



Association

**CRIIRAD**

Laboratoire

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M. Yukiya AMANO  
International Atomic Energy Agency  
PO Box 100  
A-1400 Vienne  
AUTRICHE

Our references : 2017-11-14\_iaea\_R-106

Dear Dr AMANO,

**Our laboratory is operating an atmospheric radioactivity control network located in the South-East of France and is currently investigating the ruthenium 106 contamination detected in Europe.**

As you know, several European radioactivity monitoring networks have detected a ruthenium 106 contamination. To our knowledge, it started at the latest 25th September and ended no earlier than mid-October. According to German BFS<sup>1</sup> and the French IRSN<sup>2</sup> calculations and simulations, **Southern Urals** is the probable source of the radioactive release.

### I About the lack of information

We analyzed the documents published by the IAEA on 13/10/2017 with the mention "for authorities' use only" : "Status of measurements of Ru-106 in Europe" and the associated "Technical attachment" which presents the measurement data provided to IAEA as of 2017-10-13. Unfortunately, the durations of the air samplings are not specified and, according to your introductory note, can vary in duration, from 1 to 7 days. The note also indicates that, "for multi-day samples", the results table uses "the midpoint of the sample range". Therefore, the first column of the table, titled "Date Time", would indicate the day of the sampling, or the midpoint date in case of sampling over several days. However, we question the reliability of these data. For example, considering two results for France, the table indicates a sampling date on October 9<sup>th</sup>, 2017. However, this date is neither the start of the sampling nor the midpoint nor the end but the date of the results publication. Actually, the press release published on 9 October 2017 by the IRSN states that:

- the value of 7.4  $\mu\text{Bq}/\text{m}^3$  relates to a sampling carried out at La Seyne-sur-Mer (Var) from September 26<sup>th</sup> to October 3<sup>rd</sup> (ie a midpoint on September 30<sup>th</sup>) ;
- the value of 6.8  $\mu\text{Bq}/\text{m}^3$  refers to a sample carried out in Nice (Alpes Maritimes) from September 25<sup>th</sup> to October 2<sup>nd</sup> (ie a midpoint on September 29<sup>th</sup>).

**In order to correctly interpret the data, we need to get reliable information. For each result, could-you please provide us with the dates of the beginning and end of the air sampling?**

In particular, we need to know which sampling period the Budapest results of September 25<sup>th</sup> is relating to. As results are published for the 25<sup>th</sup>, 26<sup>th</sup>, 27<sup>th</sup> and 28<sup>th</sup> of September, the most likely is to consider that the air sampling in Budapest is carried out over a period of 24 hours, but we need to confirm this information, especially for the 25<sup>th</sup> of September.

According to IRSN statements, the accident occurred during the last week of September 2017. However, if it is confirmed that the contamination reached several millibecquels of ruthenium 106 per cubic meter of air on September 25<sup>th</sup> in central Hungary, we consider that it is unlikely that the accident occurred so late. There are indeed more than 2 500 km between Budapest and the release site deemed most likely by IRSN. It would be necessary to imagine a constant East wind and an average speed of at least 100 km/h for this distance to be covered in 24h. According to our data, the weather conditions that prevailed on September 24<sup>th</sup> and 25<sup>th</sup> do not support this assumption / hypothesis. The modelizations carried out by our laboratory with the NOAA HYSPLIT model indicate that a period of 3 to 4 days is more believable.

<sup>1</sup> Federal Office for Radiation Protection/ Bundesamt für Strahlenschutz.

<sup>2</sup> Institut de Radioprotection et de Sûreté Nucléaire

**If the accident is prior to the last week of September, this can undermine the calculations and questions the assessment of the size and the location of the accident. As already mentioned above, it is not possible to investigate this issue without access to reliable data.**

The information published by the IAEA on October 13th must also be completed. The document indicate that « *addition information is available on the USIE website* ». Unfortunately, USIE is a protected site to which only registered official users have access and we, as independent organization, failed to log in. Please can you provide us with the conditions required to get access to the full database of measurement results? In case the access to the database is forbidden to NGOs, can you provide us, at least, with the full table of ruthenium 106 measurements made on air samples obtained between September 15th and October 30th, 2017?

Furthermore, IRSN rules out the hypothesis of satellite-related contamination based on IAEA statement that no ruthenium-containing satellite has fallen back on Earth during this period. Can you confirm that you have rejected the satellite hypothesis and tell us the nature and results of your investigations on this hypothesis?

## **II. About the responsibility of the IAEA**

To our knowledge, the IAEA has issued no warning on the radiological risks incurred in the region of the radioactive release, nor alert on the need to act urgently to ensure the protection of workers and local populations. On the contrary, the IAEA document insists on the fact that in Europe exposures are negligible: 100 000 times lower than the threshold that the IAEA (not CRIIRAD) considers appropriate for emergency measures. We do not understand the silence of the IAEA on what we consider to be the most important issue. This is all the more regrettable since, in the event of an accident involving atmospheric contamination, the protective measures must be implemented as soon as possible.

Under the terms of the Convention on early notification of nuclear accident, nuclear accidents must be “forthwith notified” by the signatory States and the IAEA is specifically involved in the process. However, the IAEA has not denounce the violation of this convention. Worse, its document “forget” the areas where the contamination is necessary intense and focus exclusively on areas where Ru-106 concentrations are too low to induce significant health problems.

This is not a trivial accident. If one refers to the criteria of the INES scale and to the simulation results of several official experts (such as IRSN), the accident should be classified at level 5. As you know, level 4 is reserved to nuclear accident not requiring the implementation of countermeasures other than the control of local food production and IRSN considers that protective measures such as confinement or evacuation were mandatory within a 5 km radius. These estimates are all the more worrying as the dose levels chosen by the official organizations for triggering these protective measures are extremely high. Moreover, foodstuff control could be required up to 40 km away from the emission point : in this zone, the surface activities would reach between 60,000 to 100,000 Bq/m<sup>2</sup> and therefore likely to cause the UE maximum permitted level of radioactive contamination to be exceeded. Once again, this finding is all the more serious as CRIIRAD has demonstrated that these limits have been established on an erroneous basis and exposes consumers at a much higher risk than the regulation is supposed to guarantee.

Consequently, the crucial question is about the risks incurred by local populations and site workers. How can the IAEA remain silent on this subject? Ensuring the application of health protection standards is a function clearly defined in its statute. It is AIEA’s responsibility to make every possible effort to ensure that the protective measures planned in the event of an accident are actually applied.

Our association demands that everything be done to identify the source of the pollution and provide the workers and affected populations with all necessary assistance. In addition, all lessons have to be learned so that such a situation does not happen again. Solidarity and responsibility have to replace inertia.

Hoping for a fast response, With our best regards,  
For the President of CRIIRAD, Roland DESBORDES  
Corinne CASTANIER, in charge of Radioprotection Questions

