 with emphasis on the NPP Borssele. The report also gives an extensive overview of the international INES events (INES 3 and higher) in the period 2004 – 2008 and a more elaborated overview of the events in 2009.

In 2009 a total of 13 unusual events were reported of which only 3 from NPP Borssele. Only one event (at the HFR in Petten) reached INES level 1 due to the safety implications for operating the HFR.

Analysis of the number of reported events in the period 1997 to 2009 shows a clear downward trend for the NPP Borssele from an average of more than 10 in the late 90's to less than 5 in recent years. For the other facilities the number is stable around a total number of 10 events per year.

<http://www.vrominspectie.nl/actueel/nieuws/rapportage-nucleaire-inrichtingen-2009.aspx>

In August the repair of the reducer's Bottom Plug Liner of the HFR in Petten was successfully ended. The repair, for which the concrete bottom shield of the reactor pool had to be removed, was entirely performed according the project plan and was previously intensively exercised using mock-ups of the working areas of the BPL.

The total registered collective dose amounted to 48 man.mSv (of which 23 man.mSv received by external workers), which was much less than the pre-calculated collective dose of 85 man.mSv in the ALARA plan. Only seven (out of 60) workers received a dose of more than 1 mSv. The highest individual dose was 4.4 mSv, where a maximum dose of 5 mSv was stated in the ALARA plan.

<http://www.nrg.eu/hfr-repair/>



SPAIN - CSN



IAEA Follow-up of IRRS Mission (Integrated Regulatory Review Service) including Nuclear Security

CSN received the IAEA Follow-up of IRRS Mission between January 29th and February 1st, 2011, with the aim of reviewing the progress in implementing the recommendations and suggestions made in the IRRS 2008 Mission.

Seven experts attended the Follow-up Mission; five international experts from four different member states and two experts from IAEA

Patient

In relation with the development of the agreement between Health Authorities and CSN, we are continuing with the establishment of two projects with two Universities. The first is about the estimation of population doses for different X-ray diagnosis techniques, aimed to complete the reference levels of our Regulation. The second project is the study of dose from CT scanners in children and teenagers. This project is part of a European project with the participation of 11 European countries, EPI-CT (epidemiological study to quantify risks for paediatric and optimise doses).

Ibero-American Regulatory FORUM

The plenary session of FORUM approved in November 2010 the celebration of a workshop about the licensing of cyclotrons to obtain Positrons Emission Tomography (PET) elements. This workshop was held in Madrid on 2-6 May 2011 at CSN. Representatives of seven Ibero-American countries, Spain and the IAEA took part in

the workshop. The result of the workshop was a proposal of several actions about this subject to be presented to the Plenary session of the FORUM.

INES Scale

- Participation in the INES Advisory Committee of IAEA, whose role is to establish and provide clarification in the policy regarding the application of the INES Scale to nuclear, radiation and transport events, as well as to review the rating of the annual events notified to the Agency.
- Participation in the IAEA meeting to study to introduce the medical events in relationship with patient in the scale.

Meetings

- The II Joint Congress of Medical Physic and Radiological Protection Spanish Associations was celebrated in May 2011 in Sevilla. This is the second joint Congress of the two Associations because most people that work in the medical field belong to the two Associations and have common interests.
- The ORAMED 2011 workshop on Optimization of Radiation Protection of Medical Staff, was celebrated in Barcelona on 20-22 January 2011. The main aim of the workshop was to improve the operational procedures to reduce the occupational doses and to reduce the doses in interventional cardiologist, and to present a new lens dosimeter.

Radiological Protection FORUM

Work on the three radiological protection FORUM continues concerning to the Medical field, the Industrial field and the Radiological Protection Units (UTPR), between CSN, Medical Physic and Radiological Protection Associations. Their aim is to encourage dialogue in order to improve Safety and Radiological Protection in the different practices and to favour the communication between regulators and stakeholders. The Medical Field FORUM has finished in this year a document about "Patient-Release criteria after a Radiopharmaceutical Therapy with I-131". This document will be approved at the next Technical Committee of the Forum

Other participations

- CSN takes part in the "Permanent Group of Experts" of France Authority (ASN), group of medicine. This group holds meetings every two months in Paris. The last one will be on 24-25 May 2011.
- Participation in the last working group on Medical Applications of HERCA that took place in Brussels on 17, 18 March 2011.

Information

CSN has send circulars to:

- Industrial gammagraphy facilities about methods to reduce the operative doses
- Industrial mobile gammagraphy facilities about lessons learned of radiological protection measures to apply in checking of mobile equipments

CSN has published several booklets for information of the population. These booklets are in the CSN web side.

CSN provides an English version of all the Regulation and CSN Instructions at the website: www.csn.es



SWEDEN - SSM



Application for a spent nuclear fuel repository

On 16th March the application to build a final repository for spent nuclear fuel was submitted to the Swedish Radiation Safety Authority by SKB, the Swedish Nuclear Fuel and Waste Management Company. The application covers both the building of the repository in Forsmark and the building of an encapsulation facility in Oskarshamn. The application is the result of a more than 30 year long process with research and development to find a site and a method for the repository. The authority has continuously reviewed this work and has during this time built up competence and requirements on radiation protection, physical protection and nuclear non proliferation for this new step. The time schedule for the process to examine whether the proposed solution complies with the requirements is expected to extend over at least years.

