



Sunday 9 December 2012

16:00 – 19:30 Pre-registration – in Manchester Town Hall

18:30 – 19:30 Welcome Reception

Monday 10 December 2012

Mon 8:30–11:00 Opening Session - Auditorium

Chair: Norman Harrison, President of the Nuclear Institute, ENC 2012 Conference Chair;

Co-Chair: Marco Streit, ENS President

Opening Panel

Norman Harrison, President of the Nuclear Institute, ENC 2012 Conference Chair

Frank Deconinck, ENS Honorary President, ENC 2012 Programme Committee Chair

Marco Streit, ENS President

Eric P. Loewen, ANS Immediate Past President

Councillor Elaine Boyes, Lord Mayor of Manchester

Keynote Addresses

Mike Weightman, HM Chief Inspector of Nuclear Installations and Head of Office for Nuclear Regulation, UK

Alexander Bychkov, Deputy Director General, IAEA

Tim Stone, Senior Chairman of the Office of Nuclear Development of the Department of Energy and Climate Change of the UK Government

Jean-Pol Poncelet, Director General, FORATOM

Sir John Beddington, Chief Scientific Adviser to the UK Government

11:00-11:30 Coffee break Exhibition Hall

Mon 11:30-13:00 Plenary Session: New Build - Auditorium

Chair: Alfio Vidal, Chief Nuclear Director, NUGEN;

Co-Chair: Eric Loewen, ANS Immediate Past President

With contributions from:

Vincent De Rivaz, EDF Energy, UK

Eric P. Loewen, ANS Immediate Past President, US

Alexey A. Kalinin, Head of International Business, Russian State Atomic Energy Corporation Rosatom, "Nuclear power development: Rosatom perspective"

13:00-14:00 Lunch break



Mon 14:00-16:00 Plenary Session: Life Science and other Applications - Auditorium

Chair: Frank Deconinck, SCK-CEN;
Co-Chair: Ron Cameron, OECD/NEA

With contributions on:
Challenges in Hadrontherapy
Prof. Stéphane Lucas, University of Namur (FUNDP), Belgium

A critical view on the effects of low-doses
Luc Bonneux, MD PhD, independent epidemiologist and publicist, The Netherlands/Belgium

Update of the Fusion Project
Carlos Alejaldre, ITER

Nuclear technology in space
Frank De Winne, Astronaut of the European Space Agency (ESA)
Leopold Summerer, European Space Agency

16:00-16:20 Coffee break – Exhibition Hall

Mon 16:20-18:00 Parallel Sessions - New Build – Exchange 11

Chair: F. Naredo, Westinghouse, Belgium; Co-Chair: T. Chirica, AMEC, Romania

16:20-16:40 A0015	THE KEY TO SUCCESSFUL NEW-BUILD	Michelin, A. (1); 1 - Enersense International, Finland
16:40-17:00 A0120	SMR AND ECONOMICS COMPETITIVENESS IN SMALL GRIDS: A REAL OPTION ANALYSIS	Locatelli, G. (1); Mancini, M. (2); Lotti, G. (2) 1 - University of Lincoln, School of Engineering, Faculty of Science, United Kingdom 2 - Politecnico di Milano, Dipartimento di Ingegneria Gestionale, Italy
17:00-17:20 A0094	ADVANCED APPROACH TO DESIGN AND CONSTRUCTION INTEGRAL TO AP1000® PROJECT IN CHINA	Harrop, G. (1) 1 - Westinghouse Electric Company LLC, United States
17:20-17:40 A0114	ANSALDO NUCLEARE ENGINEERING AND CONSTRUCTION ACTIVITIES FOR AP1000 PLANT	Frogheri, M. (1); Saiu, G. (1) 1 - Ansaldo Nucleare, Italy
17:40-18:00 A0194	INNOVATIVE LARGE SCALE MODULARISATION AND PRE-FABRICATION OF THE AP1000 AND EPR IN THE UK	Mistry, A. (1); Fardi, F. (2); Williams, D. (3) 1 - NUVIA LTD, United Kingdom 2 - ANSALDO NUCLEARE, Italy 3 - CAMMELL LAIRD, United Kingdom



Mon 16:20-18:00 Parallel Sessions - Fuel Cycle - Auditorium

Chair: L. Sannen, SCK•CEN, Belgium; Co-Chair: J.M. Alonso, ENUSA, Spain

16:20-16:40 A0091	THE FUTURE ROLE OF NUCLEAR FUEL CYCLE TECHNOLOGY IN THE UK	Rayment, F. (1) 1 - National Nuclear Laboratory, United Kingdom
16:40-17:00 A0036	ARE WORLD URANIUM RESOURCES SUFFICIENT TO FUEL GLOBAL GROWTH IN NUCLEAR GENERATING CAPACITY?	Vance, R. (1); Cameron, R. (1) 1 - OECD Nuclear Energy Agency, France
17:00-17:20 A0175	TRENDS OF EDF'S FUEL CORE MANAGEMENT AND CONSEQUENCES ON FUEL CYCLE: "CYCLE IMPACT" ANALYSES	Wong, H.-I. (1); Desroches, E. (1); Hansel, L. (1); Gourram, H. (1); Lagrange, M.-H. (1) 1 - EDF, France
17:20-17:40 A0197	SIMULATIONS OF CANDU REACTOR CORE CONFIGURATIONS UTILIZING A THORIUM BATTERY BUNDLE	Golesorkhi, S. (1); Rouben, B. (1); Kaye, M. (1) 1 - Faculty of Energy Systems and Nuclear Science, University of Ontario Institute of Technology, Canada
17:40-18:00 A0236	CONSOLIDATION AND ADVANCES IN TECHNOLOGY IN THE FUEL CYCLE TO SAFELY ADDRESS CUSTOMERS' NEEDS AND CHALLENGES	Teysier, P. (1) 1 - On behalf of the French industry GIIN, France

Mon 16:20-18:00 Parallel Sessions - Plant Operations - Exchange 9

Chair: P. Gros-Gean, ONET Technologies, France; Co-Chair: M. Debes, EDF, France

16:20-16:40 A0167	DESIGN CHANGE MANAGEMENT IN THE REGULATION OF NUCLEAR FLEETS	Swinburn, R. (1); Borysova, I. (2) 1 - Rolls-Royce - Chairman of the WNA CORDEL Design Change Management Task Force, United Kingdom 2 - World Nuclear Association (WNA), United Kingdom
16:40-17:00	N.N.	
17:00-17:20 A0235	REGULATORY OVERSIGHT - APPROACH TO LIFE EXTENSION OF NUCLEAR REACTORS	Erdebil, I. (1); Omar, A. (2) 1 - Canadian Nuclear Safety Commission, Canada 2 - Canadian Nuclear Safety Commission, Canada
17:20-17:40 A0270	LIFETIME MANAGEMENT OF THE EXISTING NUCLEAR FLEET	Haller, J. (1) 1 - EDF Energy, Nuclear Generation, United Kingdom
17:40-18:00 A0303	PROBABILISTIC AND DETERMINISTIC APPROACH OF SEISMIC HAZARD ASSESSMENT - COMPARISON AND DISCUSSION OF RESULTS	Demjancukova, K. (1); Prochazkova, D. (2) 1 - University of West Bohemia in Pilsen, Czech republic 2 - Czech Technical University in Prague, Czech Republic

Mon 16:20-18:00 Parallel Sessions - Research Reactors - Exchange 10

Chair: E. van Walle, SCK•CEN, Belgium; Co-Chair: M. Schyns, SCK•CEN, Belgium (tbc)

16:20-16:40 A0031	STEADY STATE THERMAL HYDRAULIC OPERATIONAL PARAMETERS AND SAFETY MARGINS OF NIRR-1 WITH LEU FUEL USING PLTEMP-ANL CODE	Jonah, S. (1); Ibrahim, Y. (1); Kalimullah, M. (2); Matos, J. (2) 1 - Centre for Energy Research and Training, Ahmadu Bello University, Nigeria 2 - Nuclear Engineering Division, Argonne National Laboratory, United States
16:40-17:00 A0185	MYRRHA - A FLEXIBLE AND FAST SPECTRUM IRRADIATION FACILITY	Baeten, P. (1); Fernandez, R. (1); De Bruyn, D. (1); Van den Eynde, G. (1); Malambu, E. (1); Ait Abderrahim, H. (1)



		1 - SCK•CEN, Belgium
17:00-17:20 A0232	ABSOLUTE FLUX MEASUREMENT BY NAA AT THE PAVIA UNIVERSITY TRIGA MARK II REACTOR FACILITIES	Chiesa, D. (1); Borio di Tigliole, A. (2); Cammi, A. (3); Clemenza, M. (1); Nastasi, M. (1); Pattavina, L. (4); Previtali, E. (4); Salvini, A. (2); Sisti, M. (1) 1 - Università degli Studi di Milano Bicocca, Italy 2 - Laboratorio di Energia Nucleare Applicata (L.E.N.A.) Università di Pavia, Italy 3 - Politecnico di Milano, Italy 4 - Istituto Nazionale di Fisica Nucleare sez. Milano Bicocca, Italy
17:20-17:40 A0283	EXPERIMENTAL INSTRUMENTATION FOR MEASUREMENT OF REACTIVITY TEMPERATURE AND VOIDING EFFECTS AT ZERO POWER RESEARCH REACTOR	Bily, T. (1); Sklenka, L. (1) 1 - Czech Technical University in Prague, Czech Republic
17:40-18:00 A0296	DESIGN AND SIMULATION OF THE SAFETY SYSTEMS FOR A NUCLEAR TEST FACILITY WITH SUPERCRITICAL WATER	Raqué, M. (1); Schulenberg, T. (2) 1 - EnBW Kernkraft GmbH, Germany 2 - Karlsruhe Institute of Technology, Germany

Mon 16:20-18:00 Parallel Sessions – ENS-YGN Workshop: Knowledge Transfer – “Building bridges between generations” – Exchange 1

Chair: A. Goicea, ENS-YGN; Co-Chair: E. Janisz, ENS

With contributions from:

Gaston Meskens, SCK•CEN, Belgium
Anne-Marie Birac, WiN Europe
Pablo Fernandez-Olano, ENDESA, Spain

Tuesday 11 December 2012

Tue 8:30-10:10 Parallel Sessions – Fuel Cycle – Auditorium

Chair: M. Gornall, Springfields Fuels Ltd, Westinghouse LLC, Nuclear Fuel, United Kingdom;
Co-Chair: P. Teyssier, AREVA, France

08:30-08:50 A0252	AN INVESTIGATION ON THE CONTRIBUTION OF ROD GROWTH TO FUEL ASSEMBLY GROWTH IN NUCLEAR FUEL	Jang, Y. K. (1); Kim, J. I. (1); Shin, J. C. (1); Kim, S. D (1); Kim, M. S. (2); Lee, T. H. (2); Kim, T. W. (2) 1 - KEPCO Nuclear Fuel(KNF), Korea, Republic of 2 - Korea Hydro & Nuclear Power Co.,Ltd. (KHNP), Korea, Republic of
8:50-9:10 A0134	SELECTION CONSIDERATIONS FOR GASES USED IN SPENT NUCLEAR FUEL DRY STORAGE	Walters, S. (1); Sims, H. (1), Henshaw, J. (1) 1 - National Nuclear Laboratory, United Kingdom
9:10-9:30 A0168	AUTOMATED PWR FUEL PELLETT MANUFACTURE	Mckenzie, B. (1); Livingstone, B. (1) 1 - Springfields Fuels Ltd, United Kingdom
9:30-9:50 A0187	REPROCESSING AND RECYCLING: FROM LWR FUELS TO FAST REACTORS FUELS	Ochem, D. (1) 1 - Commissariat a l'Energie Atomique -



