

Meeting:	NuLeAF Steering Group, 27 February 2013
Agenda Item:	5
Subject:	An update on the Managing Radioactive Waste Safely (MRWS) programme
Author:	Stewart Kemp
Purpose:	To update members on developments in the MRWS process and on-going work of NuLeAF officers

Introduction:

This paper covers:

- Developments with MRWS in West Cumbria
- Continuing MRWS interest in other communities?
- Strategic Environmental Assessment (SEA) Workshop report back
- New CoRWM membership
- International workshops
- Application for Finnish repository

Recommendations:

1. That the Steering Group consider the proposals set out in Section 1 below, and any others that may come forward through meeting discussion, and submits comments to DECC about key issues for consideration when deciding how to progress MRWS policy.

2. Re: Item 5 below, that officers explore the costs and practicalities for sponsorship of 2 NuLeAF representatives to attend the EURADWASTE '13 conference, 14-16 October 2013, Vilnius, Lithuania.

Contribution to 2012/13 Service Plan:

This report is in pursuance of the following tasks under the Geological Disposal Facility (GDF) work-stream for 2012/13 in the NuLeAF Service Plan 2012-14:

- *Continue to advise and assist any local authority wishing to engage with MRWS through Stages 1 to 3 or in Stage 4. Seek engagement with any future Community Siting Partnership to represent national local government views. Alert members to and advise upon relevant consultations.*
- *Advise Government and NDA with local government engagement nationally in MRWS Stage 4 and to identify any further interest in MRWS. Continue to represent wider local government opinion to CoRWM and RIMM, particularly in the development of the permissioning process and implementation of key MRWS principles.*
- *Monitor and engage as appropriate with international programmes addressing key PSE issues, and identify resourcing opportunities.*

1 Developments with MRWS in West Cumbria

The current MRWS process in West Cumbria was brought to a halt by the decision of Cumbria County Council's Cabinet on 30 January not to support GDF site identification and assessment work. By 7 votes to 3 it was resolved:

"that Cabinet decide not to participate in stage 4 thereby excluding the Allerdale and Copeland areas of Cumbria from further consideration in the MRWS process and to encourage the Government to make the necessary investment to improve surface storage facilities at Sellafield, (taking account of the findings of the National Audit Office report HC 630 dated 7 November 2012)."

Following the meeting the County Council wrote to DECC explaining its decision and making, inter alia, the following points:

- (The decision)"...stems from the ambiguity in the original White Paper (2008) as to which tier of local government would be the Decision Making Body."
- "...we continue to argue for a 'twin-track' approach to nuclear waste management."
- "The Right of Withdrawal not enshrined in statute."
- "We have not received a DECC/Government commitment to attempt to 'persuade' private sector investment in Sellafield as a priority which we desperately need."
- "We have no idea or indication of the magnitude of the 'community benefits' or 'engagement funding', which might be forthcoming whilst we, in Cumbria, manage the nation's nuclear waste."
- "The clear and apparent lack of credible public support."
- "Notwithstanding the excellent investigation, analysis and results achieved by the MRWS Partnership (with some final dissension), the opposition to proceeding to Stage 4 from such as CALC, the business communities, many environmental organisations as well as concerned citizens, was and remains overwhelming."
- "The only acceptable safety standard must be an ABSOLUTE one - 100% safety."
- "The recent doubts expressed by Dr. Dearlove, the MRWS advisor who, at a public meeting in Keswick, accepted that there was little probability of finding a suitable site in Cumbria."
- "The potential damage and 'blight' which might occur to businesses, dwellings, tourism, farms, residential amenity, land prices, etc."
- "In short, the cumulative evidence and arguments against proceeding to Stage 4 were and, indeed, remain considerable. We simply felt that there was too much uncertainty and we were unable to commit Cumbria, therefore, to years, if not decades, of such scientific, economic and environmental uncertainty."

The 30 January Cabinet meeting minutes can be read at: <http://councilportal.cumbria.gov.uk/documents/g7230/Printed%20minutes%2030th-Jan-2013%2010.00%20Cabinet.pdf?T=1>

A group of Cumbrian Councillors have 'called in' their Cabinet's decision. At the time of writing a Scrutiny Board will review the decision and could possibly recommend that it be changed. It would be for Cabinet to consider the advice of the Scrutiny Board, but a change of decision on MRWS is considered unlikely.