Further information

<http://www.stralsakerhetsmyndigheten.se/In-English/About-the-Swedish-Radiation-Safety-Authority1/The-site-for-a-spent-nuclear-fuel-repository1/>

REGULATORY DEVELOPMENTS IN SWEDEN

Proposal on new legislation - background

Since the last meeting of the CSS the proposal on a new Swedish law, covering both radiation protection and nuclear safety has been finished and delivered to the government. The proposal has been worked out in a committee of inquiry appointed by the government and which started its work in the end of 2008. The inquiry was decided after the merging of the Swedish Radiation Protection Authority, SSI, with the Swedish Nuclear Safety Inspectorate, SKI, into the Swedish Radiation Safety Authority July 1st 2008. The main identified problem with the existing legislation is that the Radiation Protection Act and the Act on Nuclear Safety in some parts are overlapping and not only complementary. In addition another law, the Environmental Code, also comprises radiation in general and for example releases of radioactive effluents and demands licensing of nuclear power reactors by the Environment Court. That means double licensing and possibilities for confusion about basic principles. The given Terms of reference also included that the inquiry should look into certain basic terms in existing acts for Nuclear Safety and Radiation Protection and analyze how these affect other legislation, study the licensing procedures according to these acts, especially focus on the supervision and propose revised punishing requirements in the acts and consider legal developments in the European Union. The inquiry should further look into the role of the safety committees in municipalities where nuclear power reactors are sited. During the two years of inquiry additional terms of references were given which already have resulted in amendment of the Act on Nuclear Safety in order to make new

build of nuclear power reactors for replacing existing reactors possible in Sweden (abolish the Nuclear Phase-out Act) and introducing unlimited liability for nuclear industry.

The proposal

Radiation Protection and Nuclear Safety

The major news in the proposal delivered to the government is that the two acts on Radiation Protection and Nuclear Safety are merged into one legislative document and included into one chapter of the Environmental Code. Nuclear reactors and other large installations with possible impact on the environment (i.e. large cyclotrons) are to be licensed by the Environment Court. Other practices/installations will be licensed by the Radiation Safety Authority as before. The three basic radiation protection principles on justification, optimization and limitation are to be integrated with the concept of Best Available Technique, BAT principle, and the nuclear safety principle “proven design”. Exemption rules are harmonized and the terms “nuclear activity” and “nuclear waste” are now included in the terms “radiation related practice” and “radioactive waste” respectively. The proposal supports the concept of a graded approach, both in licensing procedures and in supervision. The requirements on punitive measures are complemented with possibilities for the authority to decide on sanction charges. Actions liable to sanctions would include less serious infringements for which the application of penal provisions would appear unnecessary. The legislation also covers non ionizing radiation where some substantial changes are proposed on sunbeds and lasers for the public.

In other respects few material changes in the legislation are proposed.

Nuclear Non Proliferation

Paragraphs on nuclear non proliferation and control of nuclear material which earlier were a part of the Act on Nuclear Safety are proposed to form a new act on control of nuclear material together with other requirements on this matter from other legislation.

Local Safety Committees

Every municipality with a nuclear reactor site has a government-appointed “Local safety Committee” which acts as representative for the public in radiation safety matters and emergency preparedness issues. The role of these committees is proposed to change by extending the geographical area to surrounding municipalities and to strengthen their tasks on information as a “Local Insight Board”.

The states responsibility for last resort of spent fuel and radioactive waste

The inquiry committee also proposes that a legal provision should be introduced regulating the states responsibility as last resort for spent fuel in cases of liquidation or bankruptcy of the responsible owner.

What happens next?

The proposal has been sent out for consideration to more than one hundred organizations in Sweden. After possible recast a government bill with the proposal on the new law to the parliament is expected during next year.

FUKUSHIMA ACCIDENT

General

The Swedish Radiation Safety Authority (SSM) activated its crisis organization based on information from Japan concerning the nuclear power plants that were damaged by the earthquake and tsunami on the 11:th of March 2011. Several Swedish authorities were involved in handling the issues related to the events in Japan and the actions taken by Sweden were coordinated by the Government Offices. SSM deactivated its crisis organization on the 31:th of March 2011. However, SSM and other Swedish authorities have since then continued working with issues related to the events at Fukushima Dai-ichi NPP on a daily basis.

Information for the general public and the media

The events at the nuclear power plants in Japan caused a lot of media interest in Sweden. SSM appointed a number of spokespersons who appeared in numerous television and radio shows as well as in interviews for newspapers. SSM answered questions from the public by phone and on Facebook. To this end, the opening hours for the public to call the authority were extended to cover both evenings and weekends. SSM also published a FAQ, information on the event and data from the intensified environmental monitoring in Sweden on the authority's website.

Environmental monitoring in Sweden

SSM routinely performs continuous environmental monitoring at six air filter stations and four stations for deposition measurements in Sweden. The interval for filter exchange at the air filter stations was changed from twice a week to once a day from the 21:th of March. Since then above normal levels of I-131, Cs-134, Cs-136, Cs-137, Te-129m and Te-132 have been detected. The values for I-131 peaked between the 28:th of March and the 1:st of April with the highest reported value for I-131 equaling 2.1 mBq/m³. Since mid-May, I-131 above detection levels has not been reported. The interval for measuring deposition was changed from once a month to once a week on the 21:th of March. To increase the understanding on the deposition in a wider area, SSM also collected grass samples at 16 locations in southern and middle Sweden where the snow had melted in early April.

Monitoring of food imported from Japan

Control and monitoring according to the EU regulation 297/2011 has been put in place by the National Food Administration in Sweden. No contaminated food imported from Japan has been detected as of the 29:th of June.

Monitoring of goods imported from Japan

Monitoring following recommendations from EU and SSM has been put in place by the Swedish customs. No contaminated goods imported from Japan has been detected as of the 29:th of June.

Monitoring of travelers from Japan

The national Board of Health and Welfare, SSM and the company responsible for operating the three largest airports in Sweden developed a plan to screen passengers from Japan to be implemented at the airports if deemed necessary. Screening equipment was prepared, personal to operate the equipment was appointed and methods and limits were decided. The Swedish policy was that the plan for screening people at the airports should only be activated if evacuation of a large numbers of Swedish citizens would be required. Since this did not turn out to be the case, the plan was never activated.

