



National Institute for Public Health  
and the Environment  
*Ministry of Health, Welfare and Sport*

# RIVM response to audit report on radiation

## Introduction

Staff and management of RIVM want to express their sincere thanks to the audit committee for their work, their recommendations and insights. All recommendations will be adopted and incorporated into the action plans of the Centre for Environmental Safety and Security (VLH) and the Centre for Sustainability, Environment and Health (DMG).

In the knowledge area of ionising radiation, a lot is going on in the Netherlands. The competent authority (ANVS) has been evaluated, and results were published in January, 2020. The same goes for an evaluation of the funding of 6 million euro awarded annually by the ministry of economic affairs, to the firm NRG in Petten, for research on radiation protection and nuclear safety. Also, the competent authority (ANVS) has set up a committee that will advise ANVS (and Dutch government) on actions to be taken to strengthen the academic training and research within the area of (ionising) radiation protection and nuclear safety and security. Their report is expected to be published in the second half of March, 2020.

As far as the knowledge area of UV is concerned, there is an increased awareness within society, a knowledge agenda is under development, together with stakeholders. It will highlight the need for continued, or additional funding for maintaining and developing (scientific) expertise.

Within the knowledge area of EMF, RIVM puts much effort in trying to persuade actual and potential stakeholders, like the ministries of Health, and Economic Affairs, and the Radiocommunications Agency Netherlands, to fund multi-year projects in order to maintain the current standard of knowledge and develop new knowledge where necessary.

RIVM is actively involved in all of these developments, raising awareness about problems, addressing points relevant for policy makers, and seeking co-operation with strategic partners where possible.

## Detailed reaction to the recommendations

### Recommendation 1

**Develop a strategic plan for the knowledge field of radiation. This could either be tied to the institute-wide strategic plan or be drawn up as a separate strategic plan for the field of radiation. This plan should:**

- a. detail the priorities, the required expertise, and the associated resources and funding needed to maintain this;**
- b. include the result of extensive consultations inside and outside RIVM in order to map all relevant developments and viewpoints with regard to the field;**
- c. identify single points of knowledge and other sub-critical areas of expertise, and include measures to safeguard this expertise if it is deemed essential for the field;**
- d. include initiatives focussing on the long-term recruitment and training of experts with the aim to minimize the risk of losing competence in key areas;**
- e. be approved and committed to by the management of RIVM, including the described priorities and associated resources.**

A strategic plan will be developed for all knowledge areas. In fact, we had already begun drafting one for the areas of ionising and ultraviolet radiation (IR and UV). The three plans will be ready in the first half of 2020.

The three knowledge areas within the field of radiation, i.e. IR, UV and EMF, have different commissioning clients and a different position within society, especially with regard to actual risk involved and risk perceived by the population.

Nevertheless, RIVM will seek uniformity in the separate strategic plans, and will initiate overarching projects where possible and effective. Uniformity is probably most easily realised on areas like the connection with stakeholders and society, and the connection between management, staff and commissioning clients.

For large parts (about 75%) of the work in the knowledge area of IR, such a strategic knowledge area plan has already been drafted and discussed with the commissioning client (ANVS). For UV and EMF, such plans will be drafted in 2020.

All plans will give a clear direction for the development of the field and the organisation, and will include as much strategic information as possible, both from outside and inside of RIVM (e.g. the stakeholder assessments, feedback from consultations, and strategic analyses).

The plans will also focus on acquiring and maintaining knowledge and experts, and attaining enough redundancy within the teams (either within or outside of RIVM) to make sure knowledge is not pinned to a single person.

As much of the work done is commissioned, the external consultation will include potential commissioning clients as well as that the resulting strategic knowledge area plan will be discussed with commissioning clients for its implications on the work to be commissioned. During the execution of the plans, progress will be monitored for evaluation purposes. The strategic knowledge area plans will be updated every two years, keeping alignment with stakeholders, society and staff.

Furthermore, it is customary within RIVM to make annual strategic staff plans, describing the staff needed in the near future (1-2 years). Many centres had already begun to widen the time span to about 5 years, and much of the strategy of the centres is reflected in these strategic staff plans. The coupling with the strategic knowledge area plans will be made explicit.

## Recommendation 2

**Keep paying attention to and appreciating the scientific activities of the experts, so that they can remain actively involved in the field through participation in the scientific community.**

Having enough and relevant scientific publications is a prime condition for the legitimacy of the reports made and the advice given by RIVM. Science is the basis for future policies, and without it, policy makers in the Netherlands would become dependent on the science done and interpreted by foreign countries within 10 years.

Given the way RIVM is financed, purely scientific work – such as writing scientific papers on radiation - is an activity which has to be commissioned to RIVM explicitly by commissioning clients or financed by (e.g.) European scientific projects. This requires an active dialogue between the management of RIVM and commissioning clients and initiatives focussed on acquisition of international projects.

RIVM will do more effort in the dissemination of the scientific knowledge obtained, e.g. by publishing popular summaries on the RIVM website, giving talks for laymen on conferences, etc.

## Recommendations 3 and 4

**Take structural measures, provide incentives and create a culture of interdisciplinary research that helps to integrate the social sciences viewpoint in all areas of expertise of RIVM.**

**Broaden the expertise of the units by including social scientists from the fields of risk perception and risk communication. In order to facilitate interactions with natural scientists, these social scientists should not be placed in a separate social science unit.**

The further strengthening and integration of this expertise will be considered in the annual action plans. The development will be monitored in the context of the strategic knowledge area plans.

Given the way RIVM is financed, including more social scientists needs alignment with the commissioning clients. This requires strategic choices, leading to reallocation of financial resources or additional finances, should the enhanced involvement of social sciences not be at the expense of the work already being done.

