

21.07.00

IRPA-10  
Eye Opener Lecture EO-7

## Radiation Protection and Public Information

### Setting the Stage for the Presentation of this Morning

Dear Colleagues, Ladies and Gentlemen,  
thank you for coming here at such an untimely hour of the day. You had to get up very early, - me too, by the way! - so we all need a real Eye-Opener. And here it is! ([Transparency No. 1.](#))

#### ***Change of title***

Now, having opened your eyes - or at least one of them! - you will see that I have slightly changed the title of this lecture. "Public Involvement in Decision Making", as was originally specified, certainly is a highly political issue and cannot, in my opinion, be treated among experts in Radiation Protection exclusively. It is true, however, that involvement of the public in decision making presupposes a correct and complete information, given by the radiation safety experts. And exactly that is what we will discuss in this paper.

#### ***Public information, - the Neverending Story***

Information of the public about radiation safety issues, on the other hand, is in any case an original task of people like us here, who represent radiation protection. And more than that, it is a continuing task, and so to talk about it - and how to talk about it - is indeed a Neverending Story, as I have named it in the headline of my transparencies.

#### ***What we therefore will talk about in this lecture***

Accordingly, we are going to deal this morning with four main topics as specified in [Transparency No. 1](#). We will start with the discussion of some basic problems first involving our self-understanding as radiation protection experts, - what is our message to the public? Second, we will analyze the complex flow of information between ourselves and the various members of the public. Third, we will have a look on the occasions and reasons to inform the public. And finally, we will derive the TRRUTH: Six essentials for success when talking to people.

### Some Public Information about Myself

Now having said this, and as most probably not all of you will know me, I believe that I owe you first of all some Public Information about myself. What gives me the competence to speak about Public Information?

Let me start by saying that I have accepted gladly the invitation to give this eye-opener lecture when it turned out that my friend John Lakey was unable to come here. Why? Because the issue "Radiation Protection and the Public" has always fascinated and stimulated me, and I may say that it went like a red thread through my whole professional life.

### ***Lessons learned early***

Indeed I started my professional career nearly half a century ago, in 1957, at the later Karlsruhe German Nuclear Research Center, by touring through rural pubs and elementary schools to tell people why we wanted to build a Research Reactor and how un-dangerous this would be to them. The term "Risk" was not known at that time.

And there I already learned my first - and basic - lesson in the business of Public Information. After a lecture in a school class, that I gave very proudly in my best academic manner, as just practiced in the university, the teacher came to me and said:

"It was certainly a very nice and convincing presentation, but we still don't know what you actually wanted to tell us".

So I learned already this early in this business that, in communicating with the public, you have to observe three main things if you really want to be heard by the public ([Transparency No. 1](#)):

- try to imagine what the questions are that your audience wants to be answered
- speak to them in their own plain language
- try to establish a human relationship between you and at least some members of your audience

Evidently, this is true also for my presentation of this morning, and you may watch me accordingly. I shall come back to these questions of communication again later on.

But to make a big time-leap now to the present: At the time being, I am the Information and Publication Officer of the German-Swiss Fachverband für Strahlenschutz, and the Editor-in-Chief of the Journal "StrahlenschutzPRAXIS".

Having thus introduced myself, I will come to the next point, - how does the public see us, the radiation protection experts, and what could and should be our message?

## **What is our Message to the Public?, - Three Basic Questions First**

### ***Basic Question No. 1: What does Radiation Protection as a profession stand for?***

The problem I am going to speak about is particularly focused already in the first ICRP General Principle on justification of practices involving exposure to radiation: Detriment versus Benefit. Radiation protection, indeed, is kind of squeezed in between those two poles ([Transparency No. 2](#)). How is that?

On the one side: radiation protection restricts the use of radiation. It is the task, and the aim, of radiation protection to minimize or at least reduce the risk. That, in any case, is obviously what the public expects. On the other side, radiation protection only renders possible the use of radiation, because it makes it acceptable to the

public. Or, to formulate it provocatively, radiation protection enables the use of radiation by restricting it.

Now the judgement of risk or detriment is definitely the domain of radiation protection. When it comes to justification, however, this may not be the case. It is, in other words, the duty and the aim of radiation protection to inform the public on the risks of radiation in the broadest sense. It is, however, not the competence of radiation protection to make statements on the benefit of a particular radiation application.

Altogether, this difficult situation, urging radiation protection into the role of a controller and of a referee at the same time, requires a great deal of discipline and continuous self-criticism of the individual radiation protection representative when communicating with the public. And that brings us immediately to the second basic question.

### ***Basic Question No. 2: Who is the speaker for Radiation Protection?***

Radiation protection is a very heterogeneous discipline. We have at least a scientific, a legislative, an administrative and an operative field of radiation protection ([Transparency No. 3](#)), not to speak of all the individuals performing in these fields. Who of them, as seen by the eyes of the public, represents radiation protection? And where do the medical people come in, taking into account that doctors usually are the user and the protector of radiation in one person?

You may answer that that's exactly what professional societies are competent and responsible for. However, as we will further discuss in a moment, the flow of information is very ramified, and frequently just bypasses the societies.