		Direction de l'Energie Nucleaire, France
9:50-10:10 A0218	ON-LINE CLADDING DEFORMATION MEASUREMENTS OF NUCLEAR FUEL ROD SUBMITTED TO ANALYTICAL TRANSIENT CONDITIONS	Fabert, M. (1); Gallais, L. (1); Pontillon, Y. (2) 1 - Institut Fresnel, Aix-Marseille Université, CNRS, Ecole Centrale Marseille, France 2 - CEA, DEN, France

Tue 8:30-10:10 Parallel Sessions - Plant Operations – Exchange 9

Chair: E. Gonzalez, Tecnatom, Spain; Co-Chair: S. van Haren, NRG, Netherlands

ENC2012- A0004	A COMPARISON OF VARIABILITY OF PROCEDURE PROGRESSION WITH TASK COMPLEXITY	Kim, Y. (1); Park, J. (1); Jung, W. (1) 1 - Korea Atomic Energy Research Institute(KAERI) , Korea, Republic of
8:50-9:10 A0072	SAFETY ASSESSMENT OF CORE RELOADS IN NUCLEAR POWER PLANTS	Klüver, B. (1); Kraus, W. (1); Märtens, H.-D. (1); Rebohm, H. (1) 1 - TÜV NORD Nuclear c/o TÜV NORD EnSys Hannover GmbH & Co KG, Germany
9:10-9:30 A0107	SPINLINE: THE SAFETY I&C TECHNOLOGY CHOSEN BY EDF FOR THE VD3 1300MW PROJECT	Desgeorge, R. (1); Sommacal, R. (1); Baranek, P. (1), Chowanek, M. (1) 1 - Rolls-Royce Civil Nuclear SAS, France
9:30-9:50	N.N	
9:50-10:10 A0155	CHEMICAL DISCHARGES FROM PWR POWER STATIONS AND IMPLICATIONS FOR BAT (BEST AVAILABLE TECHNIQUES)	Macdonald, P. (1); Macdonald, A. (1); Beadle, I. (1); Newsome, L. (2), (3) 1 - AMEC Power and Process, United Kingdom 2 - Environment Agency, Richard Fairclough House, United Kingdom 3 - Research Centre for Radwaste and Decommissioning, United Kingdom

Tue 8:30-10:10 Parallel Sessions – End of use: Treatment/Remediation – Exchange 1

Chair: G. Braehler, NUKEM, Germany; Co-Chair: P. Gros-Gean, ONET Technologies, France

8:30-8:50 A0010	RADIOLOGICAL MAPPING WITH AN UNMANNED HELICOPTER	Rottner, B. (1); Tantot, P. (2); Plantier, P. (3) 1 - ONET Technologies, France 2 - Survey Copter, France 3 - Onectra, France
8:50-9:10 A0011	TREATMENT OF EVAPORATOR CONCENTRATES FROM PWR	Rottner, B. (1) 1 - ONET Technologies, France
9:10-9:30 A0128	STRONG AND WEAK DEPENDENCIES WHEN CALCULATING ACTIVITIES OF WASTE-FILLED DRUMS	Kröhn, M. (1); Sokcic-Kostic, M. (1); Langer, F. (1); Schultheis, R. (1) 1 - NUKEM Technologies GmbH, Alzenau, Germany
9:30-9:50 A0150	INNOVATIVE APPROACH FOR FIRE RISK ANALYSIS DURING DESIGN STAGE FOR NON REACTOR NUCLEAR FACILITIES	Traichel, A. (1); Mummert, M. (1); Dilger, M. (1) 1 - NUKEM Technologies GmbH, Germany
9:50-10:10 A0228	COMPACT INCINERATION SYSTEMS FOR THERMAL TREATMENT OF RADIOACTIVE WASTE	Slametschka, R. (1); Büttner, K. (1); Schetter, G. (2) 1 - NUKEM Technologies GmbH, Germany 2 - Dipl.-Ing. Ruppmann Verbrennungsanlagen GmbH, Germany



Tue 8:30-10:10 Parallel Sessions - Education & Training - Exchange 11

Chair: F. Sanchez, Tecnatom, Spain; Co-Chair: W. Janssens, European Commission, JRC

8:30-8:50 A0012	PUTTING INTO PERSPECTIVE THE SUPPLY OF AND DEMAND FOR NUCLEAR EXPERTS: AN EHRO-N REPORT	Simonovska, V. (1); Von Estorff, U. (1) 1 - European Commission, Joint Research Centre, Institute for Energy and Transport, Netherlands
8:50-9:10 A0023	LESSONS LEARNT FROM BUILDING A NUCLEAR TRAINING ACCREDITATION MODEL IN THE UK	Drury, D. (1) 1 - EDF Energy, United Kingdom
9:10-9:30 A0032	TOWARDS A NUCLEAR ECVET SYSTEM	Lacal Molina, M. A. (1); Von Estorff, U. (1) 1 - INSTITUTE FOR ENERGY AND TRANSPORT - JRC EC, Netherlands
9:30-9:50 A0052	INITIATIVES AND FACILITIES FOR E&T IN THE NUCLEAR SCIENCE AND TECHNOLOGY MASTER AT UPM	Ahnert, C. (1); Minguéz, E. (1); Perlado, M. (1); Gallego, E. (1); Velarde, P. (1); Cabellos, O. (1); Garcia-Herranz, N. (1); Cuervo, D. (1); Jimenez, G. (1); Cotelo, M. (1); Lorente, A. (1); Gonzalez-Arrabal, R. (1); Rivera, A. (1); Del-Río, E. (1) 1 - Universidad Politécnica de Madrid, Spain
9:50-10:10 A0065	SUSTAINING NUCLEAR KNOWLEDGE THROUGH SCK•CEN'S ACADEMY FOR NUCLEAR SCIENCE AND TECHNOLOGY	Coeck, M. (1) 1 - Belgian Nuclear Research Centre SCK•CEN, Belgium

Tue 8:30-10:10 Parallel Sessions - Simulations & GEN III - Exchange 10

Chair: L. Cizelj, Jozef Stefan Institute, Slovenia; Co-Chair: M. Chatlani, L-3MAPPS, Canada

08:30-8:50 A0171	THE ROLE OF SIMULATION IN THE NUCLEAR POWER PLANT LIFE CYCLE	Boire, R. (1) 1 - L-3 MAPPS, Canada
8:50-09:10 A0043	AP 1000 SEVERE ACCIDENT CALCULATION WITH ASTEC CODE	Di Giuli, M. (1); Rossi, F. (1); Sumini, M. (1); De Rosa, F. (2) 1 - University of Bologna - Nuclear Engineering Laboratory, Dept. DIENCA, Italy 2 - ENEA, UTFISSM-SICISIS, Italy
09:10-09:30 A0200	ADVANCES IN THE DELIVERY OF NUCLEAR POWER PLANT SIMULATION BASED LEARNING	Smith, J. (1) 1 - Western Services Corporation, United States
9:30-9:50 A0259	CFD ANALYSIS OF AIR-WATER TWO-PHASE FLOW IN A HELICALLY COILED TUBE	Colombo, M. (1); Cammi, A. (1); De Amicis, J. (1); Ricotti, M. E. (1); Lorenzi, S. (1) 1 - Politecnico di Milano, Italy
9:50-10:10 A0285	NUMERICAL SIMULATION OF TURBULENT HEAT TRANSFER IN LIQUID METAL ALONG A HEATED ROD IN AN ANNULUS	Herbst, S. (1); Baumann, T. (1); Wetzels, T. (1) 1 - Karlsruhe Institute of Technology, Germany

10:10-10:30 Coffee break Exhibition Hall



Tue 10:30-12:15 Plenary Session: Fuel Cycle - Auditorium

Chair: Jean-Pol Poncelet, FORATOM;
Co-Chair: Marco Streit, ENS President

With contributions on:

Revolutions in Uranium Enrichment
Paul Harding, URENCO, UK

50 years of fuel qualification
Leo Sannen, SCK•CEN, Belgium

Advanced Fuel Technologies - An Overview
Marco Streit, Paul Scherrer Institute, Switzerland

PRISM: lighting a new era for reactor safety, energy security, and used nuclear fuel management
Eric Loewen, GE- Hitachi, US

Challenges related to minor-actinide bearing fuel
Dominique Warin, CEA, France

12:15-13:15 Poster Session Exchange Upper Foyer

13:15-14:00 Lunch break

Tue 14:00-16:00 Parallel Sessions - Life Sciences and Non-Power Applications - Auditorium

Chair: M. Gheeraert, Philips Healthcare, the Netherlands; Co-Chair: M. Chiguer, AREVA, France

14:00-14:20 A0051	OECD-NUCLEAR ENERGY AGENCY'S APPROACH FOR A RELIABLE SUPPLY OF MOLYBDENUM-99 AND TECHNETIUM-99M	Cameron, R. (1); Westmacott, C. (1); Peykov, P. (1) 1 - Nuclear Development Division, OECD - Nuclear Energy Agency, France
14:20-14:40 A0222	PREDICTIVE MODEL OF AEROSOL TRANSPORT AND DEPOSITION. APPLICATION AND VALIDATION TO THE PWR REACTOR BUILDING	Mohand-Kaci, H. (1); Ricciardi, L. (1); Jahan, S. (2); Lestang, M. (3); Gaillard-Lecanu, E. (2) 1 - IRSN DSU/SERAC, France 2 - EDF R&D STEP, France 3 - EDF DPN/UNIE, France
	N.N	
15:00-15:20 A0290	CARBON ION IRRADIATION SUPPRESSES METASTASIS RELATED GENES IN HUMAN PROSTATE CARCINOMA CELLS	Suetens, A. (1); Moreels, M. (1); Tabury, K. (1); Quintens, R. (1); D'Agostino, E. (2); Baatout, S. (1); Deconinck, F. (1) 1 - Radiobiology Unit, Belgian Nuclear Research Centre, SCK•CEN, Belgium, Belgium 2 - Radiation protection, Dosimetry and Calibration Unit, Belgian Nuclear Research Centre, SCK•CEN, Belgium
15:20-15:40	RESEARCH REACTOR CONTRIBUTIONS TO	Van Walle, D. E.