On 30 January the Executives of both Copeland and Allerdale also met and voted decisively to continue engagement with MRWS, citing the evidence base provided by the West Cumbria MRWS Partnership, and the Partnership final IPSOS/MORI opinion survey. This indicated 'net' public support across Cumbria for continuing with MRWS. The percentage figures were as follows:

- In Copeland 68% said Copeland Borough Council and Cumbria County Council should take part in the search, 23% said they should not, 4% were neutral and 5% said they did not know.
- In Allerdale 51% said Allerdale Borough Council and Cumbria County Council should take part in the search, 37% said they should not, 4% were neutral and 8% said they did not know.
- In the Rest of Cumbria 50% said Cumbria County Council and Copeland and Allerdale Borough councils should take part in the search, 35% said they should not, 5% were neutral and 10% said they did not know.

On 12 February the Leaders of both councils met with the Secretary of State for Energy and Climate Change, Ed Davey, and the Energy Minister responsible for MRWS, Baroness Verma to discuss a way forward. The ministers reaffirmed the position stated immediately after the Cumbrian decisions, that the current MRWS process in West Cumbria is at an end and the MRWS policy would be pursued in other parts of the country.

Immediately after the Cumbrian decisions the Government also reaffirmed:

- its commitment to geological disposal as the preferred option for the long term management of higher activity wastes. This policy is founded on the 3 year CoRWM process, between 2003-2006, which considered all management options for higher activity wastes, and concluded geological disposal is the best available approach. The Cumbria County Council decision has not changed Government policy.
- its commitment to new nuclear build. Government reaffirmed that arrangements for waste and spent nuclear fuel (SNF) disposal will exist by the time they are needed and EDF energy confirmed its plans for Hinkley C included on-site storage of SNF for 60 years.

At the time of writing DECC is deliberating internally about the options available and an announcement about the Government's way forward is expected in due course. A call for evidence and views on the implementation of the MRWS policy to date, and how it might be improved, is one option, as is a further round of public consultation, particularly if amendments to current MRWS policy are proposed.

A key issue for NuLeAF is how it should respond to the above developments. Immediately following the decisions in West Cumbria, and Government's reaction, NuLeAF issued its own statement pledging to continue working with central government to find a way forward. Areas where NuLeAF could recommend that Government focus its attention include:

1.1 Legislative underpinning

In the lead up to the decisions in Cumbria it was clear that the County Council remained concerned about the legal underpinning to both the right of withdrawal and community benefits. Before any new MRWS process it would be prudent for DECC to consider how it can provide firmer guarantees to any future prospective host community that it will retain a right of withdrawal up to the point of GDF construction and that any agreed community benefits package will be delivered. An amendment to the current Energy Bill before Parliament is one option. Another is to designate GDF development as a national infrastructure project under the terms of the Planning Act 2008, and accordingly consult upon and develop a National Policy Statement for higher activity waste management.

1.2 Decision making

Agreeing a process for decision making in Cumbria both for progression to the MRWS site identification stage, and during that stage, was fraught with difficulty. Again, it may be prudent for DECC to consider the available options for how greater clarity and transparency can be brought to any future MRWS decision making process.

1.3 Geology

Questions were raised during the MRWS process in West Cumbria about whether or not geological screening nationally should take place first, so that Government efforts can be focussed on areas with greatest geological potential. Whilst both geological suitability and a volunteer community are necessary conditions for MRWS to progress, there may be a case for reviewing the approach to successful programmes overseas where identification of geology preceded identification of volunteer communities. NuLeAF's own research conducted in 2006, at the time when MRWS policy was developing, recommended a national high level screening to identify areas of geological potential, to be followed by more focused engagement by Government with potential volunteer areas.

1.4 Design

Significant uncertainties exist about the 'footprint' of any future GDF and its environmental impact. Whether DECC and NDA's Radioactive Waste Management Directorate can bring greater clarity to the inventory of wastes earmarked for disposal and the scope for waste retrieval (to alleviate public concern about the irrevocability of deep disposal) should be considered. DECC and NDA could consider working with NuLeAF as a 'proxy' volunteer community to bring more clarity to these matters, and other matters identified by the West Cumbria MRWS Partnership, pending a decision about the way forward for MRWS.

