

Tuesday				
Start time	Theme(s)	Talk	Presenter	Organisation
1000		Coffee and Registration		
1030		Welcome and Housekeeping	Nick Evans	Loughborough University
	1	Chair: Dr Nick Collier (NNL)		
1050	Plenary	Title TBC	Bruce Cairns	DECC
1120	Plenary	The Role of Science in the Implementation of Geological Disposal in the UK	Cherry Tweed	NDA-RWMD
1140	1	RWMD Package evolution and criticality research studies 2011/2012	Cristiano Padovani	NDA RWMD
1150	1	Waste container durability: monitoring of stainless steel 4 metre box over 12 years	Nick Smart	Serco
1210	1	Corrosion and Expansion of Grouted Magnox	Jim Cronin	NNL
1230	1	Durability Of Potential Plutonium Wasteforms Under Repository Conditions	Guido Deissmann	Brenk Systemplanung
1250	1 & 2	Buffet lunch with poster session		
1410	1	A Test Rig to Measure Radioactive Releases from Simulants of Nuclear Waste Materials	Joanne Hill	AMEC
1430	1	Aqueous durability of vitrified wasteforms – effects of pH and water composition	Steve Swanton	Serco
1450	1	Atmospheric-Induced Chloride Stress Corrosion Cracking of Austenitic Stainless Steels Under Sparse Chloride Supply	Dirk Engelberg	University of Manchester
1510		Coffee		

Start time	Theme(s)	Talk	Presenter	Organisation
	2	Chair: Dr Nick Bryan (University of Manchester)		
1540	2	RWMD Near field research studies 2011/2012	Peter Wood	NDA RWMD
1550	2	Deep Borehole Disposal Of Higher Burn-Up Spent Nuclear Fuels	Fergus Gibb	University of Sheffield
1610	2	Reaction of bentonite in low-alkali cement leachates: results from the Cyprus Natural Analogue Project	Russell Alexander	Bedrock Geosciences
1630	2	Long Term Leachate Evolution During Flow-Through Leaching of a Vault Backfill (NRVB)	Ed Butcher	NNL
1650	2	Modelling Coupled Processes in Bentonite – Recent Results from the UK’s Contribution to the Äspö EBS Task Force	David Holton	Serco
1710	2	Effects of ionizing radiation on the dissolution of UO ₂ based fuel and on the integrity of the engineered barriers in the KBS-3 concept	Mats Jonsson	KTH
1730	2	Modification to the flow properties of repository cement as a result of carbonation	Tony Milodowski	British Geological Survey
1750		10 minute break		
1800	KTN	The Knowledge Transfer Network	TBC	KTN
1810	1, 2	Discussion of themes 1 and 2		
1850		End		
1930		Dinner		

Wednesday				
Start time	Theme(s)	Talk	Presenter	Organisation
0700		Breakfast		
	9	Chair: Profesor George Shaw (University of Nottingham)		
0845	9	RWMD Framework for safety case studies	Mike Poole	NDA RWMD
0855	9	Interactions Between The Co-Located ILW/LLW And HLW/SF Components Of A Geological Disposal	Tim Hicks	Galson Sciences Ltd.
0915	9	Research In Support Of The 2011 Environmental Safety Case For The Low Level Waste Repository	Andy Baker	LLW Repository Ltd
0935	9	Monitoring Geological Disposal Facilities	Matt White	Galson Sciences Ltd.
0955	9	Performance Assessment Methodologies In Application To Guide The Development Of The Safety Case (Pamina)	Dan Galson	Galson Sciences Ltd.
1015	9	Planning to 'Remember to Forget'?	Shelley Mobbs	Eden Nuclear & Environment Ltd.
1035		Coffee		
	4	Chair: Professor Kath Morris (University of Manchester)		
1105	4	RWMD Biosphere research studies 2011/2012	Ray Kowe	NDA RWMD
1115	4	Microbiological Influences On Transport Processes In Sherwood Sandstone	Heather Harrison	British Geological Survey
1135	4	Biosphere Studies Supporting the Disposal System Safety Case	Russell Walke	Quintessa
1155	4	International Collaboration in Biosphere Research for Radioactive Waste Disposal	Karen Smith	Eden Nuclear & Environment Ltd.
1215	4	Gas Migration Experiments In Bentonite: Implications For Numerical Modelling	Caroline Graham	British Geological Survey
1235	4, 5, 8 & 9	Buffet lunch with poster session		