### ***Basic Question No. 3: How high is the risk really?***

This indeed is the, as we call it in German, "Gretchenfrage", the crucial question when communicating with the public. We, therefore, must take stock of our own standpoint as radiation protection experts with regard to low-dose risk.

Unfortunately, we observe presently at least three different movements in Radiation Protection ([Transparency No. 4](#)) :

- the conservatives or representatives of the main stream defending - with more or less individual variations - the existing concepts like LNT
- the "Good People", Greens, Naturalists or however you call them who advocate a decrease of existing level values by at least a factor of ten and think that any use of radiation is harmful and to be cursed
- the "Hormesis People" who claim that low doses of radiation are healthy, or at least of no harm, so all the money that goes into the ALARA implementation is wasted

In Germany, for instance, we have two Radiation Protection Societies, one is the Fachverband and one that calls itself " Strahlenschutzgesellschaft" that splitted off the Fachverbands some years ago with the message "all Radiation is bad, nuclear power plants cause leucemia, etc."

All those movements call science as witness for their convictions. So whom is the public to believe? As long as we will be, as a radiation protection community, disagreeing even among us in judging the risk, we will not be able to transmit a common and convincing message to the public.

## **Radiation Protection and the Public: A Complex Flow of Information**

### ***Information via the Media***

The main information pathway to the public leads via the media: press, radio, television ([Transparency No. 5](#)). Usually, the media are asking comments or explanations referring to a topical issue. They may ask the professional society, or they may ask individuals. On other occasions, the experts will address the media with their own news and comments. It is, however, of great importance that they do so regularly on all levels to make themselves known as a source of professional information. Sometimes, there are also personal contacts between a particular expert and the public, mostly on matters of local importance.

### ***The role of politics and institutional bodies***

There are, however, two more players in the game: institutional government or scientific bodies, and, last not least, politics or politicians. In particular in case of a nuclear accident, most information will flow across and through them. That can lead, as we have seen after the Chernobyl accident, to great confusion because information is coloured by the interests of the various institutions (appeasing, exaggerating the risk, looking for more money or influence etc.).

### ***The coming way of information: the web***

And, finally, there is a quite new pathway of communication: the world wide web. The web enables on the one hand a commonly accessible presentation of the information a radiation protection society has and wants to give, and on the other hand a two-way link between individuals of the public and experts. I believe - not at least from my own experience as Information Officer - that this pathway will even gain in importance tremendously, and we should pay our utmost attention to improving it.

## **Public Information: Occasions and Reasons**

Why and when do we communicate with the Public? There are two broad kinds of information: Routine information, and information on the occasion of a nuclear accident ([Transparency No. 6](#)).

### ***Routine Information***

The main reason for establishing a routine flow of information will be to make yourself known to the media as an expert. Maintain relations to the local editors of radio and the press, giving from time to time general statements on issues related to radiation safety, and, if appropriate, comments on actual events.

### ***To be heard, speak the language of the press!***

We all know that it is difficult to make yourself heard above all the noises from other news and notices an editorial office is receiving continuously. So it will sometimes necessary that you drop your usual noble scientific discretion and formulate your message in a quite provocative or drastic manner. To give you an example from my own experience: Some "Critical Scientists" in Germany recently got a lot of press attention by stating that low doses are 10 times more dangerous than assumed by the ICRP-bondaged "mainstream" representatives of Radiation Protection. Saying in contradiction that they have no serious scientific proof for this allegation brought us not a single notice. But as we headlined our message "Scientific wrong-way drivers in Radiation Protection endanger international consensus", we were in the journals immediately.

### ***Information on Accidents***

In case of an accident, you, as a known radiation protection expert, will be expected to give guidance to concerned people. There are three types of accidents: a restricted event in a distant country - like, e.g. Tokaimura for the Europeans - where you just comment and/or are requested to compare it with similar possible events in your own country; or a local accident somewhere in your neighborhood; or a distant event with widespread implications, like Chernobyl 14 years ago. In the two latter cases, you may be involved directly in exploration, evaluation, or remedial measures. Such an event is the utmost challenge in public information for the radiation safety expert because he will encounter a very worried and sometimes even hostile population.

### **Lessons learned after Chernobyl**

I cannot give you here the full story of what happened in Germany and Switzerland in the days and weeks after the Chernobyl accident in April 1986; that would require another full eye-opener at least. I just give you some references at the end of this lesson. But in any case we have learned a lot in real-life public information. I just condense our reactions into the key sentence repeated over and over:

*"Something unexpected happened, and I can fully understand that you are deeply worried by a seemingly unknown danger. However, I assure you that the "danger" can be measured and the corresponding risk be estimated."*

And, just to mention another kind of approach: we invented a personalization of the Becquerel ([Transparency No. 7](#)). That helped very much in establishing a human contact with many people.

## **Finally, the TRRUTH: Six Essentials For Success when Talking to People and Informing the Public**

What I am telling to you at the end of our mornings«eye-opener ([Transparency No. 8](#)) may seem to be trivial. But just try it. You will see it's not as easy as it sounds. Take it as a suggestion, as a help, not as a directive. And let me give you, at the end and before I am dismissing you, one last thought to take home with you:

**You may be a radiation safety expert,  
but first of all you are yourself part of the public.**

Think about what that means for you, and have a nice day.

## **Some (very incomplete and at random) References**

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