

Press conference transcription held by M. Wataru IWATA (Project 47) and M. Bruno CHAREYRON (CRIIRAD) in Japan National Press Club in Tokyo on 1st June, 2011.

<http://www.youtube.com/watch?v=rkcT9ScUyhY>

TN : parentheses were purposefully added to bring precisions to the text due to the particularity of the spoken Japanese language.

0 m – 1 m 20 s

1. Moderator

Sorry for making you wait. We are here today with M. Bruno Chareyron, who is in charge of the CRIIRAD laboratory, the Commission for Independent Research and Information on Radioactivity ; M. Chareyron will present the CRIIRAD shortly, the CRIIRAD organization was founded in France after the Chernobyl accident and is today internationally renowned.

But first, we are going to listen to Mr. Iwata from « Project 47 »; he will explain briefly why they invited the CRIIRAD.

1 m 20 s – 4 m 10 s

2. Intervention of M. Iwata

My name is Iwata from "Project 47". It is an action group created on April 1st 2011. At that time, one of our members brought some gasoline to Miami-soma, and several others including myself, were in Ishinomaki as volunteers equipped with Geiger counters. When we returned, we all met in Nihonmatsu for a working meal ; we saw people over there who were doing their own everyday things without protective measures : no home confinement instruction and no recommendation were issued. And yet, we were able to establish with our instruments that the radiological situation was not normal at all. As radioactivity is invisible, has no odor or color, these people tended to their everyday life as usual : this is how (we realized the importance to detain these instruments and) we decided to create this action group.

First, we started looking for counting devices, however we practically couldn't find any in Japan. We also contacted distributors in the Unites States, Germany and France but there again, there were no available stock. Finally we tried to obtain some from a friend who had returned to France, and asked him to look for us ; this led him to contact the CRIIRAD.

We explained our mission to the CRIIRAD : the Institute lent us two precision instruments and a dozen portable counters. With this equipment, we then went to Fukushima around the end of April and we started doing measurements. After we started sending the measurement results to the CRIIRAD we included along the opinions of the population.

Later on, the managing director of the CRIIRAD, Bruno Chareyron came in Japan : he is here since May 24, and we have since launched a measurement campaign. Bruno Chareyron is now going to

communicate the results of our measurements ; he will also specify the different situations we have been observing together.

4 m 15 s – 34 m 25 s

3. Intervention of Bruno CHAREYRON

Hello, my name is Bruno Chareyron, I am an engineer in Nuclear Physics and am in charge of the laboratory of the CRIIRAD institute.

The CRIIRAD is a non-profit organization with as main objective to control the radioactivity in order to better inform and protect the populations.

The association was founded in 1986 after the Chernobyl disaster because at that time, the French government lied on the actual contamination that hit the French territory.

This laboratory is totally independent. Independent from the State, independent from the industries, independent from political parties....This independence is made possible by private donations from 5000 French citizens who provide financial support.

So, since the early stages of the Fukushima accident, we, at the CRIIRAD, wished to share our experience on radioactive fallout management with the Japanese community, this is the reason why we immediately reacted to the request formulated by "Project 47" for scientific assistance.

We have conducted an on-site measuring assignment starting May 24th in Japan in order to assess the radiation levels of the contamination deposited on the ground that strike the people walking on this ground.

In radioactivity terms we measure the radiation levels in **microsievert/hour**, the natural level is generally under 0,1 microsievert/hr, and on the documents that I am about to show you, you will have the levels that we actually measured.

But first I would like to come back to the manner in which the Fukushima disaster has been dealt with in Japan during the first stages.

It is clear that the citizens have not been fully informed nor protected in regards with the radioactivity released by the Fukushima Nuclear Plant.

Firstly, regarding the people who were required to remain indoors, it is important to know that home confinement cannot be effective over a period of several days, as it is essential to renew the air of a house.

So then, when radioactive iodine is being released, it is very important to distribute stable iodine tablets to protect the thyroid gland, in particular regarding the very young children.

We have met many people in Fukushima who indicated that they did not receive any stable iodine tablets at all.

Then, when radioactive substances fall out on the ground, they of course invade the food chain; the Japanese authorities only started measuring on foods on March 18th.

