



**BEIS/NGO Nuclear Forum**  
**Tuesday 12 September 2017**  
**Church House, Westminster, London**  
**12.30 – 16.00**

**1. Welcome and preliminaries**

Co-chairs Stephen Speed (BEIS Director, Civil Nuclear and Resilience) and Professor Andy Blowers (Chairperson, Blackwater Against New Nuclear Group) opened the meeting, and welcomed attendees, especially to those from COMARE. Co-chair Stephen Speed apologised for the absence of Minister for Energy Richard Harrington owing to Parliamentary business. He read out a note from the Minister, apologising for his absence and his desire to engage with the forum going forward.

Co-chair Professor Blowers reported that he had a useful meeting with the Minister on Thursday 7 September. The Minister was keen to participate in the Forum and meet the Forum members informally, and welcomed proposals to include this in a future meeting.

**2. Committee on Medical Aspects of Radiation in the Environment (COMARE) Presentation**

Dr Chris Gibson, COMARE Chair, led a presentation on the work of COMARE and the latest report on the incidence of cancers around the nuclear installations at Sellafield and Dounreay, COMARE 17. It was explained that COMARE is a Department of Health (DoH) Expert Advisory Committee. It was originally established in 1985 to investigate cancer clusters in relation to Windscale. Since then, it has continued to assess and advise Government on the health effects of natural and man-made radiation. Its membership requires impartiality, and includes members from universities, hospitals and research institutes, government bodies and independent organisations. COMARE has produced 17 reports in response to requests for advice from government departments.

Dr Frank De Vocht, Senior Lecturer in Epidemiology and Public Health Research at the University of Bristol and COMARE representative, presented the major findings of the 17<sup>th</sup> report. COMARE 17 investigated the incidence of leukaemia around Sellafield and concluded that the incidence of some cancers was higher in 1973-1990, but that this effect is no longer present. COMARE recommends that incidence of cancers around Sellafield and Dounreay should be kept under review.



Professor John Harrison, former Director of the Centre for Radiation, Chemical and Environmental Hazards, a main commission member of ICRP and now a COMARE representative, presented to the Forum some international research priorities. These include examining mechanisms of low dose exposures, reliability of dose assessments, dosimetry and protection in medicine, and some of the ethical and social dimensions in radiological protection.

A discussion followed where NGOs presented questions to COMARE:

- NGOs commented that when the protection bodies were established, there were too few biologists and too many physicists, meaning the questions being asked were not unbiased. COMARE informed the NGOs the International Commission on Radiology Protection (ICRP) has a range of specialists in biology, dosimetry and medical exposures, as does COMARE. The lists of ICRP research priorities shows that it is interested in biological matters.
- NGOs asked about the accuracy of the inventory of the fire at the Windscale fire in 1957. COMARE's study investigated epidemiology, so even if the reports of the radioactive material discharged were incorrect, the epidemiology data would have been unaffected.
- COMARE responded to questions about whether modelling of radioactive releases accounts for wind effect, stating that modelling is required for all Environment Agency (EA) licenses, so that the effect of wind would have been included. Alan McGoff, the EA spokesperson for the Forum, confirmed that the effect of wind would have been included in their modelling.
- Professor Blowers asked COMARE about their source of information on historical discharges, and whether they account for spikes in discharges. COMARE responded that every effort has been made to obtain accurate data on discharges and that there are only small effects on radiation risk from changes in radiation dose rate, e.g. due to spikes in radiation.
- NGOs mentioned concern about COMARE's conclusions on risks from low level radiation, stating that there have been many assumptions in the causes of cancer and not enough definitive information. They suggested that a precautionary approach should be adopted because of these uncertainties. Dr De Vocht explained that epidemiology is the study of large populations, and examines a range of hypotheses, to determine which seem to be a better fit to the data. Stephen Speed added that COMARE's role is to provide evidence for Government, and that it is Government's responsibility to decide how to proceed in light of the evidence.
- NGOs stated that the US Environmental Protection Agency published a paper on health effects on exposure to radiation, concluding that there is no safe level for exposure to radiation, and specific examples were mentioned, including skin



cancer incidence. COMARE responded that people who have concerns about clusters should get in touch with their local PHE centre/cancer registry. Additionally, COMARE noted that the ability to detect contamination, down to minute levels makes quantifying risks at low radiation doses easier than for some other forms of pollution. If the levels are minute compared to natural background, then it follows that risks are minimal compared to background. Accidental releases, radioactive waste management and energy policy aren't within COMARE/DoH's remit.