1.5 Process

How DECC moves forward in the wake of the Cumbria decisions will be important for the maintenance of, or rebuilding of, public confidence in national policy towards long term management of higher activity wastes. If lessons are to be learned from the Cumbrian experience then it may be prudent for DECC to establish an independent body to gather evidence from all key stakeholders and make recommendations. Establishment of a national forum of key stakeholders to provide on going advice to Government may be another option.

It may be appropriate for DECC to consider moving radioactive waste management policy outside the domain of the Office for Nuclear Development, as locating waste policy within that office has fuelled concern in some quarters that progress with waste management is a means to an 'end' of new nuclear build, and not an 'end' in itself.

Utmost openness and transparency towards any review of MRWS policy will be required. Convincing reassurance that adequate infrastructure exists for long term interim storage of wastes destined for geological disposal will also be required. NuLeAF may have a role as an 'honest broker' between local and central government in identifying, collating, and reporting on the different perspectives within local government about how long term management of higher activity wastes should be taken forward in the wake of the Cumbrian decisions. Exploring with the LGA the potential for a joint LGA/NuLeAF conference for local government itself to consider options for the future, and possible recommendations, may be one way to help Government move policy forward.

The Steering Group is recommended to consider the proposals set out in the above Section, and any others that may come forward through meeting discussion, and submit comments to DECC about key issues for consideration when deciding how to progress MRWS policy.

1.6 West Cumbria MRWS Evaluation Report

Irrespective of the above developments it is worth noting that the Final Evaluation of the West Cumbria MRWS Partnership was published on the Partnership's website in November 2012 (see Document 326). The main

conclusion of the independent evaluation is: "... that the West Cumbria MRWS Partnership was successful in achieving its key stated objectives" (to advise the three councils in their decision about further participation in MRWS).

The Evaluation Report concludes: "The Partnership attempted to engage extensively with the population of West Cumbria in depth on the substantive issues raised by the MRWS process. In addition the Partnership attempted to do this in an open, transparent and inclusive manner as possible."

More specific recommendations resulted around issues of building trust, future governance arrangements (if the MRWS process continued) and resourcing and capacity building. As decided by the July 2012 Steering Group, the report will be digested by NuLeAF staff and used to develop a NuLeAF 'best practice' case study about engagement and communications on radioactive waste management issues.

2 Continuing MRWS interest in other communities?

The report from the NDA's National Stakeholder meeting last October (covered elsewhere on the Steering Group's agenda) includes the following comments about the MRWS process by John Clark, NDA Chief Executive: "...a couple of communities have begun to talk but not yet come forward...". Bruce Cairns from DECC reportedly added: "There are on-going discussions in other parts of the country and there has been some quite high profile interest, in Shepway for example, which has not reached the point of formal expression." DECC has not elaborated further.

3 SEA Workshop report back

The GDF Sustainability Appraisal Group (SAG) met in London on February the 15th. The agenda covered the design of the appraisal (in terms of how it integrated economic, social and environmental concerns) and how climate change impacts during construction and operation could be addressed.

Given the recent decision in Cumbria, there was also much discussion of the reasons for the rejection and the wider implications for the appraisal. It was suggested that greater clarity from government on the community benefits package, and a commitment to provide more information on geology may have helped strengthen support.

Reference was also made to what happens next. The recent discussions between West Cumbrian Councils and DECC were mentioned. Some of those present felt that DECC may look to reframe 'community consent' to place a greater emphasis on district/borough councils. It was also proposed that government may wish to declare the GDF 'Nationally Significant Infrastructure' also it was accepted that even if this was the case, the need

for community consent would have to remain. The scope for other communities to now enter the process was also explored.

In terms of the SEA/sustainability appraisal, while the design of the process can continue, the appraisal cannot start until there is a host community to assess alternative options and sites against.

The group will meet again on 20th June when next steps will be agreed.

4 New CoRWM Membership

In November a new Chairman and six new members were appointed to the Committee on Radioactive Waste Management (CoRWM) by sponsor Ministers from DECC and the devolved administrations in Scotland, Wales and Northern Ireland. The full membership of the new Committee is appended at Annex A. The new Committee has agreed in principle to take a presentation about NuLeAF's role. In the light of the decisions in Cumbria officers will press CoRWM for an early date.

5 International workshops

NuLeAF has been asked to participate in a MoDeRn (Monitoring in Geological Disposal of Radioactive Waste) workshop at the European Commission in Luxembourg between 19 and 21 March 2013. NDA has offered to sponsor two NuLeAF representatives. The Chair and Vice Chair agreed that an Executive Co-Director should attend and at the time of writing a second delegate is being identified.