Using the first measures published by the Japanese authorities we calculated that, when a child ingested 200 grams of spinach from Ibaraki for instance, due to iodine 131 contamination, he was actually ingesting well over the allowed annual dose limit of 1 milliSievert per year.

The vegetables sampled out at Itate just 40 km northwest of Fukushima showed that if a child ingests 5 grams, he incorporates over the tolerated annual dose limit.

Due to the lack of information and protection many people have already been exposed to very high radiation dose levels that could have been avoided.

It is important that the Japanese citizens request assistance from independent experts in order to obtain a correct assessment of the doses they have been exposed to, so that if they were to contract any pathologies linked to this radiation, they can obtain decent repair and compensation. Among radioactive substances that fell on the ground, the most important ones now are the cesium 137 and the cesium 134. Cesium 137 has a long life span as its radioactivity is divided by 2 only after 30 years. This cesium is a powerful gamma-ray emitter, extremely invasive it can even irradiate people through the walls of their homes.

To compute the impact on health, we measured the dose rate in **microsievert per hour**, multiplied by the number of hours spent inside and outside, to calculate the annual dose, in **millisievert per year**.

Normally the limit... the maximal dose limit allowed is of **1 millisievert per year** ; by now if a person in Hitachi remains outside 12 hours every day, he/she will be exposed to 1 millisievert per year within the 12 coming months. In Fukushima City for instance, the radiation level, at 1 meter above ground, in almost the entire city is 10 to 20 times over the natural level.

For the population in those neighborhoods of Fukushima City, we evaluated that if they are not evacuated within the 12 forthcoming months, or if no decontamination is performed, they will receive doses of 7 to 9 millisieverts which represents a risk of 7 to 9 times over the tolerated standard risk limit.

In Fukushima City, the ground radiation is so high that even on the 5th floor in some buildings, we measured near the windows a 5 fold radiation increase compared to natural variations levels.

As another example, the situation is even more disturbing in Itate for instance; we conducted measures in a farmland where the person living there is going to receive, within the next 12 months, around 60 millisieverts if this farmer is not evacuated.

So now, here in this room, we can measure a gamma-ray radiation of 80 counts per second... which is natural; and I will show you now the level measured at the window of this farmer's home: (film display showing the counter at 9 213 counts/sec).

This means that many people in the Fukushima Prefecture, are exposed to radiation levels that are usually considered as unacceptable, this leads to the question regarding operational criteria for evacuation and compensation of these populations, if they are evacuated.

The Japanese authorities fixed a criterion of 20 millisievert per year for the future evacuations; this criterion is much too high as it represents a cancer risk 20 times over what is normally tolerated.

It must be noted that these people have already received dozens and dozens of millisieverts which means that in effect, in order to properly protect them, an evacuation criterion at a much lower level for the future should be set.

In another case, we were particularly moved to see this elderly woman living in Miyakoji, (between 20 to 30 km from the nuclear reactor) who was evacuated at the start. Today she would be "legally" allowed to return on her farmland (the contamination is below the actual legal level). This lady decided not to return on her land as she knows it is contaminated and wants to protect the health of her granddaughter who lives with her.

When we showed her the contamination level of her land with a Geiger counter, she cried and said, "I am happy you came to show me the reality because it will help me accept the fact that I will not return in my farmland".

So, this is a family who decided not to return on a contaminated territory with absolutely no compensation payout since the radiation level of her land is below the "legal" level of 20 millisieverts used by the Japanese authorities.

This is why the approach of "Project 47" is central. It is important to show to the community what the radiation levels are, to explain risks to them, so they may request from the authorities better suited protection norms as well as repairs and compensation payouts when they are asked to evacuate contaminated areas.

The third thing that shocked us is regarding the Fukushima Daiichi Plant situation which is still not under control as it continues to release radioactive elements in the atmosphere; yet the monitoring and protection system has not been set at a proper level.

For example, to measure risks for the health, we must measure Becquerel per m³ in the air. But TEPCO specified during their press conference that they only had one machine at the west entrance of the plant to measure the Becquerels in the air. In addition, this machine runs only 20 minutes each day. This means that in the event of fallouts during the remainder of the day, they would not be taken into account in the calculation by the machine.