A0317	RENEWABLE ENERGY SOLUTIONS	1 - Belgian Nuclear Research Centre, SCK•CEN, Belgium
15:40-16:00 A0147	THYROID DOSES RECEIVED BY THE PUBLIC OF BELARUS DUE TO THE FUKUSHIMA-DAIICHI NUCLEAR ACCIDENT	Kenigsberg, J. (1); Kouts, K. (2) 1 - National Commission on Radiation Protection under the Council of Ministers of the Republic of Belarus, Belarus 2 - Republican Scientific-Practical Center of Hygiene, Belarus

Tue 14:00-16:00 Parallel Sessions - New Build – Exchange 11

Chair: D. Powell, GE Power&Water, United States; Co-chair: A. Dardy, AREVA, France

14:00-14:20 A0066	NEWCOMERS TO NUCLEAR INDUSTRY: IS THE IAEA MILESTONES PROCESS ADAPTED TO THE CHALLENGES FACING THOSE COUNTRIES?	Vallee, A. (1); Lecomte, M. (1); Poimboeuf, J.-M. (1); Panefresco, C. (1); Bugat, A. (1); Auzel, L. (2) 1 - NucAdvisor, France 2 - Ingérop, France
14:20-14:40 A0136	THE EUR: A GREAT ACHIEVEMENT AND STILL ON ITS WAY	De Fraguier, E. (1); Vanhoenacker, L. (2); Rousselot, O. (1); Bellens, V. (2) 1 - EDF SEPTEN, France 2 - TRACTEBEL ENGINEERING - GDF SUEZ, Belgium
14:40-15:00 A0166	LICENSING RISK ANALYSIS FOR NUCLEAR NEW BUILDS - RESULTS FROM AN INDUSTRIAL SURVEY DONE BY WNA CORDEL LICENSING TASK FORCE	Raetzke, C. (1); Ryan-Taix, V. (1) 1 - World Nuclear Association (WNA) , United Kingdom
15:00-15:20 A0207	FRENCH APPROACH FOR SUPPORTING A NUCLEAR NEW BUILD PROJECT ABROAD: ADAPTATION AND FLEXIBILITY	Dardy, A. (1); Sartout, L. (1) 1 - On behalf of the French nuclear Industry Giin, France
15:20-15:40 A0099	EUROPEAN RESEARCH COLLABORATION ON NEW GENERATION NUCLEAR POWER PLANTS – METROFISSION	Johansson, L. (1); Filtz, J.-R. (2) 1 - National Physical Laboratory, United Kingdom 2 - Laboratoire National de Métrologie et d'Essais, France
15:40-16:00 A0262	BUILDING THE NUCLEAR FUTURE	Cadoux-Hudson, H. (1); S. Walls (1) 1 - EDF Energy, United Kingdom

Tue 14:00-16:00 Parallel Sessions – Advanced Reactors I – Exchange 1

Chair: E. Karita Puska, VTT, Finland; Co-chair: J. Dreier, PSI, Switzerland

14:00-14:20 A0258	PRESSURE DROP ANALYSIS OF A PRESSURE-TUBE TYPE SUPERCRITICAL WATER-COOLED REACTOR (SCWR)	Peiman, W. (1); Saltanov, E. (1); Pioro, I. (1); Gabriel, K. (1) 1 - University of Ontario Institute of Technology, Canada
14:20-14:40 A0026	DEVELOPMENT OF A THERMOHYDRAULIC MODEL OF THE EUROPEAN SODIUM FAST REACTOR (ESFR) USING THE SYSTEM CODE TRACE.	Lazaro Chueca, A. (1); Ammirabile, L. (1); Martorell, S. (2) 1 - JRC-IET, Netherlands 2 - Universidad Politecnica de Valencia, Spain
14:40-15:00 A0028	GENERATION IV TECHNOLOGY STATUS INCLUDING RECENT R & D ACTIVITIES IN ANSWERS	Lillington, J. (1); Anderson, G. (1); 1 - AMEC, United Kingdom
15:00-15:20	PRELIMINARY DESIGN ASSESSMENT OF	Merle-Lucotte, E. (1); Allibert, M. (1); Brovchenko, M. (1); Ghetta, V. (1); Heuer, D.



A0053	THE MOLTEN SALT FAST REACTOR	(1); Rubiolo, P. (1) 1 - LPSC-IN2P3-CNRS / UJF / Grenoble INP, France
15:20-15:40 A0078	DEVELOPMENT OF MATERIALS TO WITHSTAND THE EXTREME, IRRADIATED ENVIRONMENTS IN ADVANCED NUCLEAR FISSION REACTORS	Shepherd, D. (1) 1 - National Nuclear Laboratory, United Kingdom
15:40-16:00 A0126	ARCHER:- MATERIAL AND COMPONENT CHALLENGES FOR THE ADVANCED HIGH TEMPERATURE REACTOR	Buckthorpe, D. (1) 1 - AMEC, United Kingdom

Tue 14:00-16:00 Parallel Sessions – Plant Operations – Exchange 9

Chair: E. Gonzalez, Tecnatom, Spain; Co-chair: K. Porkholm, Fortum, Power Division, Finland

14:00-14:20 A0163	APPLICATIONS OF OLKILUOTO 1 AND 2 APROS MODEL	Porkholm, K. (1); Kontio H. (1); Talonpoika T. (2) 1 - Fortum Power and Heat Oy, Finland 2 - Teollisuuden Voima Oy, Finland
14:20 -14:40 A0110	PRESSURE TRANSMITTERS: ADDRESSING POST-FUKUSHIMA REGULATIONS AND REQUIREMENTS WITH BIBLOC TECHNOLOGY BY ROLLS-ROYCE	Desgeorge, R. (1); Fabbro, H. (1); Chowanek, M. (1) 1 - Rolls-Royce Civil Nuclear SAS, France
14:40-15:00 A0229	ADVANCED NUMERICAL METHODS FOR NUCLEAR REACTOR SAFETY	Visser, D. C. (1); Roelofs, F. (1); Komen, E. M. J. (1); Van Haren, S. (1) 1 - Nuclear Research and Consultancy Group (NRG), Netherlands
15:00-15:20 A0260	PROJECT BLACKSTONE: GRAPHITE IRRADIATION IN A MATERIALS TEST REACTOR	Brooking, M. (1) 1 - Atkins, United Kingdom
15:20-15:40 A0282	MITIGATION OF SEVERE ACCIDENT WITH CORE DAMAGE	Bachrata, A. (1); Fichot, F. (1); Repetto, G. (1); Quintard, M. (2); Fleurot, J. (1) 1 - IRSN/PSN-SAG Cadarache, France 2 - INP/IMFT Toulouse, France
15:40-16:00 A0115	RELIABILITY ENHANCEMENT OF THE DEFENCE-IN-DEPTH SYSTEMS OF AP1000 EUROPE PLANT	Frogheri, M. (1); Saiu, G. (1) 1 - Ansaldo Nucleare, Italy

Tue 14:00-16:00 Parallel Sessions – End of use: Dismantling – Exchange 10

Chair: J. Boucau, Westinghouse, Belgium; Co-chair: G. Braehler, NUKEM Technologies, Germany

14:00-14:20 A0095	NPP DECOMMISSIONING AND MANAGEMENT OF RADIOACTIVE WASTE: THE EDF EXPERIENCE	Béguin, S (1), Desroches, E. (1), Bernet, P. (2) 1 - EDF, France 2 - EDF CIDEN, France
14:20-14:40 A0024	TECHNOLOGY AND MANAGEMENT FOR THE DECOMMISSIONING OF NUCLEAR FACILITIES - A REPORT FROM GERMANY	Stifi, A. (1); Kern, P. (1); Aminy, A. (1); Gentes, S. (1) 1 - Karlsruhe Institut of Technology (KIT) - Institute for Technology and Management in Construction, Germany
14:40-15:00 A0030	WESTINGHOUSE WASTE SIMULATION AND OPTIMIZATION SOFTWARE TOOL	Boucau, J. (1); Aign, J. (2); Mennicken, K. (2) 1 - Westinghouse Electric Company, Belgium 2 - Westinghouse Electric Company, Germany
15:00-15:20	SAFETY ASPECTS OF BELGONUCLÉAIRE	Baumann, R. (1); Cuchet, J.-M. (2); Kohlgarth,



A0048	DESSEL MOX PLANT DECOMMISSIONING IN BELGIUM: EXPERIENCE FROM A GERMAN MOX-FACILITY AND RECENT IMPROVEMENTS APPLIED TO THE BELGIAN PROJECT	E. (3); Vandorpe, M. (4) 1 - Siemens Energy, Germany 2 - Tractebel Engineering, Belgium 3 - TÜV NORD EnSys Hannover GmbH & Co. KG, Germany 4 - Tecnel, Belgium
15:20-15:40 A0211	ADVANCES IN LASER CUTTING AS A DECOMMISSIONING AND DISMANTLING TOOL	Hilton, P. (1); Khan, A. (1); Buckingham, R. (2) 1 - TWI Ltd, United Kingdom 2 - OC Robotics Ltd, United Kingdom
15:40-16:00 A0243	CONDITIONAL REUSE - PERSPECTIVE METHOD IN THE DECOMMISSIONING MATERIALS MANAGEMENT PROCESS	Zachar, M. (1); Daniska, V. (1); Necas, V. (2) 1 - DECOM, a.s., Slovakia 2 - Slovak University of Technology in Bratislava, Slovakia

16:00-16:20 Coffee break – Exhibition Hall

Tue 16:20-18:20 Parallel Sessions – New Build – Exchange 11

Chair: J. Ortega, Tecnatom, Spain; Co-chair: M. Anthony, GE Power&Water, UK

16:20-16:40 A0029	ANALYSIS OF TEMPERATURE FIELD OF THE COIL OF THE DIRECT ACTION SOLENOID VALVE UNDER HIGH TEMPERATURE	Liu, Q. (1); Wang, L. (1); Ma, C. (1); Bo, H. (1); 1 - Institute of Nuclear and New Energy Technology, Tsinghua University, China
16:40-17:00 A0118	IN SERVICE INSPECTION STUDIES AND DEVELOPMENT SINCE THE DESIGN PHASE OF THE ASTRID AND ITER REACTORS	Fons, Y. (1); Biaudis, J.-P. (1) 1 - Comex Nucléaire, France
17:00-17:20 A0157	PRE-CONSTRUCTION SAFETY REPORTS AND DEALING WITH THE UNKNOWN	Brain, J. (1); Moynihan, B. (1) 1 - AMEC, United Kingdom
17:20-17:40 A0195	SAFETY CULTURE DURING PRE-OPERATIONAL STAGES OF A NEW NUCLEAR BUILD	Sima, E. (1) 1 - Young Generation, Romania
17:40-18:00 A0245	ADVANCEMENTS IN NEW NUCLEAR PLANT SAFETY	Powell, D. (1); Hunt, B. (1); Hinds, D. (1); Dahlgren, C. (1); Miller, G. (1); Beard, A. (1) 1 - GE Hitachi Nuclear Energy, United States
18:00-18:20 A0301	OPTIMIZED DESIGN FOR CIVIL STRUCTURES OF NUCLEAR ISLAND	Klug, U. (1) 1 - AREVA NP GmbH, Germany

Tue 16:20-18:20 Parallel Sessions – Plant Operations – Exchange 9

Chair: M. Streit, Paul Scherrer Institute, Switzerland; Co-chair: Y. Kwon, KAERI, Republic of Korea

16:20-16:40 A0039	THE IMPLEMENTATION EXPERIENCE OF AUTOMATIC SEISMIC TRIP SYSTEM FOR THE OPERATING NUCLEAR POWER PLANTS IN KOREA	Han, S. G. (1); Baek, S. M. (1); Oh, J. K. (2); Kang, B. H. (3) 1 - KEPCO E&C Co., Inc, Korea, Republic of 2 - Korea Hydro & Nuclear Power Co. Ltd, Korea, Republic of 3 - Energy and Environment Systems Co., Ltd, Korea, Republic of
16:40-17:00 A0077	MECHANICAL AND CHEMICAL CLEANING OF HEAT EXCHANGERS IN FRENCH NUCLEAR POWER PLANTS	Ruiz Martinez, J. T. (1); Guerra, P. (2); Ureta, R. (3) 1 - LOGÍSTICA Y ACONDICIONAMIENTOS INDUSTRIALES S.A.U, Spain 2 - LAINSA FRANCE, France 3 - SOLARCA S.L, Spain