Start time	Theme(s)	Talk	Presenter	Organisation
		Chair: Professor David Read (Loughborough University)		
1420	8	Towards an "Implementing Geological Disposal Technology Platform" in Europe	Tara Beattie	NDA
1440	8	Feasibility Assessment Of The Belgian Geological Disposal Concept	Liz Harvey	Galson Sciences Ltd.
1500	8	The Long-Term Cement Studies (LCS) Project: the UK Contribution to Model Development and Testing	Claire Watson	Quintessa
1520		Coffee		
	6	Chair: Dr Nick Evans (Loughborough University)		
1550	6	RWMD Radionuclide behaviour research studies 2011/2012	Sarah Vines	NDA RWMD
1600	6	The effect of cellulose degradation products on radionuclide sorption in the geosphere	Steve Swanton	Serco
1620	6	Radionuclide Interactions With Natural Organic Matter At High pH	Tony Stockdale	University of Manchester
1640	6	The Ternary Metal-Natural Organic Matter-Surface Systems: Comparing Sorption and Spectroscopic Data	Pascal Reiller	CEA
1700	6	The Long Term Diffusion Experiment, Grimsel Test Site, Switzerland	Andrew Martin	NAGRA
1720	6	Sorption of radionuclides to a cementitious backfill material under near-field conditions	Monica Felipe-Sotelo	Loughborough University
1740		10 min break		
1750	4, 6, 8, 9	Discussion of themes 4, 6, 8 and 9		
1850		End		
1945		Dinner		

Thursday				
Start time	Theme(s)	Talk	Presenter	Organisation
0700		Breakfast		
		Chair: Dr Zoe Shipton (Strathclyde University)		
0830	3	RWMD Geosphere research studies 2011/2012	Simon Norris	NDA RWMD
0840	3	Comparison of a Post-Closure Transient Criticality Model with the Oklo Natural Reactors	Robert Mason	Serco
0900	3	Observations of stable high-pressure gradients in clay-rich materials; implications for the concept of effective stress	Rob Cuss	British Geological Survey
0920	3	Fractured repository hostrocks: towards more realistic conceptual and numerical models	John Black	In Site Hydro
0940	3	Coupled hydro-mechanical-chemical process modelling in argillaceous formations	Alex Bond	Quintessa
1000	3	How do you know your geological model is right? Conceptual uncertainty in geological models and how to minimise it.	Zoe Shipton	University of Strathclyde
1020	3	Reducing Geological Uncertainty through Structural Validation	Gareth Johnson	Midland Valley Exploration
1040		Coffee		

Start time	Theme(s)	Talk	Presenter	Organisation
		Chair: Dr Richard Shaw (British Geological Survey)		
1100	5	RWMD Gas research studies 2011/2012	Steve Williams	NDA RWMD
1110	5	Rate and speciation of volatile carbon-14 and tritium releases from irradiated graphite	Graham Baston	Serco
1130	5	Use of sand-bentonite materials as gas-permeable seals for radioactive waste repositories – from laboratory to in-situ scales	Joerg Rueedi	Nagra
1150	5	Modelling gas generation and migration from a geological disposal facility	Andrew Hoch	Serco
1210	5	Gas flow in Callovo-Oxfordian Clay (COx): Results from laboratory and field-scale measurements	Jon Harrington	British Geological Survey
1230	5	Data Analysis Of A Large Scale Gas Injection Test	Dan Bennett	Cardiff University
1250		EMpower flash presentations: Chair: Profesor Kym Jarvis (Imperial College, London)		
1310	3, 5 and EMPower	Buffet lunch with poster session		
1440		Discussion of themes 3 and 6		
1515		Summary session		
1530		Coffee		
1600		End of Conference		