Separately the European Commission is arranging EURADWASTE '13 (the 8th European Commission Conference on the Management of Radioactive Waste) around the theme *Community Policy and Research on Disposal*, Vilnius, Lithuania, 14-16 October 2013, to coincide with the Lithuanian European Presidency (see: <http://cordis.europa.eu/fp7/euratom-fission/docs/finalleaflet-euradwaste2013-web.pdf>).

The objective of Euradwaste' 13 will be to present an overview of all recent EC activities in the field of radioactive waste management with the focus on geological disposal as the main challenge, including research and development, policy, strategic, legislative and socio-political aspects.

The conference will report on the requirements of the new EC Waste Directive which should be transposed into member states' legislation by August 2013, and result in the establishment, or implementation, of respective national GDF programmes by August 2015. At the time of writing the impact of the Waste Directive on the MRWS programme is unclear, but it is a development that

will need to be taken account of. This and other conference themes are central to NuLeAF's engagement with the MRWS programme and other UK radioactive waste management issues, and therefore in consultation with the Chair and Vice Chair it has been agreed that officers should explore the practicalities of attendance including seeking external sponsorship for two NuLeAF representatives. No charges attach to conference attendance itself, and at the time of writing travel, accommodation and subsistence costs are estimated to be around £300-£500.

6 Application for Finnish Repository

Development of a geological disposal facility in Finland came a step closer at the very end of last year. *World Nuclear News* reported on 2 January 2013 that the repository project, led by Posiva, the developer jointly owned by Finnish nuclear utilities Fortum and TVO, had "...submitted the application to the Ministry of Employment and the Economy on 28 December with the aim of permanently storing the used nuclear fuel from its owners' nuclear power plants. The application covers the construction of the encapsulation plant and repository, as well as for facilities for the final disposal of waste created during the operation and decommissioning of the encapsulation plant."

"The encapsulation plant will encase used fuel assemblies in steel and copper canisters ready to be embedded in clay within the repository's network of tunnels. Built at a depth of 400-450 metres, the repository will dispose of 9000 tonnes of used fuel from the country's four existing reactors - Olkiluoto units 1 and 2 and Loviisa units 1 and 2 - as well as the first-of-a-kind EPR under construction at Olkiluoto 3 and the planned fourth unit at Olkiluoto."

"The site for Posiva's repository at Eurajoki near Olkiluoto was selected in 2000. The suitability of the Olkiluoto bedrock for the final disposal of radioactive waste has been confirmed with the construction of the underground characterisation facility known as Onkalo."

ANNEX A

Committee on Radioactive Waste Management at November 2012

Laurence Williams FEng (Chair) is the Professor of Nuclear Safety and Regulation at the University of Central Lancashire, a Visiting Professor at King's College London, a Visiting Senior Fellow at the National Nuclear Laboratory, a Member of the High Scientific Council of the European Nuclear Society, Chair of the Nuclear Institute Editorial Board for Nuclear Future, a Member of the Defence Nuclear Safety Committee, an external examiner for the Nuclear Department of the Defence Academy, a Member of the Chernobyl International Advisory Group to the European Bank for Reconstruction and Development. Formerly, Laurence was the Chief Engineer and Director for Nuclear Safety, Security and Environment at the Nuclear Decommissioning Authority. He was a Member of the Board of the Health and Safety Executive and Her Majesty's Chief Inspector of Nuclear Installations. As Chairman of the IAEA Commission on Safety Standards he was responsible for overseeing the development of international standards in the areas of nuclear safety, radiation protection, radioactive waste management and the transport of nuclear materials. Laurence is an international authority on nuclear safety and security regulation.

Current term of office ends: 31 October 2016

William Lee (Deputy Chair) is Director of the Centre for Advanced Structural Ceramics and Co-Director of the Centre for Nuclear Engineering at Imperial College London. He has a Physical Metallurgy BSc from Aston, a DPhil in Radiation Damage Studies from Oxford and has held academic positions in the USA (Case Western Reserve University, Cleveland and Ohio State University) and in the UK, notably at Sheffield University where he was Director of BNFL's University Research Alliance on Waste Immobilisation. He is a Fellow of the American Ceramic Society, the City and Guilds Institute and the Institute of Materials, Minerals and Mining. He acts as technical expert for the International Atomic Energy Agency.