The National Board of health and Welfare advised travelers returning from Japan who were worried of external or internal contamination to seek assistance within the ordinary Swedish health system. Travelers were offered urine sampling and/or whole body counting if necessary. Only a handful of people were measured in the end.

Advice for travelers to Japan and Swedish citizens resident in Japan

Swedish authorities have since the 11:th of March issued travel advice and advice to Swedish citizens resident in Japan based both on the situation in Japan following the earthquake and tsunami as well as the situation at the nuclear power plants, in particular Fukushima Dai-ichi NPP.

On the 12:th of March, SSM advised Swedish citizens in Japan to follow the recommendations on protective actions issued by the Japanese authorities.

On the 13:th of March, the Swedish Ministry for Foreign Affairs advised travelers to Japan to avoid all nonessential travels to the prefectures Aomori, Iwate, Miyagi, Fukushima and Ibaraki. The area was extended to include Tokyo and the north eastern part of Japan on the 15:th of March.

On the 16:th of March, Swedish citizens in Japan were advised to evacuate from an 80-kilometer zone around the Fukushima Dai-ichi NPP. At the same time, Swedish authorities advised against all nonessential travels to Japan. The advice was based on reports showing worsening conditions at Fukushima Dai-ichi NPP, particularly concerning the possibilities to cool the spent fuel ponds at unit 3 and 4 together with concerns on the possibilities to continue working at the site if the situation got worse. SSM judged that if a worst-case scenario were to occur, protective actions at distances exceeding those covered by the recommendations from the Japanese authorities would be justified.

On the 19:th of March, Swedish citizens in Japan resident within a 250 kilometer zone around the Fukushima Dai-ichi NPP were advised to take iodine tablets. The situation at Fukushima Dai-ichi NPP was still very uncertain and SSM judged that if a worst-case scenario were to occur, iodine tablets at a distance of 250 kilometer from Fukushima Dai-ichi would be justified. Tablets with stable iodine should be taken before the radioactive plum arrives to be effective. This requires iodine tablets to be handed out in advance as well as an effective way to notify people when the iodine tablets should be taken. The iodine tables were distributed by the Swedish Embassy in Tokyo. However, SSM judged it unlikely that the authority would be able to receive information on a large release in time to send a warning message to the Swedish Embassy in Tokyo which they, in turn, could pass on via SMS-messages to Swedish citizens who had

collected iodine tablets to meet this requirement. SSM therefore, after thorough discussions with the National Board of Health and Welfare, recommended intake of iodine tablets immediately when they were obtained at the Swedish Embassy in Tokyo.

On the 29:th of March, Swedish citizens in Japan were no longer advised to take iodine tablets. The natural decay of iodine led to that the distance from Fukushima Dai-ichi NPP where iodine tablets would be justified in a worst case scenario decreased with time. Calculations by SSM showed that iodine tablets would no longer be justified outside of the 80-kilometer evacuation zone after three half-lives of iodine-131.

On the 12:th of April Swedish authorities changed the advice on avoiding all nonessential travels from entire Japan to including only the prefectures Miyagi, Fukushima, Yamagata, Niigata, Tochigi, Gunma, Ibaraki and Saitama. Swedish citizens in Japan were still advised to evacuate from an 80-kilometer zone around the Fukushima Dai-ichi NPP.

On the 16:th of May Swedish authorities again changed the advice on avoiding nonessential travels from the above mentioned prefectures to an area identical to the evacuation zone of 80-kilometer from Fukushima Dai-ichi. This advice is still valid as of the 29:th of June.



SWITZERLAND - SFOPH



Medical physicist staffing for nuclear medicine applications and for fluoroscopy-guided interventional radiology and computed tomography in Switzerland

On 1 January 2008 Article 74 of the Swiss Radiological Protection Ordinance (RPO) came into force. Article 74 states that for nuclear medicine applications and for fluoroscopy-guided interventional radiology and computed tomography the license holder must periodically enlist the services of a medical physicist. Furthermore, a 4-year transitional period was defined in order to implement Article 74 in practice.

In October 2009 a working group of the Swiss Society of Radiobiology and Medical Physics (SSRMP) published a report on medical physicist staffing for nuclear medicine and dose-intensive X-ray procedures. Presented hiring times are in the range of those from the International Atomic Energy Agency (IAEA), the European Federation of Medical Physicist (EFOMP), or from other European countries such as Germany and the Netherlands.

Since by the middle of 2010 nothing happened, the Swiss Federal Office of Public Health (SFOPH) sent a letter to the hospital directors and private institutes requesting for a concept how to implement Article 74 in their practice. Along with the letter the SSRMP report was also sent serving as a guideline. This resulted in a massive opposition by the Swiss Society of Radiology (SSR) and the Swiss Society of Nuclear Medicine (SSNM). The main points of criticism were that the presented hiring times were too high and that the report was elaborated without the contribution of the two societies.

On August 2010 a working group was set up with the aim to elaborate a consensus document. The working group consists of representatives of SSR, SSNM, SSRMP, Swiss Society of Interventional Pain Management (SSIPM), Swiss Society of Radiopharmacy /

Radiopharmaceutical Chemistry (SSRRC), Swiss Society of Technologists (SST), the industry and the FOPH. In total four meetings took place. Further communication was exclusively done by email exchange. After several revisions and partly emotional discussions it seems that the actual revised version of the document is to a large extent a consensual solution. This document will include the tasks, duties, responsibilities as well as hiring time per modalities for the medical physicist. The hiring per modalities was modified and was lowered in order to find a consensus. This document should be finalized in a few months.

Measures related to the Fukushima accident

In Switzerland two regulatory bodies are in charge in radiation protection issues: The Swiss Federal office of Public Health (SFOP) for the protection of the population against ionizing radiation and the Federal Nuclear Safety Inspectorate (ENSI) for the security, safety and radioprotection of the nuclear power point.

The following measures were taken by the Swiss federal Office of Public Health (SFOPH):

Communication

An information-hotline to answer questions concerning radiation and public health has been set up.