Tuesday Poster Session

Abstract	Theme	Title	Authors	Institution
Abs11	1	Thermal Properties of C50 Shield Concrete	A Tuson and RG Charman	Inutec Ltd
Abs13	1	Release of Uranium from Candidate Wasteforms	N Collier, M Harrison, N Hodge and B Hanson	NNL
Abs17	1	Development of Criticality Safety Controls on ILW Packages	TW Hicks, P Wood and TD Baldwin	Galson Sciences Ltd.
Abs25	1	Initial studies on the effects of radiation, thermal ageing and aqueous environments on the stability and structure of candidate polymeric encapsulant materials.	J Dawson, V Smith, J Clifford and SJ Williams	Serco
Abs43	1	Material Property Data for C50 Concrete without Superplasticisers	C Izatt, S Shah, CF Tso and G Turner	ARUP
Abs47	1	Experimental study to evaluate the effect of polymeric encapsulants on the corrosion resistance of ILW packages	RJ Winsley, PAH Fennell, NR Smart, B Reddy, AP Rance and C Padovani	Serco
Abs53	1	Analogue evidence relevant to UK HLW glass waste forms	V Havlova	Nuclear Research Institute Rez plc
Abs60	1	The Long Term Prediction of Corrosion damage in nuclear waste containers	PAH Fennell.	Serco
Abs61	1	Some Aspects of the Degradation of Waste Containment Materials During Interim Storage and in Repository Environment	DL Engelberg, JA Duff , N Mobasher, L Dodds and Z Husni	University of Manchester
Abs63	1	Site-Bond Models Of Porous Quasi-Brittle Media	AP Jivkov, M Gunther and KP Travis	University of Manchester
Abs69	1	Break Up Testing of Waste Form Materials	MP Metcalfe, W Koch and G Turner	NNL
Abs78	1	Radiation damage of crystalline materials	T Beirau, C Paulmann and U Bismayer	University of Hamburg
Abs83	1	The Acceleration of Hazard Reduction at Sellafield through Vitrification Plant Improvements	C Mathieson	Sellafield Ltd.
Abs94	1	The Post Disposal Behaviour of ¹⁴ C in Irradiated Graphite	P Humphreys, T Scott, H Eccles and G Bond	University of Huddersfield

Abs109	1	Measuring And Modelling Pit Propagation In Stainless Steel	M Ghahari, D Krouse, N Laycock C Padovani, R Mokso, T Rayment, M Stampanoni and A Davenport	University of Birmingham
Abs14	2	The Hydrothermal Aging of BFS:OPC, PFA:OPC and NRVB	N Collier, G Woodhouse, E Butcher, J Borwick, S Curwen, K Carruthers and B McLuckie	NNL
Abs48	2	pH-buffering in a cementitious near field	GMN Baston, AP Clacher, TG Heath, FMI Hunter, S Magalhaes, V Smith, and SW Swanton	Serco
Abs49	2	Modelling pH evolution in the near-field of a disposal facility for radioactive wastes	AR Hoch, FP Glasser, G M N Baston and V Smith	Serco
Abs50	2	Cracking in a cementitious backfill, and the implications for flow and chemistry	BT Swift, PB Bamforth and GMN Baston	Serco
Abs79	2	Carbonation of repository cement: Impact of CO ₂ on cement mineralogy and porewater chemistry	CA Rochelle, AE Milodowski and G Purser	BGS
Abs89	2	Europium interaction with a vault backfill cement at high pH	R Telchadder, K Smith and N Bryan	University of Manchester
Abs103	2	Analysis and Characterisation of Cement Superplasticiser	AJ Young, P Warwick and D Read	Loughborough University
Abs104	2	Isolation and characterisation of cellulose decomposition products of relevance to nuclear waste disposal	PB Shaw, PN Humphreys and AP Laws	University of Huddersfield
Abs107	2	Does highly saline groundwater affect the compaction behaviour of bentonite based backfills	G El Mountassir, C Reid and RJ Lunn	University of Strathclyde
Abs108	2	Use of biological and chemical techniques to reduce porosity in porous media	G El Mountassir, E MacLachlan, N Udoh, RJ Lunn, DJ Tobler and VR Phoenix	University of Strathclyde
Abs112	2	Adsorption Behaviour of Strontium-85 and Caesium-137 Within Corroded Magnox Sludge Environments	KI Farrow, SL Jain, SJ Pendleton, NDM Evans and B Dawkins	Loughborough University