- Dr Chris Busby questioned whether the impact of the period of nuclear fallout of 1957-63 coinciding with the increase in nuclear weapons production had been considered. COMARE responded that their initial study of thyroid cancer in Cumbria had not identified increases which could be linked to the fire, but recommended more research.
- Finally, NGOs asked whether there is enough challenge in COMARE to look for alternative explanations of phenomena. COMARE assured the Forum that members of COMARE come from a wide range of backgrounds, and consequently there was plenty of challenge at COMARE meetings.

Professor Blowers thanked COMARE for the discussion to enable engagement and dialogue between the NGOs and COMARE.

### **3. Presentation on Radiation Exposures**

Dr Chris Busby, Scientific Secretary for European Committee on Radiation Risks, followed with a presentation on internal radiation exposures and genetic effects on birth outcomes.

Dr Busby described the public consultation and engagement process in Sweden, where the Government funds the anti-nuclear movements, and allows adequate resources for scientists to conduct the appropriate research. Likewise, the British NGOs would also add more to the discourse and participate in decision making if they were provided funding.

Dr Busby presented the European Commission on Radiation Risk (ECRR)'s findings in 1989, which concluded that the ICRP model for internal exposures was inadequate. Dr Busby suggested to ECRR that the EU Parliament should introduce a law which would require re-adjustment of the safety exposures in the Euratom Directive if 'new and important' information emerges. Dr Busby's presentation described the problems in ICRP radiation risk modelling, for which there was an overreliance on Japanese atomic bomb victims. He presented alternative modelling to the Forum to be considered, which concluded that the current risk model for



heritable effects of ionising radiation is unsafe, with greatest effects at low doses, and cancers and other diseases emerging after an exposure time lag.

Dr Busby concluded by proposing various research topics to COMARE, including heritable effects, DNA and photoelectrons, genetic damage caused by uranium, other cancers near nuclear sites, and the chemistry of radionuclides (especially in internal doses).

Following Dr Busby's presentation, COMARE responded to points he had raised:

- There are several points of agreement between Dr Busby and COMARE. Modern genetic techniques allows for a closer look at how radiation influenced cells, for which COMARE have recently recruited an expert. COMARE is also interested in a range of other radiation effects, and agrees that it is important to look at cases where people have been exposed to internal radiation. COMARE pointed out that there were difficulties with the Chernobyl data, where the health and monitoring prior to the disaster was not very strong and so these results need to be interpreted in the light of other studies.
- COMARE also noted points of disagreement. It is essential to take into consideration the repeatability of results, and the consensus of international scientific opinion. The WHO review of health effects of Chernobyl summarises 400 papers; the latest report (2016) of the UN Scientific Committee on the effects of Atomic Radiation refers to 500 papers.
- NGO members questioned the original makeup of scientific panels for ICRP and the consequences of that on received wisdom on radiological risk, a point which Dr Busby has also made. COMARE accepted that there can be paradigm shifts in science but noted that the new theories must be able to explain existing data as well as new data. Each of the issues Dr Busby raised relating to atomic bomb survivors have been looked at. Additionally, ICRP is a large organisation with a wide range of contributors, which provides sufficient challenge.

A discussion followed where further questions and comments were addressed to COMARE:

- NGOs asked whose responsibility is it to enforce the 2012 Health and Social Care Act which requires public protection from radiation.

**ACTION 1 – BEIS to provide information on where the responsibility lies in enforcing the 2012 Social Care Act.**

- NGOs asked whether the International Atomic Energy Authority (IAEA) control the reports that the World Health Organisation (WHO) publish. COMARE clarified that in the production of the reports by IARC under the egis of WHO nobody from



industry can vote. IARC determine what is classified as a carcinogen, and their Monograph meetings are held to review all the available evidence. They produce reports that describe in detail what evidence has been used, and how it was interpreted to reach each conclusion.

## **ACTION 2 – BEIS to provide link to WHO reports.**

Further concerns were highlighted about COMARE's current process. NGO members mentioned the large disagreement between different researchers and bodies, and expressed a desire in formulating a process which encourages constructive dialogue. Considering the scale of money being invested into the government's nuclear project, the level of interaction with NGOs is disproportionately small.

NGO Richard Bramhall presented a proposal for engagement between NGOs and COMARE, which asked for joint fact-finding in the topics proposed by the NGOs. The COMARE remit should mean that they do not just operate on Ministerial request. The NGO's ask for input on the research agenda, including investigating the health effects of uranium and photo-electric effects on DNA.