We asked TEPCO, how is it possible that a small institute like the CRIIRAD can run 5 different devices of this type in France while an industrial like TEPCO can't even have a single captor.

TEPCO replied that it was not a money issue but a personnel problem, they don't have enough staff members qualified to change the filters and run analyses.

We also spoke with people in charge of Emergency Affairs at the Fukushima Prefecture and asked them if iodine tablets had been distributed in each home so that people could ingest the pills rapidly in case of new releases. This representative replied that there had been no distribution of iodine tablets whatsoever and that it was the responsibility of the Government on a national level.

We are going to bring an account of all these observations this afternoon before some members of the Congress ; and yesterday, here in Tokyo, we made a plea addressed to all the citizens in the world to demand from their respective governments, in nuclear-powered countries, two things :

First, that all the companies operating nuclear plants commit themselves to undertake radioactivity and dose measures that will be both complete and reliable, even – and particular - in case of a nuclear accident ;

Secondly, that the States and operating companies contract adequate insurance coverage in order to be able to both evacuate and compensate the populations hit by radioactive contamination fallouts.

As a French citizen, I would like to extend my apologies to the Japanese people for the line of conduct adopted by the French Nuclear Safety Institute (IRSN), which is a State-run institute. Indeed that organization published on March 17th a simulated dose projection that would impact the children living in the Fukushima vicinity until March 20th; and in this simulation, the cumulated dose for the children was below the evacuation threshold limit.

This means that if the IRSN had to make the decision, one can presume that they would not have proceeded with the evacuation of people living in a 20 km radius of Fukushima.

This is also a reason why, what is currently happening in Japan, concerns us in France as well as citizens who live in nuclear-powered countries. Citizens must have independently-run expertise in order to obtain better guarantees.

It is also focal to breach agreements between the International Agency for Nuclear Energy (IAEA) whose goal is to promote civil nuclear energy and the World Health Organization (WHO) whose aim is to protect our health, because the people who rule on the norms for human health must not be the same as those who seek to promote an industry.

Mr. IWATA from Project 47, could you please decline briefly what you are planning next ?

34 m 45 s – 38 m 05 s

4. Intervention of Wataru IWATA

We are going to set up civil radiation measurement stations. To begin with, one station in the city of Fukushima is planned for end of June.

It is the protection team, one of these working groups from the Fukushima Network for Saving Children from Radiation that will essentially ensure this set up, backed up by the CRIIRAD offering their scientific and technical knowledge and advices.

We are going to acquire food radiation detectors for the set up of radioactivity measuring spots. The financing of the equipment will be covered by the Fukushima Children Fund, founded principally by Days Japan.

In these stations, we plan to acquire later on « whole body counters » allowing to measure the accumulated contamination level in the person's bodies.

We also plan to operate these stations as information centers concerning internal contamination. At this time, the instruments considered are plain devices, LB200 from BERTHOLD, with sodium iodide scintillometer.

Its detection limit being of 20 Bq/l, we use this prototype to detect a high radiological contamination in foods in order to prevent their consumption.

Regarding equipment, we wish to progressively acquire Germanium semiconductor detectors in view of creating lists of foods presenting risks.

After the Chernobyl accident, food control centers were established namely in Germany and Belarus. We took as outline the lists of foods elaborated by these centers. For example, at the time of wheat harvesting in Germany, they took measurements on the crops in all the regions and established results lists.

To select foods, the population can then lean on these lists instead of the criteria provided by the public authorities. For the Christmas season, they drew up a list of cakes and sweets, etc. (This is what we would aim to do,) since, from now on, we are going to find contaminated foods in the food processing chain. The objective of these lists is to allow people to buy and consume food products with the help of these lists. As Bruno explained it earlier, there is little information available to determine or evaluate the extent at which people are already contaminated, mostly in the Fukushima district. More particularly, when it comes to radioactive gases, no one says anything about them, data are not published. In order to tackle these things, Bruno will go to the meeting scheduled at 16:15 at the Counselors Chamber House. In this meeting, Bruno will make a presentation to the members of the Counselors Chamber who studied the question of the 20 milliSieverts in children.