Wednesday Poster Session

Abstract	Theme	Title	Authors	Institution
Abs56	4	Assessing Radiologicals Impact of C-14 Released to the Biosphere following Disposal in Radioactive Waste Repositories	K Smith, G Smith and S Norris	Eden Nuclear & Environment Ltd
Abs66	4	The NERC Biogeochemical Gradients and RADionuclide Transport BIGRAD Consortium	K Morris, ND Bryan, NDM Evans, FR Livens, JR Lloyd, JFW Mosselmans, AE Milodowski, S Shaw, JS Small and S Thornton	University of Manchester
Abs75	4	A model for microbial influences on the geological disposal of radioactive waste	H Harrison, JM West, AE Milodowski, K Bateman, P Coombs, J Harrington, S Holyoake, AM Lacinska, G Turner, D Wagner and H	BGS
Abs82	4	Strontium behaviour during bioreduction in nitrate impacted sediments.	CL Thorpe, GTW Law, IT Burke, JR Lloyd, S Shaw and K Morris	University of Manchester
Abs88	4	Microbial ecology of the CDZ	A Rizoulis, C Boothman, AE Milodowski, K Morris, JR Lloyd	University of Manchester
Abs97	4	Bioreduction of biotite and chlorite: effects on farfield mineral reactivity	DR Brookshaw, RAD Pattrick, JR Lloyd and DJ Vaughan	University of Manchester
Abs98	4	Mineralogical transformations under bioreducing conditions in geological disposal relevant, alkaline conditions	AJ Williamson, K Morris and JR Lloyd	University of Manchester
Abs44	6	Uptake of Selenium(VI) And Selenium(IV) onto Anatase and Rutile	N Jordan, H Foerstendorf, AC Scheinost, S Weiß, K Heim and V Brendler	Institute of Radiochemistry, Dresden-Rossendorf
Abs57	6	The Uptake of Radionuclides into Biogenic Hydroxyapatite	S Handley-Sidhu, JC Renshaw, B Stolpe, JR Lead and LE Macaskie	University of Birmingham
Abs58	6	Sorption properties of aged cements	GMN Baston, MM Cowper and TA Marshall	Serco

Abs65	6	The degradation of cellulosic material under ILW repository conditions	O Thompson	NNL
Abs71	6	Development of a Radial Diffusion Experiment and its Application to a Vault Backfill	M Felipe-Sotelo, J Hinchliff, N Evans, S Williams and D Read	Loughborough University
Abs90	6	Radionuclide sorption at high pH in calcite systems	K Smith, ND Bryan and K Morris	University of Manchester
Abs100	6	Migration of Caesium-137 and Strontium-85 in Magnox Sludges and the Underlying Geosphere	KI Farrow, NDM Evans and SL Jain	Loughborough University
Abs101	6	The Influence of Humic Acid on the Migration of +1 and +2 Cations Through Quartz Sand and Sandstone	SL Jain, O Preedy, NDM Evans and N Bryan	Loughborough University
Abs102	6	Actinyl sorption on calcite surfaces from molecular dynamics simulations	S Doudou, DJ Vaughan, FR Livens and NA Burton	University of Manchester
Abs113	6	The Complexation of Tc(IV) with EDTA and Picolinic Acid at High pH	NDM Evans, RJ Hallam, SJ Aldridge, P Warwick and ND	Loughborough University
Abs114	6	Effect of Competition from other Metals on Nickel Complexation by α -Isosaccharinic, Gluconic and Picolinic	NDM Evans, SA Gascon and S Vines	Loughborough University
Abs84	8	UK-China Collaboration Geological Disposal of Radioactive Wastes	G Ren, T Beattie, N Smart, G Bryan and B Lee	University of Hertfordshire
Abs20	9	Engineering Design Processes in National Programmes	MJ White, PJ Richardson and P Rendell	Galson Sciences Ltd.
Abs86	9	Geological Disposal Programme Design and Prioritisation in the Face of Uncertainty: Use of Structured Evidence-Support Logic Techniques	A Paulley, R Metcalfe and M Egan	QUINTESSA
Abs105	9	Avoiding flashover in repository fires	N Battaloglu and J Francis	University of Central Lancashire
Abs106	9	Avoiding whirling flames in repository fires	N Battaloglu and J Francis	University of Central Lancashire
Abs111	9	Deep Geologic Disposal of Higher Activity Radioactive Wastes	GM Reeves	HydroGEOtech Consultants Ltd