Current term of office ends: 31 October 2014

Gregg Butler is Co-Director of Integrated Decision Management Ltd and a Professor of Science in Sustainable Development at the University of Manchester, attached to the Dalton Nuclear Institute. He has a BSc and PhD in metallurgy from Swansea University, and has over 45 years' experience in the nuclear industry, having worked in most parts of the fuel cycle in R&D, planning, commercial, plant operations, plant and site management and director roles. He was a member of the Radioactive Waste management Advisory Committee from 1994 – 2004. Current research interests include the sustainability of nuclear power and its regulation, and effectiveness of decision making methodologies in bringing economics, regulatory outcomes, stakeholder views and values to a robust conclusion.

Current term of office ends: 25 November 2016

Brian D Clark is Professor of Environmental Management and Planning at Aberdeen University. He was a Board Member of the Scottish Environment Protection Agency (SEPA) and Chairman of the North Region Board and the Planning & Finance Committee of SEPA from 2000 to 2008. He has served on CoRWM since 2003. With forty years experience, he is a specialist in environmental impact assessment (EIA), strategic environmental assessment (SEA) and urban and rural planning. He was honoured in 1987 by being made a founder member of UNEP's Global 500 Award. He

is a governor of the James Hutton Institute, a member of the Scottish Government Local Boundary Commission and a founder member of the Institute of Environmental Assessment (IEA), now the Institute of Environmental Management and Assessment (IEMA).

Current term of office ends: 31 October 2014

Paul Davis is the owner of EnviroLogic Inc., an environmental and water resources consulting company in Durango, Colorado, USA. He has over 30 years of experience in the geologic disposal of radioactive waste, starting with site characterization of the Waste Isolation Pilot Project (WIPP) for the United States Geological Survey. At Sandia National Laboratories, he participated in and led the development of performance assessment methodologies for geologic repositories in bedded salt, basalt, and volcanic tuff for the US Nuclear Regulatory Commission, specializing in groundwater flow and transport modelling and the quantification and propagation of uncertainty. He also provided technical support for the development of safety standards for high-level waste disposal for the U.S. Environmental Protection Agency and led the WIPP team responsible for the integration of site characterization, research, performance assessment and regulatory compliance. He is currently collaborating with Los Alamos National Laboratories in the quantification of uncertainty in stable isotope analyses and with Moscow State University, Russia in the development of regional groundwater flow models.

Current term of office ends: 25 November 2016

Simon Harley – is Professor of Lower Crustal Processes in the School of Geosciences at the University of Edinburgh. An international expert on the evolution of continental crust, his research integrates geological mapping with experimental and microanalytical studies of the stabilities of minerals and their behaviour at high temperatures and pressures. He has conducted geological mapping projects in diverse and complex basement areas in Australia, India, Norway, Greenland, Scotland and Antarctica. Professor Harley is a Fellow of the Royal Society of Edinburgh and in 2002 was awarded the Imperial Polar Medal in recognition of his contributions to Antarctic Earth Science.

Current term of office ends: 31 October 2014

Francis Livens has held a radiochemistry position at the University of Manchester since 1991. He worked for over 25 years in environmental radioactivity and actinide chemistry, starting his career with the Natural Environment Research Council, where he was involved in the response to the Chernobyl accident. At the University of Manchester, he has worked in many aspects of nuclear fuel cycle research, including effluent treatment, waste immobilisation and actinide chemistry. He was the founding director of the Centre for Radiochemistry Research, established in Manchester in 1999 and is now Research Director of the Dalton Nuclear Institute and Director of the EPSRC-funded, Manchester/Sheffield Nuclear Fission Doctoral Training Centre. He has acted as an advisor to the nuclear industry both in the UK and overseas.

Current term of office ends: 31 October 2014

Rebecca Lunn is a Professor in Civil Engineering at the University of Strathclyde. She has over 20 years of research experience in hydrogeology, with a particular focus on deep flow systems, hydromechanics and the spatial and temporal evolution of rock permeability. In 2011, she was awarded the Geological Society Aberconway Medal for research of particular relevance within industry. Her research experience is

multi-disciplinary and she currently collaborates closely with structural geologists, seismologists, mathematicians,, microbiologists, psychologists and statisticians. She leads the multi-partner EPSRC research consortium, 'Biogeochemical Applications in Nuclear Decommissioning and Disposal' (BANDD). Current research interests include: development of computer models to simulate changes in rock permeability over time surrounding geological faults, with a view to improving flow predictions for deep radioactive waste disposal and carbon dioxide sequestration; understanding the relationship between subsurface groundwater flow and earthquakes; and exploring public understanding of uncertain science, such as flood prediction, to inform the regulators' approach to public information and decision making. She currently holds no other ministerial public appointment.