38 m 50 s – 39 m 15 s

5. Question

M.Yabu from the Tokyo Sandbox project

You talked about the city of Fukushima. So, this critical harm, is it concentrated within the limit of the district of Fukushima or does it reach a larger zone, beyond Fukushima, like Ibaragi or Miyagi ? Can you please explain this, within the limit of what can be said at present time.

39 m 20 s – 42 m 50 s

6. Answer of Bruno Chareyron

Regarding your question, all the difficulty is to define a contaminated zone : at what quantity of millisieverts per year will we rule that it is a contaminated zone. If we fix a limit at 1 millisievert per year, the contaminated zone is actually extremely important since, in the south, it reaches Hitachi, and perhaps even more southward... we did not take measures everywhere; and up north it reaches beyond the Fukushima vicinity, so, to answer your question, it is necessary to request the publication of the maps showing cesium deposits on the ground, and to request that the resolution of these maps be in much higher definition.

For example on the official map published by the Japanese authorities you can see that the blue color represents a level inferior to 1 microsievert per hour. So, if a person lives in an area hit by a contamination of 1 microsievert per hour, when multiplied by the number of hours in a year, we can reach well above 1 millisievert per year : it can be above 5 or 10 millisieverts per year. So this type of map that was drawn from helicopter viewings must be done for the whole country of Japan with a low limit set at 0,1 microsievert per hour instead of 1 microsievert per hour.

43 m – 45 m

7. Question from the journalist n°2

My name is [...], independent journalist. I have two questions. There was here, yesterday, a press conference given by the Professor [...] a researcher on nuclear energy from the Michigan University. She stated that she conceded with the recommendation from the EAIA which is based on a very long standing experience, but she said that she did not really know what the ECRR, a European organization, had to say and which is critical of the IAEA. What is your opinion on these two organizations ?

My second question : TEPCO organizes a press conference everyday at 16 :30, and yesterday I asked them a question ; the MEXT takes measurements just about all over the nation, but they measure at 20 meters above ground; results are said to be 10 times higher at one meter above ground. In Tokyo, their measure shows 0.06 $\mu\text{Sv/h}$ in the atmosphere, whereas in Arakawa, a private team came up with 0.7 $\mu\text{Sv/h}$, hence over 10 times higher. So I asked them what they thought of that and they answered that it is true the MEXT system presents problems because it is designed to measure fallouts from nuclear tests, and they wished to improve the measuring process and increase the number of stations. They also said that they wished people could make measurements on their own using instruments offered by other countries, but their answers were not all that clear. What do you think about it. If you have any advices, I would appreciate knowing.

45 m – 51 m 45 s

8. Answer of Bruno Chareyron

So, regarding the notion of millisievert, we must recall that for the **ICPR** there is no threshold limit below which the risk is null, any dose increases the risks. 1 millisievert has been fixed as a risk limit considered as acceptable which means that for one million people exposed to 1 millisievert is associated a risk of death for 50 persons in the years following exposure.

But so,....the Japanese authorities fixed a norm of 20 millisieverts per year to decide whether or not the people living in the contaminated lands must be evacuated today. Such a norm of 20 millisieverts means that we agree for the population to be exposed to a risk of death by cancer 20 times above the risk which is commonly considered as unacceptable.

In addition, this norm of 20 millisieverts decided by the Japanese authorities only takes into consideration external irradiation by the ground; it does not account for the millisieverts due to inhalation of radioactive dusts lying on the ground, neither does it take account of millisieverts linked to ingestion of contaminated foods that will be grown on this same ground.

Regarding Tokyo, the city was exposed to important fallouts particularly as you know, on March 15th, since the cesium concentration in the air at that time was multiplied a million times compared to the concentration that existed prior to the Fukushima disaster.

It is fortunate that the winds did not blow in the direction of Tokyo during the critical phase as, otherwise, the radiological situation in Tokyo today would be extremely serious.

So the contamination of the air in cesium 137 in Tokyo, has given way to doses by inhalation that are not negligible. There has been a deposit on the ground and this deposit is, fortunately, less concentrated than in Hitachi, but it is not null.

This is why it is important to undertake controls on the contamination that has deposited in Tokyo : the first measures that were done yesterday by car, show that there is not a severe radioactivity, but on the other hand, in some areas, there is probably an excess of radiation compared to the natural levels. This is why it is capital to design these maps by helicopter on a nation scale.