17:00-17:20 A0037	TERMAN PROJECT, A NEW TYPE OF MASTER SLAVE MANIPULATOR	Salliez-Vandernotte, C. (1) 1 - Getinge La Calhène, France
17:20-17:40 A0087	A REVIEW OF FILTERED CONTAINMENT VENTING SYSTEM	Vignon, D. (1); Felten, P. (1); Hillrichs, C. (1) 1 - NucAdvisor, France
17:40-18:00 A0104	SENSITIVITY STUDY ON PARAMETERS AFFECTING MAKEUP OPERATION IN APR1400	Sohn, S.-W. (1); Song, I.-H. (1) 1 - KEPSCO E&C, Korea, Republic of
18:00-18:20 A0073	OPERATIONAL BENEFITS AND LESSONS LEARNED DURING THE INTRODUCTION TO INTO SERVICE OF THE NEW IP-2 TRANSPORT PACKAGING FOR A AGR GAS CIRCULATOR	Holden, G. (1) 1 - Onet technologies UK ltd, United Kingdom

Tue 16:20-18:20 Parallel Sessions – Advanced Reactors II – Exchange 1

Chair: J. Dreier, Paul Scherrer Institute, Switzerland; Co-chair: E. Merle-Lucotte, LPSC-IN2P3, France

16:20-16:40 A0003	SPES3: THE INTEGRAL FACILITY FOR SAFETY EXPERIMENTS ON SMALL AND MEDIUM SIZE REACTORS	Ferri, R. (1); Achilli, A. (1); Cattadori, G. (1); Bianchi, F. (1); Luce, A. (1); Monti, S. (1); Meloni, P. (2); Ricotti, M. E. (3) 1 - SIET S.p.A., Italy 2 - ENEA, Italy 3 - POLITECNICO DI MILANO, Italy
16:40-17:00 A0088	REVIEW OF THREE FAMILIES OF SMALL MODULAR REACTORS (SMRS): LAND-BASED; FLOATING; IMMERSSED	Lecomte, M. (1); Beon, J.-Y. (1); Poimboeuf, J.-M. (1); Vignon, D. (1) 1 - NucAdvisor, France
17:00-17:20 A0119	PRELIMINARY EVALUATION OF A SEVERE FLOODING EFFECTS ON AN INNOVATIVE SMR	Lo Frano, R. (1); Baudanza, V. (1); Forasassi, G. (1) 1 - DIMNP-University of Pisa, Italy
17:20-17:40 A0161	EUROPEAN DESIGN STUDY ON SUPERCRITICAL WATER COOLED REACTORS	Schulenberg, T. (1); Class, A. (1); Starflinger, J. (2) 1 - Karlsruhe Institute of Technology, Germany 2 - University of Stuttgart, Germany
17:40-18:00 A0233	SAFETY ANALYSIS OF A SODIUM-COOLED FAST REACTOR WITH TRANSMUTATION CAPABILITIES	Perez-Martin, S. (1); Hering, W. (1); Kruessmann, R. (1); Lemasson, D. (2); Massara, S. (2); Pfrang, W. (1); Ponomarev, A. (1); Schikorr, M. (1); Struwe, D. (1); Verwaerde, D. (2) 1 - Karlsruhe Institute of Technology, Germany 2 - EDF, France
17:40-18:00 A0202	HEAT-TRANSFER CORRELATIONS FOR SUPERCRITICAL WATER AND CARBON DIOXIDE FLOWING IN VERTICAL BARE TUBES	Pioro, I. (1); Mokry, S. (1); Gupta, S. (1); Saltanov, E. (1) 1 - University of Ontario Institute of Technology, Canada

Tue 16:20-18:20 Parallel Sessions – Fuel Cycle - Auditorium

Chair: D. Warin, CEA, France; Co-chair: D. Mathers, National Nuclear Laboratory, UK

16:20-16:40 A0275	SHADOW CORROSION RESISTANT CORE DESING: COFRENTES CORE DESIGN MODIFICATIONS TO MINIMIZE CHANNEL BOWING	Galicia Saavedra, A. (1); López Carbonell, M. T. (1); Dey Navarro, J. M. (1); Saiz de Omeñaca Tijero, J. (1) (2) 1 - Iberdrola, Spain 2 - ASSYSTEM, Spain
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16:40-17:00 A0054	SAFETY ASPECTS OF DRY SPENT FUEL STORAGE AND SPENT FUEL MANAGEMENT	Völzke, H. (1); Wolff, D. (1); Botsch, W. (2); Drotleff, H.-W. (2); Hinterding, P. (2); Smalian, S. (2); Kasperek, E.-M. (1) 1 - BAM Federal Institute for Materials Research and Testing, Division 3.4 "Safety of Storage Containers", Germany 2 - TÜV NORD Nuclear c/o TÜV NORD EnSys Hannover GmbH & Co.KG, Germany
17:00-17:20 A0057	ACTINIDE SEPARATIONS RESEARCH AT THE UK NATIONAL NUCLEAR LABORATORY	Taylor, R. (1); Sarsfield, M. (1); Carrott, M. (1); Woodhead, D. (1); Rhodes, C. (1) 1 - Fuel Cycle Solutions, National Nuclear Laboratory, United Kingdom
17:20-17:40 A0058	THE NATIONAL NUCLEAR LABORATORY'S APPROACH TO WASTE AND RESIDUES PROCESSING	Greenwood, H. (1); Docrat, T. (1); Allinson, S. (1); Coppersthaite, D. (1) 1 - National Nuclear Laboratory, United Kingdom
17:40-18:00 A0117	NNL CASE STUDY: MAXIMISING PLANT LIFE-TIME EXTENSION OF HA EVAPORATORS FOR NUCLEAR FUEL WASTE PROCESSING	Armstrong, M. (1); Whillock, G. (1) 1 - National Nuclear Laboratory, United Kingdom
18:00-18:20 A0174	MULTIPLE RECYCLING OF MOX IN LWRS	Bouvier, E. (1); Gain, T. (1); Lelièvre, F. (1); Senentz, G. (1); Bailly, F. (1); Murray, P. (2) 1 - AREVA Back End BG, France 2 - AREVA Federal Services LLC, United States

Tue 16:20-18:20 Parallel Sessions – Education & Training – Exchange 10

Chair: P. Gowin, IAEA; Co-chair: J. Roberts, University of Manchester, UK

14:40-15:00 A0305	LEARNING BY WATCHING	Seewald, M. (1) (2) 1 - Universität Gesamthochschule Essen, Germany 2 - KSG Kraftwerks-Simulator-Gesellschaft mbH GfS Gesellschaft für Simulatorschulung mbH
16:40-17:00 A0090	MAINTAINING A HIGH QUALITY NUCLEAR ENGINEERING PROGRAMME: FUTURE CHALLENGES FOR THE BELGIAN NUCLEAR HIGHER EDUCATION NETWORK	Berkvens, T. (1); Coeck, M. (1) 1 - SCK•CEN, Belgium
17:00-17:20 A0116	SIMULATION TECHNOLOGY FOR SEVERE ACCIDENTS TRAINING, ASSESSMENT AND MANAGEMENT	Rey, P. (1); Ortega, F. (1); Rivero, N. (1); Gil, E. (1) 1 - Tecnatom, Spain
17:20-17:40 A0169	3D VISUALIZATION AND SIMULATION TO ENHANCE NUCLEAR LEARNING	Dimitri-Hakim, R. (1) 1 - L-3 MAPPS, Canada
17:40-18:00 A0132	TRANSFERRING LESSONS LEARNED FROM OPERATING EXPERIENCE, INCREASING KNOWLEDGE	Garcia, A. B. (1); Bilbao, C. (1); Macia, C. (1); Gonzalez, F. (1) 1 - TECNATOM, Spain
18:00-18:20 A0158	NEW IAEA TRAINING INITIATIVES IN THE FIELD OF RADIOACTIVE WASTE MANAGEMENT	Ormai, P. (1); Kinker, J. (1) 1 - International Atomic Energy Agency, Austria



Wednesday 12 December 2012

Wed 8:30-10:10 Parallel Sessions – Nuclear Data – Exchange 10

Chair: A. Wasyluk, World Nuclear Association, United Kingdom; Co-chair: F. Rahnema, Georgia Institute of Technology, United States

08:30-08:50 A0021	HIGH-PRECISION MEASUREMENT OF THE 238U (n,γ) CROSS SECTION AT nTOF, CERN	Wright, T. (1); Billowes, J. (1); Ware, T. (1); Guerrero, C. (2); Cano Ott, D. (3); Günsing, F. (4); Berthoumieux, E. (4); Lampoudis, C. (5); Massimi, C. (6); Mingrone, F. (6); The n_tof collaboration, (2) 1 - University of Manchester, United Kingdom 2 - CERN, Switzerland 3 - CIEMAT, Spain 4 - CEA, France 5 - EC-JRC-IRMM, Belgium 6 - INFN, Italy
08:50-09:10 A0100	SPECTRAL CORRECTION FOR NUCLEAR DATA IN FAST REACTOR ANALYSIS VIA THE SUBGROUP DECOMPOSITION METHOD	Douglass, S. (1); Rahnema, F. (1) 1 - Georgia Institute of Technology, United States
09:10-09:30 A0129	MEASUREMENT OF THE 243AM NEUTRON CAPTURE CROSS SECTION AT THE N_TOF FACILITY AT CERN	Mendoza Cembranos, E. (1); Cano Ott, D. (1); Guerrero Sánchez, C. (2); T. N. C. (2) 1 - CIEMAT, Spain 2 - CERN, Switzerland
09:30-09:50 A0274	ANALYSIS OF THE TUBES-TO-TUBESHEET CREVICES UNDER THE OPERATING CONDITIONS OF THE AP1000 PRHR-HX	Barbensi, A. (1) 1 - Ansaldo Nucleare S.p.A., Italy
ENC2012- A0246	ELECTRA CORE DYNAMICS AND STABILITY ANALYSES	Bortot, S. (1); Suvdantsetseg, E. (1); Wallenius, J. (1); Lorenzi, S. (2); Della Bona, A. (2) 1 - KTH, Sweden 2 - Politecnico di Milano, Italy

Wed 8:30-10:10 Parallel Sessions – Fuel Cycle - Auditorium

Chair: F. Rayment, National Nuclear Laboratory, UK; Co-chair: T. Kaliatka, Lithuanian Energy Institute, Lithuania

08:30-08:50 A0064	THORIUM OPTION FOR DURABLE ELECTRO-NUCLEAR SYSTEMS: COMPLEMENTARITY OF THORIUM AND URANIUM BASED CYCLE IN WATER COOLED REACTOR AND ADVANCED PLUTONIUM MANAGEMENT	Ernault, M. (1); David, S. (1); Van den Durpel, L. (2) 1 - IPN Orsay, France 2 - AREVA, France
08:50-09:10 A0041	ON COMPOSITION STABILIZING A HYPO-STOICHIOMETRIC URANIUM DIOXIDE	Alekseev, P. (1); Semchenkov, Y. (1); Shimkevich, A. (1) 1 - NRC "Kurchatov Institute", Russian Federation
09:10-09:30 A0146	SCENARIOS FOR FAST REACTOR DEPLOYMENT WITH PLUTONIUM RECYCLING AND COMPARISON OF DIFFERENT OPTIONS FOR MINOR ACTINIDE TRANSMUTATION THE FRENCH CASE	Chabert, C. (1); Saturnin, A. (1); Coquelet-Pascal, C. (1); Mathonnière, G. (1); Warin, D. (1) 1 - CEA, DEN, France
09:30-09:50 ENC2012- A0081	FRAMEWORK FOR THE MANUFACTURING DEVELOPMENT OF ADVANCED CERAMIC NUCLEAR FUELS	Shepherd, D. (1) 1 - National Nuclear Laboratory, United Kingdom



