

Nanotechnology Research Coordination Group (NRCG) Note of the 17th Meeting

The seventeenth meeting of the NRCG was held on 12 January 2009. It was attended by representatives from across Government Departments, Regulatory Agencies and the Research Councils.

Updates on the Task Force Action Plans were presented:

Task Force 1: Metrology, characterisation and standardisation, Reference materials (Neil Harrison) – A number of new projects under the DIUS National Measurement System were noted for surface chemistry, nanoparticle interaction, naotoxicology dosimetry and assay standardisation. The EC will not be funding any projects under the NMP 2008 call for validation, adaptation, and or development of risk assessment methodology for engineered nanoparticles. A new call will be issued late in 2009. There is a new initiative for Nanomaterial Characterisation called MINChar. ISO TC229 is growing rapidly with over 200 delegates at the last meeting. Highlights within the programme were noted.

Task Force 2: Exposure – Sources, Pathways and Technologies (Brian Fullam) – A meeting to discuss the EMERGNANO and its impact on the Task Forces is planned.

Task Force 3: Human Health Hazard and Risk Assessment (Bob Maynard) – Preparation of the laboratory at Chilton to establish a National Nanotechnology Inhalation Centre is progressing well. Three proposals for neurotoxicity work on carbon nanotubes have been received. Future plans were also noted.

Task Force 4: Environmental Hazard and Risk Assessment (Daniel Mercke/Richard Owen who still leads on this work although having left the NRCG) – Phase 1 of the Environmental Nanoscience Initiative(ENI) made £750,000 available for small projects in two research calls, resulting in the funding of 17 small projects. A summary of the results will be presented to the NRCG. Phase 2 of the ENI – A research call is planned to be broadcast in February 2009. It will bring together researchers in the UK and US in a jointly funded consortia running for four years, its broad aim is to develop conceptual models and predictive tools of environmental exposure (fate, behavior, interaction), bioavailability and effects focused on one or more classes of key manufactured nanomaterials. The University of Birmingham is to establish a Facility for Environmental Nanomaterials Analysis and Characterisation. This will provide expertise and analysis to the environmental nanoscience community to support studies of fate, behaviour and ecotoxicology and support work conducted under the ENI2. The Facility will receive funding for 3 years in the first instance.

Task Force 5: Social and Economic Dimensions of Nanotechnologies (Kieron Stanley) – The Task Force is supporting the OECD's public engagement and outreach programme and overseen a project looking at the application of

corporate social responsibility in the nanotech industries. A programme of work to take forward further public engagement initiatives will be discussed at the next Task Force 5 meeting on 17 February.

Updates from the research councils were noted

MRC: The policy highlight notice in nanotoxicology has been discussed and re-focussed in light of the work funded so far and the recommendations of the RCEP report to particularly invite *in vivo* work and work validating *in vitro* models with *in vivo* systems.

EPSRC: Chris Jones has taken over from Liam Blackwell as Senior Nanotechnology and Physical Sciences Strategy Development Manager. Nanometrology and nanotoxicology are still signposted in response mode, particularly targeting RO2, 3, 4 and 9. Funding for three doctoral training centres in nanotechnology has just been announced. A Grand Challenge on nanotechnology solutions for the environment will be launched later in 2009. The call will be worth £ 5M.

STFC: Have had meetings with HPA on nanotoxicology and scoping out what their requirements are going forward. The MNT Centre might look at how volumes of very precise, traceable nanomaterials could be produced for inhalation trials.

BBSRC: Under their new Committee structure, BBSRC have launched bio-nanotechnology as one of their priority areas for grant applications.

TSB: NRCG members should receive a copy of the draft strategy for taking forward work on nanoscale technologies in the next couple of weeks. TSB are hoping to finalise the strategy by the summer and are looking into ways of engaging the Research Councils and others and finding the best ways to fund research in the identified priority areas.

Presentations were made by the Food Standards Agency for reports on the assessment of the use of nanomaterials for food additives and Food contact materials.

Food additives – The project considered if nanomaterials were present or likely to be present in the near future in food produced in the UK as well as potential hazards posed. Gaps in knowledge and regulations associated with nanomaterials in food were also considered. The only UK food product containing a nano-ingredient is Co enzyme Q10 used as an energy aid within the diet. The project looked at the main application of nanomaterials as food ingredients such as nanostructures in food and nano-encapsulated additives. Indirect applications were also considered. Also considered were the potential benefits, the potential hazards, regulatory concerns, and gaps in knowledge.

Food contact materials – the risks associated with food contact materials using nanomaterials and implications of these materials and gaps in knowledge and regulations were considered. A workshop to inform interested

parties of the findings of the project will be held. There is no specific legislation as applicable to nanomaterials as there is no distinction between macro and nanoparticles within existing legislation. Existing legislation placed the onus on manufacturers to ensure the safety of their product.

A presentation was made for the EMERGNANO project by the Institute of Medicine. An overview of the project including its background was looked at. The project aimed to present a picture of completed and near completed work looking at the environmental health and safety concerns posed by nanomaterials. The project would identify the relevance of each study in relation to the NRCG's 19 research objectives originally agreed to characterise potential risks posed by the products and applications of nanotechnologies. It was intended that the NRCG would be used as a peer review mechanism for the project. It is hoped to be able to finalise the report by March 2009. Task Force Leaders were asked to review the sections of the report relevant to them. There was acknowledgement that the little time available for Task Force leaders to read the report had so far limited their responses. Feedback from Task Force 1 indicated agreement with the broad conclusions of the report although it was felt that the degree of progress made into research by the Task Force could be better highlighted. It was agreed that the EMERGNANO report should be used to inform a review of the NRCG's research objectives and structure. There was also concern for communicating a more detailed picture of the research objectives to the research councils in order to better match research commissioned with that of our needs. It was considered that a joint level approach between the Task Forces would be necessary in taking forward a programme of research. However it was also noted that gaps might not be filled because the means to fill them did not exist.

Defra intend to lead for a quicker, shorter response to the Royal Commission on Environmental Pollution (RCEP) published a report 'Novel Materials in the Environment: The case of nanotechnology' than would normally be expected. Task Force leaders will be invited to input into the response. A final draft is anticipated in time for the Ministerial Group on Nanotechnologies on the 3rd March, with publication anticipated by April/May 2009. A response to the report from the research councils will be co-ordinated by NERC and forwarded to Defra. There will also be input from DIUS.

Other items considered at the meeting included responding to the BRASS report, the Voluntary Reporting Scheme, an update on international activities and results from phase 1 of the Environmental Nanoscience Initiative.

The next meeting of the NRCG will be held on the 20th April.