Of course, there must also be measures done by foot with Geiger counters along with soil samplings to analyze, in laboratory, the becquerels/m² fallouts, in Tokyo.

52 m – 54 m 20 s

9. Question of journalist n°3

My name is Iwakami from IRJ. I would like to ask my questions to both Mr Iwata and Mr Chareyron. Internal and external radiations have their own mechanism. It is important to measure radioactive elements deposited on the soil and to measure the atmospheric dose, but for the internal dose, it will now be more and more important to measure radioactive levels on foods. Most of all, processed foods, since they will transit even in regions far away from the damaged nuclear plant ; the inhabitants in the west region of Japan like Kyushu, who did not have radioactive fallouts could easily ingest contaminated processed foods. So it will now become a problem for the entire Japanese people. I would like to ask, how could we manage contaminated foods on a national level; how many instruments, and what type of instrument will be required for Japan?

To Mr. Chareyron, I would like to ask, in the case of Chernobyl, what were you able to do, not just on a national level in France, but also in countries like Russia, Belarus and Ukraine as well as in eastern countries. What equipment have you installed ? What were the results ?

54 m 20 s - -57 m 50 s

10. Answer of Wataru IWATA (in F, J and Eng by B. Nolan)

Concerning internal irradiation, there are data issued from several studies on which we can base ourselves. The Belarus and Austrian governments gave their official view stating that the dose in foods is beyond 80% of the total dose. Some talk about 20 mSv, but that's only the radiation in space that is responsible for the external dose. We must not forget that this dose only represents 10 to 15% of the total dose.

That's precisely why we are going to open a first station in the city of Fukushima. As you mentioned, I think that measurement stations should be installed in regions nationwide. We heard that the city of Koganei already started this type of analysis on foods. I also heard that in Germany around forty measurement stations were installed and that they drew up lists based on analysis reports of the same type. Pardon me, what was the content of your question again ?...Ah, yes...well perhaps this is not the most direct answer, but on May 30th, following our meeting with the Head of the emergency services at the Fukushima Prefecture, we asked how food samples were selected for analysis and how the legal limitations for the routing of foods were determined. We then obtained confirmation that they picked a sample in each town ; for example, spinach of a particular town was analyzed and if the result was below the provisional threshold, then it was possible to deliver the spinach supply of the town nationwide. We are able to know, even with the space irradiation level, that the contamination dispersion can vary so much so that depending on which side of a road you stand, it can actually double. So the control of the marketed products is done in a totally absurd manner. This is also to avoid this type of situation that I would like to see this type of lists created on analyzed foods and standards set for the benefit of every citizen who will buy foods based on the collated results.

As for the type of equipment, we are thinking about getting Germanium semiconductor detectors capable of measuring contaminations below 1 Becquerel and of identifying radioactive elements.

57 m 50 s – 1 h 01 m 40 s

11. Answer of Bruno Chareyron

Regarding the Chernobyl situation, there were controls undertaken in Europe on the frontiers; undertaken by the States of course, and others done by private and independent institutions. What is actually focal, as stated by Mr. Iwata, is the surveillance plan to be conducted in a pertinent manner. This means that the fallout maps must be used as a starting point to focus controls on the zones that were the most contaminated. Controls must also be done on foods that are the most at risk ; a risk that not only occur during the fallouts but also, in time, from transfers via the root systems of the plants .

So then the question is : what are the norms that will be fixed on these foods ? the "Codex Alimentarius" issued by the United Nations, under the pressure of the IAEA has set a norm of 1,000 becquerels per kilo in cesium 137 ; the Japanese authorities set a more protective norm of

500 becquerels per kilo, but this norm is not necessarily more protective because if we consume foods at 500 becquerels per kilo all year round, we can attain well beyond several millisieverts per year.

57 m 50 s – 1 h 01 m 40 s

12. Moderator

I think that there are still people wanting to ask questions but I would like to adjourn the press conference. They are still staying a while longer, so please come closer to ask your questions personally.

Well, thank you very much.

Translation : M. Mashimo / B. Nolan - **Proofreading** : B. Chareyron