09:50-10:10 A0205	FABRICATION OF (U,AM) MIXED-OXIDE FUELS FOR TRANSMUTATION	Lebreton, F. (1); Horlait, D. (1); Delahaye, T. (1); Blanchart, P. (2) 1 - CEA, DEN, DTEC/SDTC/LEMA France 2 - ENSCI/GEMH, France
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Wed 8:30-10:10 Parallel Sessions – Education & Training – Exchange 11

Chair: E. Saltanov, University of Ontario Institute of Technology, Canada; Co-chair: S. San Antonio, Tecnatom, Spain

08:30-08:50 A0162	AREVA NUCLEAR PROFESSIONAL SCHOOL	Class, A. G. (1); Lamm, M. (2); Niessen, S. (2); Schulenberg, T. (1) 1 - Karlsruhe Institute of Technology, Germany 2 - AREVA NP GmbH, Germany
08:50-09:10 A0186	THE IMPORTANCE OF KNOWLEDGE MANAGEMENT SUSTAINING A FULL EDUCATION & TRAINING SYSTEM ALL OVER THE CAREER OF NUCLEAR ENGINEERS	Guet, C. (1); Debreuille, M.-F. (1); Barbalat, C. (1); Figuet, J., 1 - International Institute of Nuclear Energy, France
09:10-09:30 A0191	LINKING EMPOWERING LEADERSHIP TO SAFETY PARTICIPATION IN NUCLEAR POWER PLANTS: A STRUCTURAL EQUATION MODEL	Martínez-Córcoles, M. (1); Schöbel, M. (2); Gracia, F. (1); Tomás, I. (1); Peiró, J. M. (1) 1 - University of Valencia, Spain 2 - University of Basel, Switzerland
09:30-09:50 A0215	ADVANCED METHOD FOR A REALISTIC TRAINING DEDICATED TO THE RADIATION PROTECTION IMPROVEMENT	Kutschera, R. (1); Courageot, E. (1); Gaillard-Lecanu, E. (1); Jahan, S. (1); Therache, B. (2); Riedel, A. (3) 1 - EDF R&D STEP, France 2 - EF DPN/CIV, France 3 - EDF DPN/UNIE, France
09:50-10:10 A0227	THE USE OF LEARNING AND TRAINING TOOLS FOR NUCLEAR EDUCATION AND TRAINING	Foulon, F. (1); Royer, E. (1); Compain, O. (1); Golfier, H. (1); Grard, H. (1); Lescop, B. (1); Moiron, M. (1) 1 - CEA/INSTN, France

Wed 8:30-10:10 Parallel Sessions – Civil Society – Exchange 9

Chair: G. Meskens, SCK•CEN, Belgium; Co-chair: N. Guillaume, CEA, France

08:30-08:50 A0181	WNA MOBILISATION FOR A COORDINATED NUCLEAR COMMUNICATIONS STRATEGY	Ryan-Taix, V. (1) 1 - WNA, United Kingdom
ENC2012- A0102	THE EUROPEAN COMMISSION NUCLEAR SAFEGUARDS SUPPORT PROGRAMME TO THE IAEA	Gonçalves, J. (1); Janssens, W. (1); Luetzenkirchen, K. (2); Aregbe, Y. (3); Abousahl, S. (4) 1 - European Commission - Joint Research Centre, Institute for Transuranium Elements, Italy 2 - European Commission - Joint Research Centre, Institute for Transuranium Elements, Germany 3 - European Commission - Joint Research Centre, Institute for Reference Materials and Measurements, Belgium 4 - European Commission - Joint Research Centre, Belgium
09:10-09:30 A0176	COMMUNICATING NUCLEAR DURING CRISES OR IN HOSTILE ENVIRONMENTS	Radde, E. (1); Böck, H. (1); Gerstmayr, M. (1); Steinhauser, G. (2) 1 - Austrian Nuclear Society, Austria 2 - University of Technology Vienna, Austria



09:30-09:50 A0196	FUKUSHIMA FACTS: SCIENCE, JOURNALISM AND THE WAY EVENTS ARE PERCEIVED	Margetic, A. (1) 1 - Nuclear Regulatory Authority, Argentina
09:50-10:10 A0288	DEBUNKING NUCLEAR MYTHS	Škorić, N. (1); Pekarik, I. (1) 1 - Croatian Nuclear Society, Croatia

Wed 8:30-10:10 Parallel Sessions – World Nuclear Transport Institute Workshop: “Transport for the nuclear fuel cycle – Getting it where it is needed” - Exchange 1

Chair: Henry-Jacques Neau, WNTI Secretary General, United Kingdom

With contributions from:

Alastair Brown, International Nuclear Services

Tony Grange, Westinghouse UAM

Bernard Monot, AREVA Business Unit Logistics

10:10-10:30 Coffee break Exhibition Hall

Wed 10:30-12:10 Parallel Sessions – Plant Operations - Auditorium

Chair: S. San Antonio, Tecnatom, Spain; Co-chair: K. Demjančuková, University of West Bohemia, Czech Republic

10:30-10:50 A0035	STATION BLACK-OUT SCENARIO FOR REFERENCE PWR NUCLEAR POWER PLANTS IN EUROPE	Fatone, M. (1); Pokorny, P. (1) 1 - ĀF-Consult Switzerland Ltd (AF-Colenco), Nuclear Energy Department, Switzerland
10:50-11:10 A0300	PROGRESS OF NON-LINEAR PROPER ORTHOGONAL DECOMPOSITION REDUCED ORDER MODELING FOR BWR FUEL ASSEMBLIES	Prill, D. P. (1); Class, A. G. (1) 1 - Karlsruhe Institute of Technology (KIT), Areva Nuclear Professional School (ANPS), Germany
11:10-11:30 A0101	PSA, LESSONS LEARNED FROM THE ANALYSIS OF EXTERNAL EVENTS AND THEIR POSSIBLE USE FOR STRESS TESTS OF NPP - EXPERIENCES FROM GERMANY AND SWEDEN	Braass, O. (1); Andernacht, M. (1); Knochenhauer, M. (2) 1 - TUEV NORD Nuclear, Germany 2 - Scandpower AB, Sweden
11:30-11:50 A0172	APPLICATIONS OF FUKUSIMA ACTION ITEMS TO KOREAN NUCLEAR REACTOR DEVELOPMENTS	Kwon, Y. (1); Choi, S. (1); Joo, H.-K. (1); Wu, S. (1) 1 - Korea Atomic Energy Research Institute, Korea, Republic of
11:50-12:10 A0281	EDF EXPERIENCE FEEDBACK FROM FUKUSHIMA ACCIDENT FOR THE FRENCH NUCLEAR FLEET	Debes, M. (1) 1 - EDF - Generation and Engineering Division, France

Wed 10:30-12:10 Parallel Sessions – End of use: Storage/Disposal – Exchange 10

Chair: G. Ouzounian, ANDRA, France; Co-chair: D. Wisnubroto, BATAN, Indonesia

10:30-10:50 A0013	THE CIGÉO GEOLOGICAL REPOSITORY PROJECT IN FRANCE	Harman, A. (1); Labalette, T. (1); Dupuis, M.-C. (1); Ouzounian, G. (1) 1 - ANDRA, France
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10:50-11:10 A0097	NUCLEAR DATA ISSUES IN THE CALCULATION OF C14 AND CL36 IN IRRADIATED GRAPHITE.	Mills, R. (1); Banford, A. (1); Riaz, Z. (1) 1 - National Nuclear Laboratory, United Kingdom
11:10-11:30 A0149	GEOLOGICAL DISPOSAL OF THE UK RADIOACTIVE WASTE - UNDERPINNING SCIENCE AND TECHNOLOGY	Smart, N. (1) 1 - Nuclear Decommissioning Authority, United Kingdom
11:30-11:50 A0153	MANAGEMENT OF RADIOACTIVE WASTE AND DISMANTLING OF NUCLEAR FACILITIES, THE FRENCH EXPERIENCE	Ouzounian, G. (1) 1 - French Nuclear Industry, France
11:50-12:10 A0044	STRUCTURAL ASSESSMENTS OF EVAPORATOR D EVAPORATOR VESSEL	Morris, I. (1); Addison, N. (2) 1 - National Nuclear Laboratory, United Kingdom 2 - Bendalls Engineering, United Kingdom

Wed 10:30-12:10 Parallel Sessions – Education & Training – Exchange 11

Chair: M. Coeck, SCK•CEN, Belgium; Co-Chair: I. Loizaga, TECNATOM, Spain

10:30-10:50 A0244	EDUCATING AND TRAINING THE NEXT GENERATION OF NUCLEAR SECURITY EXPERTS	Hall, H. (1); Sumner, J. (2); Icenhour, A. (2); Stainback, J. (3); Clark, C. (3); Robinson, C. (3); Garrison, A. (4); Abelquist, E. (4); Page, A. (1) 1 - University of Tennessee, United States 2 - Oak Ridge National Laboratory, United States 3 - Y-12 National Security Complex, United States 4 - Oak Ridge Associated Universities, United States
10:50-11:10 A0247	THE SAFETY LEADERSHIP CHALLENGE: BUILDING SOFT-SKILLS FOR EXEMPLARY SAFETY PERFORMANCE	Krauss, A. (1); Maneotis, S. (1); Casey, T. (2); 1 - Sentis, United States 2 - Sentis, Australia
11:10-11:30 A0269	EXPERIENCE OF APPLICATION OF BEHAVIORAL SCIENCES METHODOLOGIES TO THE OBTAINING OPERATING LICENSE PROCESS	Martinez-Soria, J. L. (1); Ruiz-Martinez, F. (1); Vazquez-Rodriguez, L. (1) 1 - Tecnatom, S.A., Spain
11:30-11:50 A0286	ADVANCING NATIONAL AND JOINT NUCLEAR RESEARCH IN THE EUROPEAN UNION: THE NEWLANCER PROJECT	Cizelj, L. (1); Diaconu, D. (2); Ghitescu, P. (3); Ivanov, I. (4); Tiselj, I. (5); Železnik, N. (6) 1 - Jožef Stefan Institute, Slovenia 2 - Institute for Nuclear Research Pitesti, Romania 3 - University "Politehnica" of Bucharest, Romania 4 - Technical University of Sofia, Bulgaria 5 - University of Ljubljana, Slovenia 6 - ARAO, Slovenia
11:50-12:10 A0096	TECNATOM, NUCLEAR TRAINING SERVICES IN A GLOBAL WORLD	Moreno, J. (1); Loizaga, I. (1) 1 - TECNATOM, Spain

Wed 10:30-12:10 Parallel Sessions – Civil Society – Exchange 9

Chair: A. Bull, National Nuclear Laboratory, UK; Co-chair: S. Prevot, Women in Nuclear (WiN) Europe

10:30-10:50 A0001	THE INTERNATIONAL PROJECT ON INNOVATIVE NUCLEAR REACTORS AND FUEL CYCLES (INPRO)	Gowin, P. J. (1); Beatty, R. L. (1); Phillips, J. R. (1); Ocenic, E. L. (1) 1 - International Atomic Energy Agency, Austria
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10:50-11:10 A0143	WHAT LIES BEHIND THE CLAIM FOR TRANSPARENCY? THE EXAMPLE OF A STUDY LEAD BY THE CEA (FRANCE)	Guillaume, N. (1) 1 - CEA (Atomic energy and alternative energies Commission), France
11:10-11:30 A0165	LESSONS FROM THE AEROSPACE INDUSTRY: WHAT CAN NUCLEAR INDUSTRY LEARN FROM REGULATORY SYSTEM, SAFETY, LICENSING AND DESIGN MANAGEMENT IN INTERNATIONAL AVIATION	Raetzke, C. (1); Borysova, I. (1) 1 - World Nuclear Association (WNA), United Kingdom
11:30-11:50 A0190	HOLISTIC AND INTEGRATED ANALYSIS OF NUCLEAR ENERGY FOR A SUSTAINABLE ENERGY SUPPLY	Wissel, S. (1) 1 - Universität Stuttgart, Germany
11:50-12:10 A0209	OVERVIEW OF THE EUROPEAN UNION INITIATIVES AND OPPORTUNITIES TO ENHANCE NUCLEAR SECURITY AND NON-PROLIFERATION OUTSIDE EUROPE	Janssens, W. (1); Abousahl, S. (2); Bril, L.-V. (3); Daures, P. (4); Dupre, B. (3); Maier, E. (4); Servais, P. (4) 1 - European Commission, Joint Research Centre, Nuclear Security Unit, Italy 2 - European Commission, Joint Research Centre, Headquarters, Belgium 3 - European External Action Service, Belgium 4 - European Commission, EuropeAid Development & Cooperation, Belgium