An Internet site was created on which all information concerning the situation in Japan and possible effects on Switzerland were mentioned. All results of radioactivity-measurement (air, imported food) were published in the internet as soon as the results were known.

Environment monitoring

Monitoring of radioactivity in the Swiss environment has been intensified. Special attention to the high volume aerosol sampler measurements has been made. Additional high altitude aerosol sampling (by plane), food and feed samples (grass, salad, milk, etc.) were taken during the time of the accident.

Airplanes monitoring

Contamination screenings of outer surfaces and air filters have been made on airplanes of the Company Swiss coming back from Japan.

Imported Food monitoring

Special regulations on food imported from Japan according to EU ordinance were put into force. Spot checks of imported food and feed were introduced.

Imported Goods monitoring

Contamination checks on air freight containers at the airport (before loading and after unloading) were performed. Contamination checks on freight containers arriving by

ship or road. Companies importing goods from Japan have the opportunity to have their goods measured by specialized laboratories.

Travelers from Japan

A contact point for travelers from Japan has been put in place – especially those who were staying in the evacuation zones. A procedure for contamination check (surface contamination, incorporation) for people has been elaborated. This procedure was not used very often.

Travelers to Japan

Travel advices for people traveling to Japan are constantly updated. Swiss citizens are urged to follow the instructions of the local authorities. People have been advised not to travel to Japan, neither for touristic nor for other purposes, if there is not urgent reasons.

Swiss in Japan

Swiss citizens staying in the affected area in the north-east of Japan and within the wider area of Tokyo/Yokohama, were advised to temporary leave the region if safely possible, if their presence is not necessary.

The Swiss Federal Nuclear Safety Inspectorate (ENSI) has also taken as regulatory body for nuclear power plant several measures to control the security of the Swiss installation. Three verifications were made mandatory:

1. Demonstrate that the NPP stand a flood (high Water) which appears every 10'000 years. Proof has to be given by the NPP to the authority until the end of June 2011.
2. Demonstrate the NPP stand an earthquake which appears every 10'000 years. Proof has to be given by the NPP to the authority until the end of March 2012.
3. Demonstrate the NPP stand a combination of an earthquake and the resulting of a failure of dams in the region of the NPP. Proof has to be given by the NPP to the authority until the end of March 2012.

Revision of the Swiss radiation protection legislation

The Swiss legislation on radiation protection is in force since 1994. It is based on the recommendations of ICRP of 1990 (ICRP 60), which have been replaced in 2007 by ICRP 103. The recommendations of ICRP 103 shall be implemented into Swiss legislation. Since also a harmonization to the radiation protection concepts of the EU is aimed for, the Euratom Basic Safety Standards Directive (Draft) serves as a guideline for the revision of the Swiss radiation protection legislation. Several working groups of experts were established in order to analyze the consequences of the concept of the new BSS on the Swiss legislation. These working groups should also make some propositions for changes for articles in the radiation protection ordinance and in the affiliated technical ordinances. Entry into force of the new radiation protection legislation is expected in 2014.



UK - HPA



The Fukushima incident

The incident in Japan has only had minor implications in the UK – mostly in respect of imported goods and materials, some of which have shown trace levels of surface contamination. Environmental monitoring has shown trace levels of radionuclides from Fukushima – mostly in air samples. The main radionuclide was iodine-131, although tellurium-132, caesium-133 and caesium-137 were also detected. Peak air concentrations were of the order of 1 mBq/m³, but (by early May) have reduced to below 0.1 mBq/m³. The overall radiological impact on the UK has been insignificant. For more details, see:

<http://www.hpa.org.uk/web/HPAweb&Page&HPAwebAutoListDate/Page/1296684503510>

HPA has been advising the UK Government on the radiation risks to the UK population. In addition, the Environment Agency has issued guidance on the disposal of items in the UK that have been contaminated as a result of the incident. See:

http://www.environment-agency.gov.uk/static/documents/Leisure/Fukushima_enforcement_position_-_Issue_2.pdf

Other news

1. The UK Health and Safety Executive issued a new RPA Newsletter in February 2011, which contained short articles on:

- Proposal for dose limit for lens of the eye to be reduced
- Prosecution of a well-logging company
- Learning from radiation incidents: The new OTHEA website
- Recent NHS Trust inspections - The results
- The medical sector, dosimetry and co-operation between employers
- The INES scale
- HERCA recommendations for the radiation passbook
- Transport of radioactive materials - An example of good compliance

See <http://www.hse.gov.uk/radiation/rpnews/rpnews010211.htm> for more details.

2. HPA has published the following reports, which may be of interest to EAN members. They can be accessed via the individual links below, or via the following page: <http://www.hpa.org.uk/Publications/Radiation/>

- [Use of Prussian Blue \(Ferric Hexacyanoferrate\) for Decorporation of Radiocaesium - RCE 17](#)

This document provides advice on the use of Prussian Blue in the event of poisoning with radiocaesium. It has been developed by HPA in partnership with a number of organisations using the scientific evidence available and advice from other countries.

- [HPA-CRCE-018: Health Risks from Radioactive Objects on Beaches in the Vicinity of the Sellafield Site](#)

- [HPA-CRCE-015 - Radon in Homes in England and Wales: 2010 Data Review](#)

This report provides a summary of approximately 480,000 radon measurements made between 1980 and 2009. It updates a previous report issued in 2002 and complements the radon atlas of England and Wales published in 2007.

- [HPA-CRCE-013 - Evaluation and equity audit of the domestic radon programme in England](#)

This audit evaluates the radon programme at the individual homes and geographical level to identify factors that influence the likelihood of remediation.

- [HPA-CRCE-012 - Frequency and collective dose for medical and dental X-ray examinations in the UK, 2008](#)

This report presents the results of a study of frequency and collective dose for medical and dental X-ray examinations in the UK in 2008.