Current term of office ends: 31 October 2014

Stephen Newson is a Chartered Engineer and Fellow of the Institute of Materials, Minerals and Mining and is currently working as a Mining Consultant on a range of underground projects in the UK and overseas. He has over 40 years of mining experience including operational management, research and development, business planning and the design and construction of large underground excavations. He spent 16 years with British Coal, latterly responsible for the specification and approval of underground tunnel and coalface support systems on a national basis. During this time his was also a UK representative on the European Experts' Committee on tunnelling systems. He has worked for a number of major companies on new mine construction and expansion projects in Australia, Asia, North America and Africa. He has also, as a consultant, previously worked on underground design and planning projects related to the potential disposal of radioactive waste underground.

Current term of office ends: 25 November 2016

Helen Peters is a Legal Director at Pinsent Masons LLP. She is a solicitor specialising in all aspects of UK, EU and international environmental law and policy with significant experience in nuclear regulation and waste management. Helen is recognised as a leading UK environmental lawyer by Chambers Legal Directory and Legal 500. She is a member of the WNA Licensing and Permitting Task Force and a corporate member of the Nuclear Industries Association. She is also the UK Environmental Law Association regional convenor for the North East and member of the UKELA waste working party. Helen has been engaged in several of the leading nuclear transactions in the UK in recent years, advising on environmental and regulatory matters for public authorities and owners, operators and contractors.

Current term of office ends: 25 November 2016

John Rennilson is a Chartered Town Planner and a Chartered Surveyor with over 37 years' experience in local government. He served as County Planning Officer of North Yorkshire County Council (1984-1996) and as Director of Planning & Development for Highland Council (1996-2008). His career has involved balancing development needs and environmental issues at a strategic, as well as at a local, level. He has had considerable experience of the energy industry, including development of the Selby Coalfield, coal-fired electricity generation at Drax and Eggborough, and decommissioning Dounreay, as well as renewable electricity generation and transmission issues across the Highlands.

Current term of office ends: 31 October 2014

Lynda Warren is Emeritus Professor of Environmental Law at Aberystwyth University and visiting Professor at Birmingham City University. She is a member of the Board of Natural Resources Wales, which will be taking over the functions of the Environment Agency in Wales from April 2013, and sits on Defra's Science Advisory Council. She was a member of the Royal Commission on Environmental Pollution until its closure in March 2011. She has postgraduate degrees in marine biology and law and has pursued an academic career first in biology and latterly in environmental law. She has over 100 academic publications, including a number on radioactive waste management law and policy. Lynda has over 15 years experience of radioactive waste management policy. She has been a member of CoRWM since 2003 and, before that, was a member of the Radioactive Waste Management Advisory Committee (RWMAC), chairing its working group on Dounreay. She was on the Board of British Geological Survey until the Board was disbanded in April 2011 and is an associate of IDM, a consultancy engaged in environmental policy advisory work, mainly in the nuclear sector.

Current term of office ends: 25 November 2016

Janet Wilson is a recognised authority known internationally throughout the nuclear community. Specialities include government policy, national strategy, regulation and advising on sensitive nuclear safety and non proliferation issues, most recently as Associate Director Energy for Atkins Global. Her breadth of experience and technical knowledge enable her to not only provide strategic support and advise to nuclear clients but also to develop new business opportunities for this international engineering and design consultancy. Immediately before joining the private sector she was Director of Nuclear Assurance for the Nuclear Decommissioning Authority and a Non Executive Director for the Civil Nuclear Police Authority. Prior to this she held a series of senior management roles in the UK nuclear regulatory body now known as ONR regulating high profile civil and defence facilities, representing the UK internationally in emergency preparedness and regulatory matters and developing UK decommissioning and clean-up policy and regulation. Janet holds a PhD, is a Fellow of the Institution of Mechanical Engineers, is a European Engineer and is a Liveryman of the Worshipful Company of Engineers.

Current term of office ends: 25 November 2016