Wed 10:30-12:10 Parallel Sessions–WiN Europe Workshop: Nuclear installation safety–research laboratories and radioisotope production facilities: lessons learned from Fukushima–Exchange 1

Moderator: Anne-Marie Birac, WiN Europe

With contributions on:

Methodology for safety reassessment of CEA facilities and site

Elise Hoeltzel, CEA

Safety reassessment of OSIRIS after the accident in Fukushima Daiichi

Xavier Wohleber, CEA

Complementary safety assessment on an european radioisotope production facility (tbc)

"Earthquake Hazard and research nuclear facilities"

Eric Fleurot, CEA

12:10-13:00 Lunch break

Wed 13:00-15:00 Plenary Session: Issues & Challenges for the Future of Nuclear - Auditorium

Chair: Jean Llewellyn, National Skills Academy for Nuclear, UK

Co-Chair: Jean-Pol Poncelet, FORATOM

With contributions on:

The System Costs of Different Power Generation Technologies: A New Look at the Competitiveness of Nuclear Power

Ron Cameron, OECD



The organisation of Energy markets and nuclear opportunities
József Bajsz, Eurelectric

Nuclear Technologies for the future: Gen IV –
Hervé Bernard, CEA, FR (tbc)

Education, Training and Knowledge Management
Jean Llewellyn, National Skills Academy for Nuclear, UK

Wed 15:00-15:30 Closing Session - Auditorium

Chair: Marco Streit, President of the Nuclear Institute, ENC 2012 Conference Chair;
Co-Chair: Frank Deconinck, ENS Honorary President, ENC 2012 Programme Committee Chair

Including a conference statement by Ingeborg Hagenlocher, President, ENS High Scientific Council



Posters

Education, Training and Knowledge Management

ENC2012-A0004	A COMPARISON OF VARIABILITY OF PROCEDURE PROGRESSION WITH TASK COMPLEXITY	Kim, Y. (1); Park, J. (1); Jung, W. (1) 1 - Korea Atomic Energy Research Institute(KAERI) , Korea, Republic of
ENC2012-A0018	NUCLEAR POWER TRAINING PROGRAMS IN SOUTHEAST TEXAS (USA)	Henry, R. (1); Shawver, R. (2); Kieler, B. (1) 1 - Wharton County Junior College, United States 2 - Brazosport College, United States
ENC2012-A0050	EVALUATING THE LEVEL OF HUMAN RESOURCE MANAGEMENT	Pahkin, K. (1); Kuronen-Mattila, T. (2); Mäki, E. (2) 1 - Finnish Institute of Occupational Health, Finland 2 - Aalto University, Finland
ENC2012-A0060	SAFETY CASE ON A PAGE	Forbes, S. (1); Cartlidge, M. (1) 1 - Serco Energy, Building 150, Harwell Oxford, Didcot, Oxfordshire, OX11 and AWE, Aldermaston, Reading, Berkshire, RG7 4PR, United Kingdom
ENC2012-A0061	BELARUS CAPACITY TO CONTRIBUTE TO REGIONAL CO-OPERATION IN EDUCATION AND TRAINING ON NUCLEAR AND RADIATION SAFETY FOR EUROPE AND MIDDLE ASIA	Timoshchenko, A. (1) 1 - International Sakharov Environmental University, Belarus
ENC2012-A0075	ALEXANDRIA – A WAY TO EFFICIENTLY MANAGE THE UNSTRUCTURED INFORMATION AT THE BELGIUM NUCLEAR RESEARCH CENTRE SCK•CEN	Couvreur, D. (1); Geerts, L. (1) 1 - SCK•CEN, Belgium
ENC2012-A0093	THE EUROPEAN APPROACH IN RADIATION PROTECTION TRAINING: MAIN RESULTS OF THE ENETRAP II 7FP PROJECT.	Coeck, M. (1); Livolsi, P. (2); Massiot, P. (2); Moebius, S. (3); Schmitt-Hannig, A. (4); Fantuzzi, E. (5); Van Elsäcker-Degenaar, H. (6); Marco, M. (7); Stewart, J. (8); De Regge, P. (9); Vaz, P. (10); Pesznyak, C. (11); Ceclan, M. (12) 1 - Belgian Nuclear Research Centre SCK•CEN, Belgium 2 - CEA-INSTN, France 3 - KIT, Germany 4 - BfS, Germany 5 - ENEA, Italy 6 - NRG, Netherlands 7 - CIEMAT, Spain 8 - HPA, United Kingdom 9 - ENEN, France 10 - ITN, Portugal 11 - BME, Hungary 12 - UPB, Romania
ENC2012-A0098	INTERNATIONAL COLLABORATION FOR ENHANCED EXPERIENCES IN NUCLEAR EDUCATION	Harvel, G. D. (1); Nakayasu, F. (2) 1 - University of Ontario Institute of Technology, Canada 2 - Fukui University of Technology, Japan
ENC2012-A0154	ONTARIO EXPERIENCE IN EDUCATION AND TRAINING: A UTILITY-UNIVERSITY PARTNERSHIP	Bereznai, G. (1); Froats, J. (1); Harvel, G. (1) 1 - University of Ontario Institute of Technology, Canada



ENC2012-A0182	SPECIFICITIES OF THE FRENCH NUCLEAR ENERGY ENGINEER EDUCATION SYSTEM: A STRONG STRUCTURE BASED ON A LONG-TERM COMMITMENT	Flocard, H. (1); Debreuille, M.-F. (1); Barbalat, C. (1), Figuet, J. (1) 1 - international Institute of Nuclear Energy, France
ENC2012-A0198	LESSONS LEARNED FROM FUKUSHIMA DAICHI - DEVELOPMENT OF SEVERE ACCIDENT TRAINING EXERCISES FOR UNIVERSITY STUDENTS	Hohorst, J. (1); Allison, C. (1); Allison, B. (1); Luettringhaus, U. (2); Torri, A. (2) 1 - Innovative Systems Software, United States 2 - Risk Management Associates, United States
ENC2012-A0200	ADVANCES IN THE DELIVERY OF NUCLEAR POWER PLANT SIMULATION BASED LEARNING	Smith, J. (1) 1 - Western Services Corporation, United States
ENC2012-A0240	IMPROVE TRANSFER OF SAFETY TRAINING TO MAXIMISE RETURN ON INVESTMENT	Casey, T. (1); Chen, P. (2) 1 - Sentis, Australia 2 - University of South Australia, Australia
ENC2012-A0241	NUCLEAR SAFETY CULTURE AT NUCLEAR FUEL PLANT PITESTI ROMANIA	Ivana, T. (1); Epure, G. (1); Olaru, V. (1) 1 - Nuclear Fuel Plant Pitesti, Romania
ENC2012-A0248	THE SAFETY CULTURE QUESTIONNAIRE (SCQ): ITS THEORETICAL APPROACH AND EMPIRICAL VALIDATION	Lopez de Castro, B. (1); Gracia, F. J. (1); Tomás, I. (1); Peiró, J. M. (1) 1 - Universidad de Valencia, Spain
ENC2012-A0264	EFFECTIVE EDUCATION AND TRAINING TECHNOLOGY, INTERNATIONAL CO-OPERATIONS, RECRUITMENT, AND ATTRACTING THE NEXT GENERATION SAFEGUARDS SPECIALIST	Eipeldauer, M. D. (1) 1 - ORNL UT-Battelle, United States
ENC2012-A0271	UNIVERSITY OF TEXAS STUDY ABROAD PROGRAM IN CONCEPTS IN NUCLEAR SCIENCE AND ENGINEERING AT THE TECHNICAL UNIVERSITY OF	Landsberger, S. (1); Graham, J. (1); Wilkins-Versalovic, H. (2); Bode, P. (3); Geurink, F. (3); Laan, A. (3); Steinebach, O. (3); De Vries, D. (3) 1 - University of Texas, Austin, Nuclear Engineering Teaching Lab, United States 2 - University of Texas at Austin, Cockrell School of Engineering, United States 3 - Reactor Institute of Delft, Netherlands
ENC2012-A0278	HUMAN RESOURCES CHALLENGE AND KNOWLEDGE MANAGEMENT IN SLOVAK NUCLEAR POWER ENGINEERING	Slugen, V. (1) 1 - Slovak University of Technology, UJFI, FEI STU, Slovakia
ENC2012-A0287	PERSPECTIVES OF THE SMALLEST NUCLEAR COUNTRY FOR THE RESEARCH AND EDUCATION IN NUCLEAR SAFETY	Cizelj, L. (1); Tiselj, I. (1) 1 - Jožef Stefan Institute, Slovenia
ENC2012-A0292	SUPPLEMENTING NUCLEAR EDUCATION AT UNIVERSITIES BY INDUSTRY KNOW-HOW AND EXPERIENCE, DELIVERED IN SPECIFICALLY DESIGNED TRAINING PROGRAMS	Glaubrecht, S. (1); Schönfelder, C. (1) 1 - AREVA NP GmbH, Germany
ENC2012-A0314	RECRUITMENT IN THE EUROPEAN NUCLEAR SECTOR	Thomas, C. (1) 1 - Thomas Thor Associates, Netherlands

Plant Operations

ENC2012-A0016	SOLUTION FOR REPAIRING LEAKS ON NUCLEAR LINER POOLS	Puaux, B. (1) 1 - COMEX NUCLEAIRE, France
ENC2012-A0022	SENSITIVITY STUDIES ON EARLY HPCI INJECTION AND INCREASED RCIC FLOW IN THE SBLOCA COMBINED SBO ACCIDENT WITH TRACE CHINSHAN MODE	Chen, C.-Y. (1); Shih, C.-K. (1); Wang, J.-R. (2); Lin, H.-T. (2) 1 - Institute of Nuclear Engineering and Science, National Tsing Hua University, Taiwan 2 - Institute of Nuclear Energy Research, Taiwan