BELGIUM - SCK•CEN
MOL



1. [European ALARA network communication in Newsletter 130 for the Belgian Society for Radiation Protection](#)

- The EAN wants to establish a European working group on ALARA in research facilities. The aim of the new working group is to exchange experience and to stimulate improvements of radiation protection in research by organising workgroup meetings once a year with representatives of the research facilities. For more information about the European working group on ALARA in research facilities, contact Fernand Vermeersch (SCK•CEN, e-mail: fvermeer@sckcen.be).

2. [Royal Decrees and regulations on Radiation Protection](#)

- Licence for decommissioning for certain installations of FBFC international in Dessel, Belgium

3. [Parliamentary Questions](#)

- Question were asked on the on-going study of cancer risk near the nuclear sites in Belgium. The study investigates if there is an increase of cancer risk in a radius of 20 km around the nuclear installations of Tihange, Fleurus, Mol, Doel and Chooz.

4. Contribution of BVS ABR to the Nordic Society for Radiation Protection (NSFS)
 - Ethical guidance, stakeholder involvement and radiation protection culture in Belgian Society for Radiation Protection G. Eggermont, P. Smeesters, J-P. Samain, F. Hardeman
 - Information is available on: <http://yourhost.is/nsfs-2011/home.html>
5. Interesting contribution in the “Annalen van de Belgische Vereniging voor Stralingsbescherming.” (Belgian Society for Radiation Protection)
 - Radiation protection during the steam generator replacement in Doel.
 - Applying ASARA during the decommissioning of the Belgonucleaire MOX-plant.
6. Training courses conferences and workshops in Belgium
 - 4th Workshop of the EAN Norm, November 29th - December 1st 2011, Hasselt, Belgium.
 - 7th Workshop on European Collaboration for Higher Education and Research in Nuclear Engineering and Radiological Protection (CHERNE 2011) Brussels, Belgium, 30 May - 1 June, 2011
 - 2nd Int. Conf. on Advancements in Nuclear Instrumentation, Measurement Methods and their Applications (ANIMMA 2011) Gent, Belgium, 6-9 June, 2011
7. INES concerning RP
 - March 2011: INES 1; IRE increased dose rate at the ventilation of a hot cell. A restricted access was declared. No consequences.
 - April 2011: INES 1; Catholic University of Leuven. A Co-60 irradiation device. After a non-standard irradiation an operator noted after entering the irradiation area that the sources were not returned to their safe positions. He immediately left the irradiation facility. No consequences for workers, public and environment.
8. Fukushima

A number of elements regarding the Fukushima accident are given below:

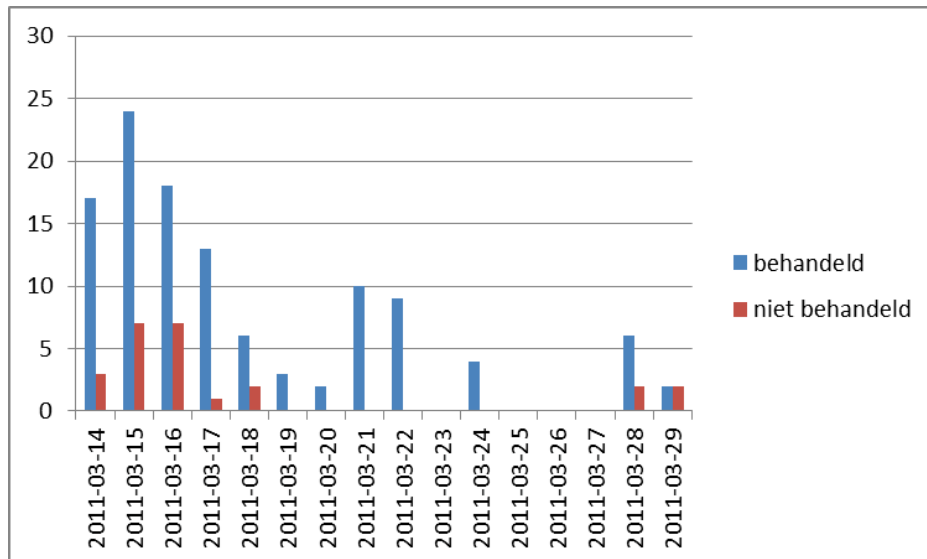
 1. SCK•CEN is consulted by the media after the accident on radiation protection and reactor safety. This continued during the weeks that followed the accident.
 2. Different meetings are organised involving different government organisations to define the response to the Fukushima accident with respect to RP and communication to the public.
 3. 3Question from the media concentrate on the safety of the installations but also on the exposure levels for the emergency workers.

4. Question from the media are also directed to understanding the dose and dose limits.
5. Information on measuring dose and contaminations is asked.
6. Different reporters who came back from Japan asked to be measured in the whole body detector of the SCK•CEN. Only small levels of I-131 were measured. The shoes of one report were lightly contaminated with Iodine (below exemption levels).
7. Thyroid measurements were set up by SCK•CEN on demand of the FANC to give the opportunity to people returning from Japan to check for internal contamination. Only a few people were measured.
8. FANC performed random controls on ships coming from Japan. Three containers were found to be slightly contaminated with Cs-137 and Cs-134. They were decontaminated and released.
9. The radiological survey of the environment performed by the FANC showed values at the detection limits.
10. Companies perform regularly measurements on incoming goods. Support is asked from FANC, Controloatom, SCK•CEN and IRE.
11. Companies ask crash courses on radiation protection and measuring methods.
12. The control on incoming food stuff is enhanced, although the amount of foodstuff coming from Japan is small.
13. Several local organisation ask the SCK•CEN to give a description of the incident to their members and evaluate the consequences for Belgium.
14. An offer of support is given through the Belgium government via the EC to Japan.
15. We are monitoring the information that is coming from Japan both on the aspects of safety and radiation protection
16. General information
 - a. 138 contacts – 114 responded; 24 not:
 - b. No answer when calling back or other person already commented
 - c. Reference to Min. Internal Affairs or FANC (cf. iodine campaign, emergency planning zones in Belgium)
 - d. Avoided: stress test; Belgian plants longer open or not; debates pro - contra
 - e. TV/radio: 45; Newspapers and magazines: 57 ; Other: 12
 - f. Belgian (NL): 90; Belgian (F): 20; Internat.: 4
17. Evolution of the topics
 - a. Initially: technical explanations only
 - b. Later: mixed: technical – emergency response
 - c. Afterwards: Health effects (on site, population); environmental effects
 - d. In the end: large diversity
 - e. Technical: major accidents
 - f. Radiation protection – health – environment – waste management on site
 - g. Belgian context, our facilities at Mol,
 - h. The INES scale and upgrading to 7