Thursday Poster Session

Abstract	Theme	Title	Authors	Institution
Abs5	5	Multi-Component Gas Flow Through Compacted Clay Buffer in a High Level Nuclear Waste Disposal Facility	SA Masum, PJ Vardon, HR Thomas, Q Chen and D Nicholson	Cardiff University
Abs31	5	Understanding the behaviour of gas in a Geological Disposal Facility: modelling coupled processes and key features at different scales	G Towler, A Bond, S Watson, S Norris, P Suckling and S Benbow	QUINTESSA
Abs35	5	Migration and fate of $^{14}\text{CH}_4$ in subsoil – tracer experiments to inform model development	G Shaw, B Atkinson, C Snape, W Meredith, M Steven, A Hoch and D Lever	University of Nottingham
Abs93	5	Gas Generation Modelling for the Proposed Deep Geological Repository for LLW/ILW at the Bruce Nuclear Site, Canada	P Humphreys, P Suckling and F King	University of Huddersfield
Abs3	3	The Consequences of Hypothetical Post-Closure Criticality	RM Mason, PN Smith, BD Turland, and CP Jackson	Serco
Abs16	3	Critical stress theory applied to repository concepts; field and experimental observations	S Sathar, HJ Reeves and RJ Cuss	BGS
Abs51	3	Modelling hydro-mechanical processes in fractured rock – the Decovalex-2011 project	C Leung, RW Zimmerman, J Rutqvist and AR Hoch,	Serco
Abs54	3	Radionuclide Diffusion into undisturbed and altered crystalline rocks	V Havlova, P Večerník, J Najser, K Sosna	Nuclear Research Institute Rez plc
Abs73	3	Fault zone heterogeneity in time and space: Issues for geological disposal	Z Shipton and R Lunn	University of Strathclyde
Abs80	3	A long-term experimental study of the reactivity of silicate rocks with highly alkaline cement waters	CA Rochelle, K Bateman, AE Milodowski, A Lacinska and E Moyce	BGS
Abs85	3	Reaction of biotite with cement leachate under high pH and anoxic conditions and potential role of secondary Fe(II)-bearing phases in the immobilisation of radionuclides in ILW	X Chen, T Marshall, G Law, S Thornton, S Shaw, J Small and K Morris	University of Sheffield
Abs87	3	Effect of Velocity on Diffusive Transport in Low Permeability Geological Systems	B Zou, T Ohe, N Skipper, A Jivkov and RA Wogelius	University of Manchester

Abs91	3	Alteration of biotite under hyperalkaline conditions relevant to a cementitious ILW repository	TA Marshall, GTW Law, K Morris and S Shaw	University of Leeds
Abs92	3	Long Term Rock Alteration in the Chemically Disturbed Zone of a Geological Disposal Facility	EBA Moyce, K Morris, AE Milodowski, C Rochelle, A Brown and S Shaw	University of Leeds
Abs96	3	Mineral alterations and radionuclide interactions under ILW Geological Disposal Facility relevant hyperalkaline conditions	GTW Law, TA Marshall, S Shaw and K Morris	University of Manchester
Abs99	3	Fractured repository hostrocks: a rethink of in situ permeability testing	JH Black	In Site Hydro
Abs110	3	Connected sub-seismic features compromise cap rock integrity: the influence of faults and permeable sandstone lenses.	A McCay, R Lunn and Z Shipton	University of Strathclyde
Abs117	EMP	The effect of metals corrosion on Intermediate Level Waste (ILW) packaging	C Hutchison	Imperial College
Abs118	EMP	The evolution of a diesel spill and the development of a predictive fate and transport model	C Ball	Royal Holloway, University of London
Abs119	EMP	Production and purification of radiotracer ^{236g} Np for environmental applications	C Larijani	Royal Holloway, University of London
Abs120	EMP	Implications of permitted discharges of radioactive substances to low-flow environments	HJ Banham, L Newsome, T Montgomery, R Lee and J Titley	Royal Holloway, University of London
Abs121	EMP	Radioactive sludge chemistry	N Rauff-Nisthar, G Randall and NDM Evans	Loughborough University
Abs122	EMP	Validation of radionuclide behaviour during sewage treatment	OOD Afolabi and NDM Evans	Loughborough University
Abs123	EMP	Investigation to determine potential sources of radionuclide content of Signal crayfish within the River Kennet	R Whatmore, A Gill, L Vivian and T Cartledge	Cranfield University
Abs124	EMP	The possible role submarine groundwater discharges may play in the discharge of contaminated groundwater into the marine environment from the Sellafield site	A White	University of Birmingham