ENC2012-A0049	EVALUATION OF THE IMPACT OF NEUTRON FLUX NOISE FOR THE OPERATION OF GERMAN PWR AT FULL POWER	Kraus, W. (1); Mühle, A. (1) 1 - TÜV NORD Nuclear c/o TÜV NORD EnSys Hannover GmbH & Co. KG, Germany
ENC2012-A0073	OPERATIONAL BENEFITS AND LESSONS LEARNED DURING THE INTRODUCTION TO INTO SERVICE OF THE NEW IP-2 TRANSPORT PACKAGING FOR A AGR GAS CIRCULATOR	Holden, G. (1) 1 - Onet technologies UK ltd, United Kingdom
ENC2012-A0083	TIRANT 3® ARC SPRAY ROBOT SYSTEM FOR REPAIRING NUCLEAR POWER PLANT STEAM PIPES	Ruiz Martinez, J. T. (1); Soto Tomas, M. (1); Pineda, S. (2); Vaquer, J. I. (3) 1 - LOGÍSTICA Y ACONDICIONAMIENTOS INDUSTRIALES S.A.U, Spain 2 - REVANTI S.L, Spain 3 - TITANIA S.L, Spain
ENC2012-A0108	RODLINE: THE FIFTH-GENERATION ROD CONTROL SYSTEM (RCS) FROM ROLLS-ROYCE	Desgeorge, R. (1); Pouillot, M (1) 1 - Rolls-Royce Civil Nuclear SAS, France
ENC2012-A0109	BORONLINE: A NEW GENERATION OF BORON METER	Desgeorge, R. (1); Pirat, P. (1) 1 - Rolls-Royce Civil Nuclear SAS, France
ENC2012-A0110	PRESSURE TRANSMITTERS: ADDRESSING POST-FUKUSHIMA REGULATIONS AND REQUIREMENTS WITH BIBLOC TECHNOLOGY BY ROLLS-ROYCE	Desgeorge, R. (1); Fabbro, H. (1); Chowanek, M. (1) 1 - Rolls-Royce Civil Nuclear SAS, France
ENC2012-A0111	I&C LONG TERM SUPPORT SOLUTIONS : A DEDICATED SOLUTION TO MANAGE PLANT CONDITION, OPTIMIZE OPERATING LIFE AND MAXIMIZE PLANT VALUE WHILE IMPROVING SAFETY	Desgeorge, R. (1); Courouble, M.-P. (1) 1 - Rolls-Royce Civil Nuclear SAS, France
ENC2012-A0173	THE EFFECT OF BORIC ACID ON PRIMARY WATER COOLANT UNDER GAMMA-RAYS IRRADIATION UP TO 3000C	Sunaryo, G. R. (1) 1 - BATAN, Indonesia National Nuclear Energy Agency, Indonesia
ENC2012-A0199	APPLICATION OF TRACE TO RCS PRESSURE ANALYSIS UNDER ATWS FOR MAANSHAN PWR	Chen, C.-H. (1); Wang, J.-R. (2); Lin, H.-T. (2); Shih, C. (1) 1 - Institute of Nuclear Engineering and Science, National Tsing Hua University, Taiwan 2 - Institute of Nuclear Energy Research, Atomic Energy Council, Taiwan
ENC2012-A0213	MOST, A NEW TOOL FOR DYNAMIC RELIABILITY	Peeters, A. (1) 1 - ISIB, Belgium
ENC2012-A0225	PREDICTION OF HYDROGEN DISTRIBUTION AND PASSIVE CATALYTIC RECOMBINATION BY MEANS OF THE GOTHIC COMPUTER CODE	Lioce, D. (1); Barucca, L. (1); Alemberti, A. (1) 1 - Ansaldo Nucleare S.p.A. , Italy
ENC2012-A0263	EMERGENCY RESCUE KIT (ERK) FOR NUCLEAR PLANTS	Seipolt, T. (1); Mekiska, F. (2) 1 - NUKEM Technologies GmbH, Germany 2 - Unitec Engineering GmbH, Germany
ENC2012-A0299	ANISOTROPIC POROSITY COARSE-GRID-CFD FOR COMPUTATIONALLY INTENSIVE APPLICATIONS WITH REPETITIVE FLOW PATTERNS	Viellieber, M. (1); Class, A. (1) 1 - Karlsruhe Institute of Technology, Institute for Nuclear and Energy Technologies , Germany
ENC2012-A0318	CLUSTER ANALYSIS OF NUCLEAR PERFORMANCE TRENDS	Ghazy, R. (1); Ricotti, M. E. (1); Menafoglio, A. (1); Secchi, P. (1); Vantini, S. (1) 1 - Politecnico di Milano, Italy

New Build



ENC2012-A0027	MARKET DEMANDS AND NUCLEAR POWER IN THE UNITED KINGDOM IN THE EARLY YEARS OF TWENTY FIRST CENTURY	Anderson, G. (1); Lillington, J. (1) 1 - Serco Energy, United Kingdom
ENC2012-A0067	EPC COMPANIES AND NUCLEAR MARKET: USA CASE STUDY, IN HOUSE CAPABILITIES DEVELOPMENT	Locatelli, G. (1); Mancini, M. (2); Cocco, G. (2); Ruzzon, V. (2) 1 - University of Lincoln, School of Engineering, Faculty of Science, United Kingdom 2 - Politecnico di Milano, Dipartimento di Ingegneria Gestionale, Italy
ENC2012-A0068	EPC COMPANIES AND NUCLEAR MARKET: SOUTH KOREAN CASE STUDY, TECHNOLOGY TRANSFER	Locatelli, G. (1); Mancini, M. (2); Cocco, G. (2); Ruzzon, V. (2) 1 - University of Lincoln, School of Engineering, Faculty of Science, United Kingdom 2 - Politecnico di Milano, Dipartimento di Ingegneria Gestionale, Italy
ENC2012-A0071	IMPACT OF A EUROPEAN HIGH-GROWTH NUCLEAR ENERGY SCENARIO ON NUCLEAR RESOURCES, INFRASTRUCTURE AND GEOLOGICAL REPOSITORY FOOTPRINT	Hart, J. (1); Roelofs, F. (1); Van Heek, A. (1); Wakker, A. (1) 1 - NRG, The Netherlands
ENC2012-A0099	EUROPEAN RESEARCH COLLABORATION ON NEW GENERATION NUCLEAR POWER PLANTS – METROFISSION	Johansson, L. (1); Filtz, J.-R. (2) 1 - National Physical Laboratory, United Kingdom 2 - Laboratoire National de Métrologie et d'Essais, France
ENC2012-A0113	FLEXBLUE, A SMALL MODULAR SUBSEA NUCLEAR POWER PLANT	Kolmayer, A. (1); Perrier, S. (1); Valayer, M. (1); Briffod, F.-X. (1); Lecomte, C. (1); Baillet D'Estivaux, J. M. (1); 1 - DCNS, France
ENC2012-A0164	INTERNATIONAL HARMONISATION OF REQUIREMENTS TO NDT PERSONNEL QUALIFICATIONS, BY CORDEL'S CODES & STANDARDS TASK FORCE	Prinja, N. (1); Wasylyk, A. (2); Et, A. (3) 1 - AMEC - Chairman of WNA CORDEL Codes and Standards Task Force, United Kingdom 2 - World Nuclear Association (WNA), United Kingdom 3 - WNA CORDEL Codes and Standards NDE Qualification Expert Group, United Kingdom
ENC2012-A0219	INNOVATIVE SOLUTIONS FOR THE SAFETY OF NUCLEAR OBJECTIVES IN SEISMIC AREAS	Serban, V. (1); Androne, M. (1); Zamfir, M. (1); Ciocan, G. (1) 1 - Subsidiary of Technology and Engineering for Nuclear objectives, Romania
ENC2012-A0226	SPHINX®, INNOVATIVE SOLUTION FOR ENVIRONMENTAL PROTECTION IN CASE OF HAZARDOUS SUBSTANCE FIRE	Bois, D. (1); Jannot, F. (2); Billon, F. (2) 1 - COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES, France 2 - ONET TECHNOLOGIES, France
ENC2012-A0276	SUB - CRITICALITY MONITORING FOR ADTR™ CONTROL	Ashworth, R. (1) 1 - Jacobs UK Ltd., United Kingdom
ENC2012-A0312	CHUTE SILO – CONCEPT TO RETRIEVALS	Buck, G. (1) 1 - ATKINS, United Kingdom
ENC2012-A0324	OPTIMIZATION OF THE SAFETY CONSOLE DESIGN FOR APR+ NPP IN KOREA	Kim, K.-H. (1) 1 - KOREA ELECTRIC POWER COORPORATION ENGINEERING & CONSTRUCTION, Korea, Republic of
ENC2012-A0328	A NEW QUALITY STANDARD, CALLED NSQ-100, FOR A SAFER NUCLEAR INDUSTRY SUPPLY CHAIN	Gabin, E. (1) 1 - Bureau Veritas, France

Fuel Cycle



ENC2012-A0002	THE EFFECT OF TEMPERATURE AND STRESS ON HYDRIDE REORIENTATIONS OF HIGH BURNUP CLADDINGS UNDER INTERIM DRY STORAGE CONDITIONS	Kim, K.-T. (1); Kim, M.-S. (1); Min, S.-J. (1) 1 - Dongguk University, Korea, Republic of
ENC2012-A0025	TWO-DIMENTIONAL FUEL ROD THERMAL ANALYSIS	Wei, X. (1); Li, L. (1); Han, Y. (1); Liu, T. (1); Zhou, Y. (1) 1 - 13/F Jiangsu Building, Yitian Road, Shenzhen, China, China
ENC2012-A0040	ON-LINE QUANTITATIVE ANALYSES OF URANIUM IN THE MINING	Sokolov, A. (1); Haskikova, E. (1); Titov, V. (1); Rozite, A. (1) 1 - Baltic Scientific Instruments, Latvia
ENC2012-A0059	NNL PRESTON LABORATORY TECHNOLOGIES/PROCESSES FOR THE TREATMENT OF ORGANIC WASTES	Greenwood, H. (1); Docrat, T. (1); Allinson, S. (1); Coppersthaite, D. (1) 1 - National Nuclear Laboratory, United Kingdom
ENC2012-A0076	NOVEL INSPECTION DEVELOPMENTS REQUIRED TO UNDERPIN THE SAFE OPERATIONS OF SELLAFIELD NUCLEAR FUEL REPROCESSING PLANT	Armstrong, M. (1) 1 - National Nuclear Laboratory, United Kingdom
ENC2012-A0089	MODELLING OF PROCESSES IN RBMK-1500 FUEL RODS DURING THE OPERATION CYCLE AND SHORT AND INTERMEDIATE TERM STORAGE OF SPENT FUEL ASSEMBLIES	Uspuras, E. (1); Kaliatka, T. (1) 1 - Lithuanian Energy Institute, Lithuania
ENC2012-A0112	DYNAMIC ANALYSIS OF SYNERGISTIC DEEP BURN HIGH TEMPERATURE REACTORSCENARIO WITH FAST REACTOR	Jeong, C. J. (1); Jo, C. K. (1); Noh, J. M. (1) 1 - Korea Atomic Energy Research Institute, Korea, Republic of
ENC2012-A0152	FUEL ANALYSIS IN LBLOCA WITH CODE TRACE/FRAPTRAN	Chen, W. (1); Yang, J. (2); Shih, C. (1); Lin, H.-T. (3); Wang, J.-R. (3) 1 - Institute of Nuclear Engineering and Science National, Tsing-Hua University , Taiwan 2 - Department of Engineering and System Science, National Tsing-Hua University , Taiwan 3 - Institute of Nuclear Energy Research, Taiwan
ENC2012-A0184	THE APPROACH OF USED FUEL INTEGRITY EVALUATION DURING TRANSPORTATION AND STORAGE	Kim, S. (1); Lee, S. (1); Choi, B. (1); Choi, K. (1); Lim, C. (1) 1 - KEPCO Nuclear Feul Co., Korea, Republic of
ENC2012-A0188	HOW RECYCLING CAN HELP RESPOND TO FUKUSHIMA-DRIVEN REQUIREMENTS FOR USED FUEL SAFETY	Chiguer, M. (1) 1 - AREVA, France
ENC2012-A0242	TRANSPORTATION of NUCLEAR FUEL BUNDLES - 15 YEARS OF EXPERIENCE IN NUCLEAR FUEL PLANT PITESTI	Epure, G. (1); Olaru, V. (1); Ivana, T. (1) 1 - Nuclear Fuel Plant Pitesti, Romania
ENC2012-A0256	MECHANICAL AND THERMAL CHARACTERIZATIONS OF U-MO AND U-NB-ZR ALLOYS	Adorno, D. (1); Restivo, T. (1); Gomide, R. (1) 1 - Centro Tecnológico da Marinha em São Paulo, Brazil
ENC2012-A0268	DEVELOPMENT OF QUANTITATIVE ANALYTICAL METHOD OF U, PU AND FISSION PRODUCTS IN SPENT FUEL BY COMBINED CHROMATOGRAPHIC-MASS SPECTROMETRIC-ISOTOPIC DILUTION TECHNOLOGY	Uchiyama, G. (1); Ito, M. (1); Fukaya, Y. (1); Ueno, T. (1); Miyata, S. (1); Sonoda, A. (1); Usami, H. (1); Kawasaki, Y. (1); Sakatsume, K. (1); Kurosawa, T. (1); Suyama, K. (1); Tonoike, K. (1); Inagawa, J. (1); Umeda, T. M. (1); Magara, M. (1); Watanabe , K. (1); Yamamoto, T. (2) 1 - Japan Atomic Energy Agency, Japan 2 - JNES, Japan
ENC2012-A0272	BURN-UP BEHAVIOR OF PLUTONIUM FROM SPENT PARTIAL-MOX LWR FUEL IN FBR	Nakamura, T. (1); Kotoh, K. (1) 1 - Kyushu University, Japan
ENC2012-	MANUFACTURING AND MONTE CARLO	Göck, D. (1); Thumstädter, T. (1)