- i. Cf. also: 25 y Chernobyl
- j. Now: finished

18. Statistics of the media contacts

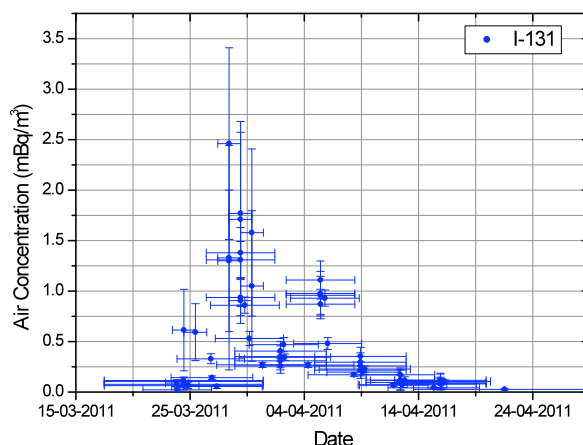
Contacts per day with the presse (blue response given, red no further response given redirected to regulator and authorities)



19. Offer to provide support through Belgian Government

- a. Offer by SCK•CEN to provide support to Japan
- b. Asked by FOD Economy (Min Magnette) (and last week: by Flemish government: min.-pres. Peeters to Japan)
- c. Short term
 - i. Dose assessments and measurements
 - ii. Modelling of the impact (short and medium range)
 - iii. Mapping and contamination monitoring
 - iv. General support and expertise
 - v. Laboratories made available
 - vi. Dose calculations in support of interventions
- d. Medium term
 - i. Radiologic transfer; impact on humans & biota
 - ii. Advice (site remediation, decontamination, food chain,...)
 - iii. Field measurements
- 20. Measurements at SCK•CEN or by SCK•CEN staff - Partially authorities - partially private - partially own initiatives
 - a. Control of people returning from Japan
 - i. In our facilities
 - b. Journalists upon request of their medical doctor
 - i. Detectable but not relevant
 - ii. Jan Vandeputte (Greenpeace)
 - iii. In the Military Hospital Neder-Over-Heembeek (collab. FANC):

- iv. Population returning with official Belgian repatriation action + on private
- v. ~15 measurements, no contamination detected
- c. Environment and food chain
 - i. LRM
 - ii. Sampling in Belgium:
 - iii. FANC: dust in the air, rainwater
 - iv. Own initiative: charcoal filters, grass (detected, 1Bq/m²)
 - v. Traces of I-131; dose impact marginal;
 - vi. Results consistent with neighbouring countries
 - vii. FAVV: prepare to be ready for analyses in food chain (import from Japan)



- d. Support to Industry:
 - i. Several demands by companies
 - ii. Sometimes interventions by IDPBW on site
 - iii. Course + evaluation monitoring equipment and procedure for Toyota Europe
 - iv. For harbour related issues: ref. to FANC, Nutec, Controlatom



GREECE - GAEC



The actions taken in Greece in response to the Fukushima accident are as follows:

The Greek government through the Ministry of Foreign Affairs and the Greek Atomic Energy Commission (GAEC) has issued the following recommendations:

Travel to Japan is not advised.

As a precautionary measure, Greek citizens within an 80 km zone from the Fukushima nuclear power plant are advised to move out of the area. The same recommendation has been addressed to Greek ships.

Greek citizens and Greek ships' crew members have been advised to follow the instructions of local authorities.

GAEC, as the national radiation protection and nuclear safety authority, has taken the following actions:

Airplanes

- There are no direct flights from Japan to Greece. However, the option of passengers screening upon arrival from Japan has been provided on a voluntary basis in two airports (Athens and Thessaloniki) from 18 to 26 March 2011.
- Thyroid uptake and whole body counting are performed in GAEC, if proven necessary from the screening.
- GAEC laboratories are available to persons coming from Japan, wishing to be monitored.
So far:
- In total 58 passengers have been monitored. Low concentrations of radioactivity were detected in the personal belongings of 2 persons. In these cases thyroid uptake and whole body measurements were performed. Iodine in low concentration has been detected, resulting in extremely low doses.

Ships

- For ships coming from the Pacific Ocean (in general) no provisions are considered necessary.
- For ships coming from the affected area, Greece implements the recommendations proposed by EC-DG for Energy.
- Whole body and thyroid uptake measurements can be performed on a voluntary basis to the crew members returning from the affected area.

Food and feeding stuff import

Following the relevant EC Recommendation, radioactivity measurements are performed for food and feeding stuff imported from Japan.

Public information activities and other provisions

- GAEC has extended its working hours (12-18 hours daily)
- Press releases
- Phone line available
- Updates and information material published on GAEC's website (FAQ, link to the national telemetric network, link to the EURDEP).

Environmental Monitoring

- Activation of the network of collaborating laboratories for performing sampling and measurements
- Telemetric network for monitoring total-gamma dose in air (24 stations) and aerosols (3 stations), on-line with GAEC web-site and EURDEP

- High volume sampler measurements
- Measurements are continuously performed in environmental samples (air filters, rain water, grass, milk, water)

Continuous distribution of collected data to the EC (ECURIE), IAEA (ENAC), as well as HERCA networks.