## Recommendations 5 and 6

**Further clarify the operational responsibilities in the case of a large-scale nuclear emergency, in particular with regard to emergency crisis communication.**

**Extend emergency preparation to the transition and recovery phase of a nuclear incident, including plans for cleaning up the radioactive waste and dealing with the contaminated area.**

Since July of 2019, ANVS and RIVM are discussing roles and responsibilities during an emergency situation. At this moment, and by law and regulation, the competent authority (ANVS) is the only party doing emergency crisis communication. These discussions will be completed in 2020.

The discussions also include the transition and recovery phase of nuclear incidents, including cleaning up contaminated areas. It is the intention of RIVM and ANVS, the commissioning client, to have plans ready for all phases of a radiological emergency.

### Recommendation 7

**Keep up-to-date on the scientific development in the field of atmospheric transport modelling (ATM), as this plays a major role in the models the experts use to forecast the spread of contamination due to nuclear incidents.**

Keeping up-to-date with scientific developments in the field of atmospheric transport modelling (ATM) requires redirecting (or additional) financial resources. RIVM will write at least one research proposal with the aim to allocate more resources to this topic, and will discuss it with the commissioning client.

### Recommendation 8

**Perform further research into the behavioural mechanisms behind sunlight exposure in order to improve the risk communication strategy.**

In the strategic plans for UV, under development now, and from interviews with the main stakeholders, it is likely that this will become an important line of research. There is already knowledge available on this subject (behavioural sciences) within RIVM, and RIVM will use that knowledge to submit new research proposals.

### Recommendation 9

**Increase the focus on possible health effects of 5G networks and associated exposure assessment challenges, and make sure the critical mass of expertise in the field of EMF is maintained.**

The departments of Health and Economic Affairs have been informed via a written statement on our concerns and the follow up deemed necessary to increase the activities and critical mass to the appropriate level. This includes the relevance of a follow up to the ZonMw research programme 'EMF and Health', with focus on 5G.

Furthermore, in the field of new measurement protocols and possible health effects, the first steps have already been taken together with the Radiocommunications Agency Netherlands with a joint pioneering project. There are also active contacts with the institutions that develop these protocols and investigate health effects in other EU countries. It is important to actively keep an eye on changes in exposures due to new user applications and possibly related health effects. The relevance of multi-year financing is thereby raised actively.

### Recommendation 10

**Take up the discussion on the monitoring of medical exposure together with the medical physicists at the hospitals, aiming at a clear distribution of responsibilities towards monitoring of medical exposure to radiation, either by RIVM, the field of medical physics itself, or a transparent cooperation between the two.**

Together with the ministry of Health, Welfare and Sports, the first explorative discussions with representatives of the field of medical physics have been held in November, 2019. The aim was to define clear roles and responsibilities, after which progress with respect to monitoring of medical exposure will be evaluated on a regular basis.

In the first half of 2020, more detailed discussions will follow, with all stakeholders, with the aim to jointly study medical exposure in the Netherlands.

### Recommendation 11

**Better define its actual and perceived roles and responsibilities in risk communication towards a larger audience in the various fields of expertise.**

In some areas of work, there is a misalignment between the actual and perceived role of the RIVM. The strategic knowledge area plans will also pay attention to this phenomenon. The area of UV has already made roles and responsibilities in risk communication quite clear. Making clear plans and disseminating roles and responsibilities through a good website might contribute to achieving this goal. Within the knowledge area of EMF, the roles and responsibilities are arranged in the interplay between the RIVM and the Knowledge platform on EMF with respect to the risk communication towards a larger audience.

### Recommendation 12

**Use experts within the various areas as spokespersons towards the general public wherever possible, and providing media training where necessary.**

The education and training of experts will include media training where appropriate. As a rule, project leaders are press spokespersons for their own reports. Also, combinations can be made in selected press moments. When there are periods of very warm weather e.g., RIVM can include messages about UV radiation.

### Recommendation 13

**Increase attention to exposure to non-ionizing radiation for medical and cosmetic purposes, and implement this in its monitoring and advisory role.**

In the knowledge area of UV, the increasing use of tanning beds is a societal issue. RIVM will address this issue with the commissioning clients. In the area of EMF, this will be discussed within the context of the strategic knowledge area plan.

### Recommendation 14

**Try to persuade the right partners to invest in maintaining expertise in radiation protection within the Netherlands, as well as increasing cooperation with international partners.**

As an overarching goal, the right partners have to be persuaded to invest in maintaining expertise in radiation protection within the Netherlands, as well as increasing cooperation with international partners. This will be addressed in the strategic knowledge area plans and the subsequent annual action plans. This will also be translated in strategic communication with the (potential) commissioning clients. For the knowledge area of UV radiation, a knowledge agenda developed with stakeholders will highlight the need for continued, or additional funding for maintaining and developing (scientific) expertise. For the knowledge area on EMF, see also the action plan in the annex, recommendation 9.

For the knowledge area on EMF, see also the reaction on recommendation 9.

## Recommendation 15

### **Consider initiatives of giving its experts credit for their work internally.**

Initiatives will continue to be aimed at giving experts credit for their work, as part of the structural managerial process, where celebrating successes and creating career perspectives and opportunities for personal development are important aspects.

In the light of the positive audit outcome we will celebrate the good results and credit the experts for their good evaluation. If the work done is confidential, it is not straightforward for that work to be "seen" in public or the work to be celebrated, this will be given special managerial attention.

Furthermore, in the strategic staff plans, the career perspectives for the staff working in the knowledge areas will be addressed.

Possible initiatives will be discussed in the separate management teams of the Centre for Environmental Safety and Security (VLH) and the Centre for Sustainability, Environment and Health (DMG).