A0307	ANALYSIS	1 - TÜV SÜD Energietechnik GmbH Baden-Württemberg, Germany
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Life Science Applications

ENC2012-A0069	SELLAFIELD DOSE IMPACTS ON NON-HUMAN BIOTA	McDonald, P. (1); Copplestone, D. (2); Lutman, E. (1); Humak, S. (1); Stevens, A. (3) 1 - AMEC, Innovation Centre, United Kingdom 2 - Biological & Environmental Sciences, School of Natural Sciences, University of Stirling, United Kingdom 3 - Sellafield Ltd, United Kingdom
ENC2012-A0151	A PORTABLE GAMMA IMAGING SYSTEM DEDICATED TO THE DETECTION AND THE DIRECT VISUALIZATION OF HOT SPOTS (MAINLY 60CO) IN NUCLEAR POWER PLANTS	Gaillard-Lecanu, E. (1); Hameau, D. (1); Onillon, H. (1); Jahan, S. (1); Schoepff, V. (2); Carrel, F. (2); Gmar, M. (2); Maurer, J.-E. (3); Vénéra, J. (4); Mahé, C. (4); Lestang, M. (5); Arnette, A. (5) 1 - EDF R&D STEP, France 2 - CEA LIST, France 3 - EDF DPN/TRI, France 4 - CEA DEN DTEC, France 5 - EDF DPN/UNIE, France
ENC2012-A0224	CYTOGENETIC STUDIES OF THE LITTORAL MACROPHYTES FROM WATER-BODIES CONTAMINATED BY CHERNOBYL RADIONUCLIDESER.RU	Shevtsova, N. (1); Gudkov, D. (1) 1 - Institute of hydrobiology of National Academy of Science of Ukraine, Ukraine
ENC2012-A0291	CHRONIC EXPOSURE TO SIMULATED SPACE CONDITIONS AFFECTS GENE EXPRESSION IN MOUSE FETAL FIBROBLASTS	Beck, M. (1); Moreels, M. (1); Quintens, R. (1); Abou-el-Ardat1, K. (1); Tabury, K. (1); Michaux, A. (1); Janssen, A. (1); Neefs, M. (1); Van Oostveldt, P. (2); De Vos, W. (2); Baatout, S.(1) 1 - Radiobiology Unit, Belgian Nuclear Research Centre, SCK•CEN, Belgium 2 - Department for Molecular Biotechnology / NB photonics, Ghent University, Ghent, Belgium

Nuclear in the Civil Society

ENC2012-A0020	NUCLEAR MYTHOLOGY	Michel, A. (1) 1 - groupe Esperluete, Belgium
ENC2012-A0208	ROLE OF STRATEGIC TRADE CONTROL IN EUROPEAN AND INTERNATIONAL NUCLEAR NON-PROLIFERATION EFFORTS	Janssens, W. (1); Abbas, K. (1); Cojazzi, G. (1); Sevini, F. (1); Versino, C. (1) 1 - European Commission, Joint Research Centre, Institute for Transuranium Elements, Nuclear Security Unit, Italy
ENC2012-A0230	WHAT DRIVES PEOPLE'S (NON) ACCEPTANCE OF NUCLEAR? RESULTS FROM AN EMPIRICAL RESEARCH IN BELGIUM	Turcanu, C. (1); Perko, T. (1); Kermisch, C. (2) 1 - Belgian Nuclear Research Centre SCK•CEN , Belgium 2 - Université Libre de Bruxelles, Belgium
ENC2012-A0231	MEDIA ATTENTION TO NUCLEAR ACCIDENTS: FUKUSHIMA AS A CASE STUDY	Perko, T. (1); Turcanu, C. (1) 1 - Belgian Nuclear Research Centre SCK•CEN , Belgium
ENC2012-A0249	THE COLLABORATIVE PROJECT ON THE EUROPEAN SODIUM FAST REACTOR AND ITS PROLIFERATION RESISTANCE EVALUATION	Alim, F. (1); Cojazzi, G. G. M. (1); Renda, G. (1) 1 - EC, Joint Research Centre, Institute for Transuranium Elements, Italy
ENC2012-A0315	INDIA'S NUCLEAR ENERGY SECTOR: BUSINESS OPPORTUNITIES AND LEGAL	Kalra, K. (1) 1 - NLSIU, India

CHALLENGES

Non-power Industrial Applications

ENC2012-A0062	A EUROPEAN ²⁴¹ Am RADIOISOTOPE PRODUCTION FACILITY FOR POWER SOURCES IN SPACE	Sarsfield, M. (1); Bell, K. (1); Maher, C. (1); Carrott, M. (1); Gregson, C. (1); Brown, J. (1); Mason, C. (1); Woodhead, D. (1); Baker, S. (1); Cordingley, L. (1); Taylor, R. (1); Tinsley, T. (1); Rice, T. (1); Rhodes, C. (1); Clough, M. (1) 1 - National Nuclear Laboratory, United Kingdom
ENC2012-A0070	NEW DETECTOR, BASED ON 10B COATED PROPORTIONAL COUNTERS	M'rabet, F. (1); Rottner, B. (1) 1 - Onet technologies, France

Reactor Technologies

ENC2012-A0008	ASSESSMENT OF A STATION BLACK-OUT IN SPES3 FACILITY	Ferri, R. (1); Polidori, M. (1); Achilli, A. (1); Congiu, C. (1); Cattadori, G. (1); Luce, A. (1); Monti, S. (1); Bianchi, F. (1); Meloni, P. (2) 1 - SIET S.p.A., Italy 2 - ENEA, Italy
ENC2012-A0014	CFD SIMULATION OF REACTOR INTERNAL FLOW IN THE SCALED APR+	Lee, G. H. (1); Song, C. (1); Bang, Y. S. (1); Woo, S. W. (1); Kim, D.-H. (2); Kang, M.-K. (2) 1 - Korea Institute of Nuclear Safety, Korea, Republic of 2 - ANFLUX Inc., Korea, Republic of
ENC2012-A0046	OPENING SPEED OF A BUBBLE'S FILM AT THE FREE WATER SURFACE	Ma, C. (1); Bo, H. (1) 1 - Institute of Nuclear and New Energy Technology, Tsinghua University, China
ENC2012-A0047	NUMERICAL PREDICTION OF THE OUTCOMES OF BINARY-DROPLET COLLISION IN STEAM-WATER SEPARATOR	Zhang, H. (1); Bo, H. (1) 1 - Institute of Nuclear and New Energy Technology, Tsinghua University, China
ENC2012-A0148	STUDY OF THERE REGULATION METHODS OF COMMERCIAL PEBBLE-BED MODULAR HIGH TEMPERATURE GAS - COOLED REACTOR	Jiang, H. (1); Wang, J. (2) 1 - Institute of Nuclear and New Energy Techonology, Tsinghua University, China 2 - Institue of Nuclear and New Energy Technology, Tsinghua University, China
ENC2012-A0201	RE-DESIGN OF A NEW CONTROL ROD FOR LOW ENRICHED URANIUM-FUELED MINIATURE NEUTRON SOURCE REACTOR USING MONTE CARLO TRANSPORT CODE*	Ibrahim, Y. V. (1); Jonah, S. A. (1) 1 - Centre for Energy Research and Training, Ahmadu Bello University, Nigeria
ENC2012-A0216	PRESSURE IMPACT DUE TO BEAMTUBE RUPTURE IN RESEARCH REACTOR	Kang, K. J. (1); Jeong, N. G. (1); Kwon, Y. S. (1); Wu, S. I. (1); Yoon, J. H. (1) 1 - KAERI, Korea, Republic of
ENC2012-A0220	EVALUATION OF EXPERIMENTAL DATA ON CRITICALITY FOR URANIUM-ZIRCONIUM HYDRIDE SYSTEMS WITH 45% ENRICHED URANIUM-235	Sikorin, S. (1); Polazau, S. (1); Mandzik, S. (1); Palahina, Y. (1); Hryharovich, T. (1); Damarad, Y. (1) 1 - The Joint Institute for Power & Nuclear Research - SOSNY of the National Academy of Sciences of Belarus, Belarus
ENC2012-A0234	DEVELOPMENT OF A CFD CODE FOR REALISTIC ANALYSIS OF TWO-PHASE GAS AND DUST DETONATION INSIDE ITER FACILITY	Oton-Martinez, R. A. (1); Garcia-Cascales, J. R. (1); Vera-Garcia, F. (1); Velasco, F. J. S. (1); Bentaib, A. (2); Meynet, N. (2); Bleyer, A. (2) 1 - Universidad Politecnica de Cartagena, Spain 2 - Institut de Radioprotection et Surete Nucleaire, France
ENC2012-A0238	LIQUID-FILLED ACOUSTIC RESONATORS FOR SONOFUSION EXPERIMENTS -	Stokmaier, M. J. (1); Class, A. G. (1); Schulenberg, T. (1); Lahey jr., R. T. (2)



	SOLUTIONS TO THE DESIGN AND THE ALGORITHMIC OPTIMISATION PROBLEMS	1 - Institute for Nuclear and Energy Technologies (IKET), Germany 2 - Rensselaer Polytechnic Institute (RPI), MANE Dept., United States
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5 - JRC -Joint Research Centre- European Commission, Belgium

6 - CEA-LNHB Commissariat a l' Energie Atomique, France

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ENC2012-A0124	OPTIMIZED DETERMINATION OF THE RADIOLOGICAL INVENTORY DURING DIFFERENT PHASES OF DECOMMISSIONING	Beltz, D. (1); Hillberg, M. (1); Karschnick, O. (2) 1 - TÜV NORD Nuclear, c/o TÜV NORD EnSys Hannover GmbH & Co. KG, Germany 2 - Nuclear Licensing and Supervisory Authority of the Land Schleswig-Holstein, Germany
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ENC2012-A0313	BRADWELL FED TREATMENT PROJECT	Fowler, A. (1); Hall, J. (1) 1 - Atkins, United Kingdom