NORWAY - NRPA



The revision of the basic regulation for radiation protection was finalized with the new regulations coming in effect from 2011. The former basic regulations have been split into two regulations: one for radiation protection regarding, practices, workers, etc and one for environmental protection. The environmental regulation is now established under the environmental pollution act contains a number of nuclide-specific tables, defining various exemption and clearance levels a.o. The revised radiation protection regulations, under the radiation protection act, are tightened on several points. Stricter requirements for medical screening programs are introduced, and the issue of self referral has been addressed. Also stricter requirements for radon concentrations in schools and kindergartens have been introduced following the WHO recommendations. Concerning non-ionising radiation, the most significant change refers to the introduction of 18-year limit and staffing requirements for tanning studios. This last part is still in a hearing phase for political decision.

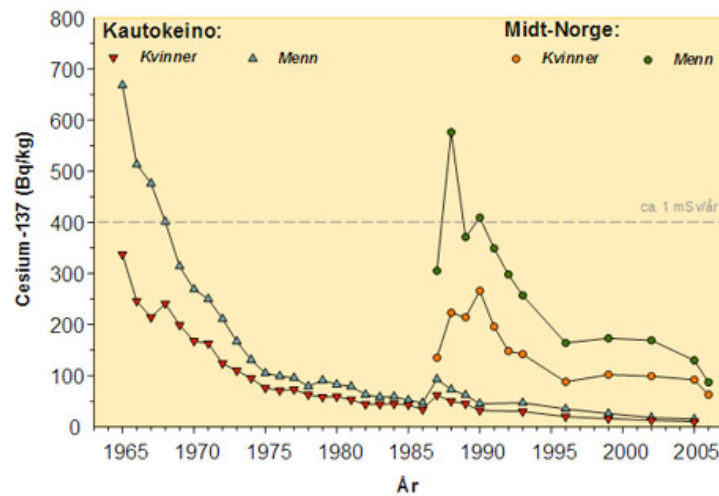
From the regulatory side, NRPA has in 2010 enforced stricter security requirements regarding IAEA Class 2 sources in hospitals.

NRPA has continued to stimulate a national network between medical physicists working with ALARA and optimization in medical diagnostics in public and private hospitals.

In the medical sector, NRPA has focused on reporting of reference diagnostic doses from the hospitals. The reports will give a basis for a revised set of national reference doses in diagnostic. Many hospitals have taken measures to work further to better optimise medical procedures to decrease their local patient doses. This shows that the ALARA instrument "reference doses" works in practice.

4 clinical audits were carried out in 2011 in hospitals working with radiation therapy. Clinical audits is a good "ALARA instrument" in practice and is very much appreciated in the hospitals to address quality assurance issues. NRPA will continue to organize clinical audits in 2011.

A long lasting monitoring program on whole body measurements of Cs-137 in people from the sami population in northern Norway was terminated as the concentrations now is not significantly different than measured in other part of the country. The program started in 1964 after the period with atmospheric A-bomb tests in north Russia.



The figure shows the result of the annual measurements of mean specific activity of Cs-137 in people from Kautokeino (north Norway, triangles red:females, green: men) and people from middle part of Norway. (circles)



SLOVENIA - UPVS



Countermeasures adopted in Slovenia with regard to Fukushima accident

Government recommendations to citizens living in or visiting Japan:

Slovenian citizens living in Japan were recommended to follow the instructions issued by local authorities. They were warned that in case of bad weather condition the radioactive contamination might spread to central part of Honshu island including Tokyo region. People were recommended to take this information into account when planning their stay in Japan. All travels to Japan were dissuaded. If a trip can not be postponed extra caution and follow up from other sources of information was recommended.

Public in Slovenia was informed that sufficient amount of iodine tablets are on stock, but there is no indication that the administration will be necessary. For Slovenian citizens in Japan additional iodine tablets are provided at Slovenian Embassy in Tokyo. It was specially stressed that people should take iodine only on instruction of local authorities.

No monitoring of passengers returning, by air from Japan was introduced or recommended by the government of Slovenia.

Additional control of food and feed imported from Japan is introduced in agreement with EU Regulation 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. (L 080 of 26/03/2011, p. 5)

Initial assessment of the contamination of a ship or container coming from Japan, are in line with the Commission recommendations using a common threshold for the dose rate at 1 meter distance from the surface of the ship or container of 0.2 microSv/h (above background level). Below this threshold the ship or container should be considered not contaminated and no further measures would need to be taken. If this dose rate is exceeded, more detailed investigations should be performed in order to decide on an protective measures necessary.

**ITALY - ISS**

The Fukushima accident

In view of the low environmental contamination in all Europe, no national state of emergency was declared in Italy. Otherwise, the National Plan would have been implemented¹. As this was not the case, no coordination was arranged of the various Ministries and Organisms, but, various leading structures could work in a sufficiently coordinated way. Nevertheless, the conclusion was arrived at that a simpler organisation should be thought out for this type of situations.

The Italian population had some reaction of panic in two moments. The first, during the early days after the accident, when Italian citizens that were repatriating from Japan showed their concern about being contaminated; the second, when some international agencies announced that the fallout was reaching Europe.

As for the Italians exposed in Japan, the Minister of Health announced that they could get checked in some hospitals that volunteered to do the screening. The proposed test was the measurement of the urinary iodine content. Some of these hospitals also checked the travellers' thyroids with scintillators. No person was found significantly contaminated. After some days, the Minister asked the experts for an agreed-upon procedure as for the tests to be done and the travellers to be checked. The conclusion was that no measurement was actually necessary, but a test by the National Health Service could only be offered, if required, to people who had been within the 80 km-radius zone from the plant. This was the conservative distance suggested by the US Nuclear Regulatory Commission, which had already been adopted by other EU Member States.