COMARE thanked the NGOs for their helpful comments on research needs. In terms of a future process, COMARE's work programme has to be agreed with the DoH against predetermined health priorities. COMARE informed the Forum that the place for a transparent exchange of ideas is the scientific literature, and that COMARE cannot engage in favour with a select number of researchers as it needs to take into account the wide range of views from across the scientific community.

Professor Blowers thanked Dr Busby, the various NGO representatives and COMARE spokespeople. Professor Blowers suggested that dialogue with NGOs and COMARE or other bodies could be helpful, and expressed hope that BEIS and the NGOs will discuss further opportunities for dialogue.

## **4. Update on BEIS Policy**

BEIS officials presented an update to the Forum on current developments within Euratom:

- Negotiations have started on Euratom; as for other Brexit-related issues, discussions on the separation phase come first. The second round was in August and covered responsibility for spent fuel and waste. The next round will be in September and will examine safeguards arrangements. Until sufficient progress



is made on separation issues, BEIS cannot discuss future relationships with the EU/Euratom.

- BEIS is pursuing nuclear co-operation agreements with 4 key countries: the US, Canada, Australia and Japan.
- The Nuclear safeguards regime needs to be put in place by 2019. This focuses on four key strands of work: legislative framework on nuclear safeguards; secondary regulations; the role of IAEA (who will continue to have their role as the international verifying the UK's safeguards – initial discussions started, more discussions required); and Euratom. The Office of Nuclear Regulation (ONR) is setting up system of accountability and control, and recruiting more safeguards inspectors.

Several questions were raised following the Euratom update:

- NGOs asked what kind of risk framework does BEIS have in place if Brexit fails to demonstrate compliance with international obligations? BEIS responded that this risk framework is the reason for setting up the work stream on UK safeguards.
- NGOs asked whether there was a date for the nuclear safeguards bills/legislation. BEIS responded that a date has not yet been set.

Following the questions on Euratom, BEIS officials presented a policy update on the Basic Safety Standards Directive (BSSD):

- This Directive will be transposed into UK law by 2018. BSSD requires learning from Fukushima, i.e. preparing for unlikely but severe emergencies. The UK would need to have the right plans in place for a range of incidents. BEIS wants to build on the existing regime, e.g. existing voluntary extended planning for more severe incidents at nuclear sites.

## **5. Final Comments**

The co-chairs brought the Forum to a close and thanked the NGOs, COMARE and Dr Chris Busby for their participation in the Forum. They hope that members can reflect on today's discussion and the exchange of views. The next meeting will be in December, and will cover a broader agenda.



## **Attendees**

<b>COMARE</b>	
Dr Chris Gibson	COMARE Chair
Dr Frank De Vocht	Senior Lecturer in Epidemiology and Public Health Research, University of Bristol
Professor John Harrison	International Commission on Radiological Protection
<b>NGOs</b>	
Prof Andrew Blowers	Co-Chair NGO Forum and Chair of Blackwater against New Nuclear Group
Dr Chris Busby	Scientific Secretary for European Committee on Radiation Risks
Jo Brown	Parents Concerned about Hinkley
Sue Aubrey	Stop Hinkley Campaign
Dr David Lowry	Nuclear Waste Advisory Associates (NWAA)
Ian Ralls	Friends of the Earth Nuclear Network
Richard Bramhall	Low Level Radiation Campaign
Neil Crumpton	People Against Wylfa B
Sean Murray	Nuclear-Free Local Authorities
Rita Holmes	Ayrshire Radiation Monitoring Group
Phil Davies	Nuclear Waste Advisory Associates
Doug Parr	Greenpeace
Peter Wilkinson	Together Against Sizewell C
<b>Regulators</b>	
Chris Hannaway	Office for Nuclear Regulation
Susan McCready-Shea	Office for Nuclear Regulation
Alan McGoff	Environment Agency
<b>BEIS Officials</b>	
Stephen Speed	Co-Chair, Civil Nuclear Director
Matt Clarke	Deputy Director, Nuclear Energy Generation & International
Umran Nazir	Deputy Director, Decommissioning & Radioactive Waste
Craig Lester	Deputy Director, Strategy, Engagement and Innovation





Department for  
Business, Energy  
& Industrial Strategy

### **Summary of Actions**

<b>Action</b>	<b>Owner</b>	<b>Lead official</b>
<b>1: BEIS to write a letter to NGOs with information on where the responsibility lies in enforcing the 2012 Social Care Act.</b>	BEIS Secretariat	BEIS Secretariat
<b>2: BEIS to provide link to WHO reports.</b>	BEIS Secretariat	BEIS Secretariat