As for the radioactive fallout on Italy, the monitoring was carried out by the local environmental control agencies for the environmental control, ARPAs. A maximum of 3 mBq/m³ of I-131 was measured in air, i.e., a iodine concentration a thousand times less than the maximum detected in Italy in the aftermath of the Chernobyl accident.

¹ See *ALARA news from Italy*, December 2010 meeting: the latest updated version of *The National Plan of remedial measures against radiological emergency* was recently issued as a Decree of the Italian Prime Minister, and published in the Official Journal at the end of May 2010.

As regards possible contamination in foods imported from Japan, the regulations issued by the European Commission were applied. No sample was found to have a I-131 or Cs-137 content exceeding the stated maximum levels.

Both ISPRA (Italian Environmental Protection Agency) - the Italian authority for nuclear safety - and the Ministry of Health kept the population informed by posting regularly updated notices on their websites.



AUSTRALIA

The link below takes you to the ARPANSA website where a statement is posted that has been endorsed by the Radiation Health Committee (set up under our Act to promote national uniformity), and that relates to security screening using ionising radiation. Since this is related to our Workshop in Vienna, it might be of interest to the participants and of course to the EAN Steering Group.

<http://www.arpansa.gov.au/Regulation/screening.cfm>

NUCLEAR ENERGY AGENCY-OECD

Emergency Response Governmental Decision and Recommendations Information Exchange

Survey on Governmental Decision and Recommendations made after the Fukushima accident

<http://www.oecd-nea.org/> (not yet published)

	Total #	Participating Countries	Main common findings
Q1- What has your government recommended with regard to your citizens living or visiting Japan ?	29 + EUROPOL	Australia, Austria, Belgium, Canada, Czech Rep, Denmark, Finland, France, Germany, Greece, Hungary, Iran, Ireland, Italy, Latvia, Lux, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, UK, US	- Follow measures recommended by Japanese government <u>Evacuate 80 km zone</u> (Australia, Canada, Czech Rep, Denmark, Finland, Greece, Hungary, Latvia, Norway, Sweden, US) - No restriction for international flight and maritime operations to Japan's major airports and seaports - Partial travel warning for the north east of Japan - go south - No advice to leave the country - Iodine tablets for preventive use are not recommended <u>After evolving conditions: (mainly after 16 March)</u> - Consider leaving the area - Avoid non-essential travel to Japan (France, Germany, Greece, Turkey) - Follow advice for local food and drink - Availability of government planes (France,
Q2 - What has your government recommended with respect to the monitoring of passengers returning, by air, from Japan?	29	Austria, Belgium, Canada, Czech Rep, Denmark, Finland, France, Germany, Greece, Hungary, Iran, Ireland, Italy, Latvia, Lux, Netherlands, Norway, Poland, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Portugal, Turkey, UK, US	- No specific recommendation (Austria, Canada, Denmark, Luxembourg, - Voluntary basis screening -thyroid gland, TBC- Belgium, France, Germany, Greece, Norway, Slovakia, Sweden, Turkey - Just after the accident transferred and monitored- Czech rep , Spain - No monitoring – Hungary, Ireland, Italy, Slovenia, Portugal, UK (mostly no direct flight) - Routine monitoring- Poland, US

	Total #	Participating Countries	Main common findings
Q3 – What has your government recommended with respect to the importing of food or goods from Japan?	28	Austria, Belgium, Canada, Czech Rep, Cyprus, Denmark, Finland, France, Germany, Greece, Hungary, Iran, Ireland, Italy, Latvia, Lux, Norway, Poland, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Portugal, Turkey, UK, US	- European countries – based on EC recommendations and national legislation <u>EU advice – check levels of radioactivity in food and goods imported from Japan</u> (Czech Rep, Finland, Norway, Slovakia, Slovenia, Sweden & Switzerland - random control, - Enhanced import controls (Canada, Spain, Turkey - Prohibit the import of foofstuffs and feedingstuff (Cyprus, Italy) - Declaration by the importer and contamination control at the point of entry (Cyprus) - No restriction (Denmark, Hungary, PolandDeclaration of previously imported food is safe (Denmark) - No additional measure UK - Japanese government has halted all export from affected region (21 March) - Food safety: the EU reinforces controls on imports from Japan (24 March)
Q4 – What are your policies or plans with respect to potassium iodine tablets distribution to nationals in Japan?	17	Belgium, Czech Rep, Denmark, France, Germany, Greece, Hungary, Iran, Japan (?), Latvia, Norway, Portugal, Serbia, Sweden, Turkey, UK,US	- Put at disposals of the Embassies in Japan - Administration only be initiated at the advice of Japanese Authorities - Guide for administration - Distributed to the nationals in Japan (France, Sweden,UK, US (only for government personnel), Japan(?))
Q5 – Have you established recom. regarding screening of passengers, baggage and transport?	12	Australia, Belgium, Czech Rep, Denmark, Finland, France, Germany, Greece, Iran, Latvia, Portugal, Serbia, Sweden, Switzerland, Turkey	Special <u>instructions</u> to customs Voluntary basis screening <u>Germany</u> Screening outer surface of airplanes constarint 1 kBq/cm², only for next 2 months <u>Switzerland</u> Crew, cargo, cabin, for airplanes filters and tires
Additional monitoring (of the radioactivity in the environment)	13	Czech Rep, Denmark, France, Iran, Ireland, Portugal, Romania, Serbia, Sweden, Switzerland, Greece, Norway, Turkey, EUROPOL	- Routine continuous monitoring - Continuos gamma monitoring Air filter and charcoal cartridge measurements (increase of frequency) Rain water and milk (Ireland)
Activation of Call centers for information of the public	12	Autria, Belgium, Canada, Czech Rep, Denmark, Iran, Ireland, Latvia, Portugal, Greece, Norway, Serbia, Sweden, Turkey,	YES, except Czech Rep (only by web) and Sweden