The U.S. Department of Energy / National Nuclear Security Administration's Office of Global Threat Reduction will host the "RERTR 2014 International Meeting on Reduced Enrichment for Research and Test Reactors." The International Atomic Energy Agency (IAEA) is supporting RERTR by hosting the event at the IAEA Vienna International Center (VIC) in Vienna, Austria from October 12-15, 2014. A technical tour is planned for October 16, 2014. The meeting is being organized by Argonne National Laboratory and Idaho National Laboratory and will be the 35th annual meeting in a series on the same general subject regarding conversion of reactors within the Global Threat Reduction Initiative.

Last modified: Oct. 08, 2014

Technical Program (Final)

This document is to be considered as FINAL. If there any adjustments to the Program because of the unavailability of presenters or the need for substitution of co-chairs, they will be announced at the RERTR-2014 International Meeting.

The Meeting Organizers:

Argonne NATIONAL LABORATORY

INL Idaho National Laboratory

RERTR-2014: 35th International Meeting on Reduced Enrichment for Research and Test Reactors

#	Session Title	Time	Paper Title	Presenter
Sunday, October 12 Registration: 3:00 – 6:00 pm, Vienna Marriott Hotel (Floor 1) Welcome Reception: 6:00 – 8:00 pm, Ballrooms A & B				
Monday, October 13 Meeting Room: IAEA M-Building (Level – M01) Conference Room M1				
	Opening and Welcome Jordi Roglans-Ribas	9:30 am	Welcome to the IAEA and RERTR-2014 International Meeting	J.C. Lentijo (IAEA)
1	**Global Progress in HEU Minimization** Chaired by J. Halse	9:45 am	1. NNSA's Role in HEU Minimization	A. Atkins (US-DOE NNSA)
			2. Conversion of ARGUS to Operation with LEU and IRT-3M LEU Fuel Qualification Progress	N. Arkhangelsky (SAEC-"Rosatom")
			3. Efforts Made for the Conversion of Ghana's MNSR to LEU Fuel	H.C. Odoi (NNRI)
			4. Analysis of Jamaican SLOWPOKE-2 Research Reactor for the Conversion from HEU to LEU Fuel	H. Dennis (ICENS)
			5. IAEA Activities in Support of HEU Minimization: 2014 Update	F. Marshall (IAEA)
			6. HERACLES - U-Mo Fuel Qualification in Europe	Y. Calzavara (HERACLES)
			7. U-Mo Monolithic Fuel Development for Conversion of High Performance Reactors	C. Landers (US-DOE NNSA)
12:15 pm Lunch Break				
2	**Fuel Utilization and Disposition** Chaired by N. Iyer	1:15 pm	1. Overview of Environmental Management Nonproliferation and Highly Enriched Uranium Minimization Mission Activities	E. DeLeon (US-DOE NNSA)
			2. Full Core Conversion and Operational Experience with LEU Fuel of the DALAT Nuclear Research Reactor	K.C. Nguyen (DALAT)
			3. Crossing the Finish Line: Ending Civil Use of HEU	M. Pomper (JMCNS)
			4. IAEA Cooperation with the RRRFR Programme: 2014 Update	S. Tozser (IAEA)
			5. Potential German Highly Enriched Uranium (HEU) Pebble Bed Fuel Disposition at SRS	M. Maxted (US-DOE SRS)
3:00 pm Coffee Break and Refreshments, M1 Poster Area				
3	**Poster Session I: HEU Minimization** Chaired by J. Holland	3:00 – 4:00 pm	1. Successful Operation of WWR-SM Research Reactor after Conversion to LEU Fuel	F. Kungurov (INP-UZ)
			2. Development of Low Enriched Uranium Targets for Mo-99 Production	A.L. Izhutov (SSC RIAR)
			3. Feasibility of Conversion to LEU-based Reactor Production of Mo-99	A.L. Izhutov (SSC RIAR)
			4. LEU Transition Core Optimization for the WWR-M Research Reactor in Ukraine	Y. Mahlers (INR)
			5. Brief History of MARIA Conversion From HEU to LEU	M. Migdal (NCNR)
			6. Construction of a New LEU Radioisotope Production Fission Plant in Argentina	D. Cestau (CNEA)
			7. Recovery of Uranium-Thorium from HTGR Fuel Using Salt-based Graphite Digestion	R. Pierce (SRNL)
4	**Perspectives on Fuel Development and Performance Issues** Chaired by S. Van den Berghe	4:00 pm	1. U.S. Progress in U-Mo Monolithic Fuel Development	M.K. Meyer (INL)
			2. Examination of High Uranium Density Research Reactor Fuel Performance and Endurance	G. Hofman (ANL)
			3. U.S. High Performance Research Reactor LEU Conversion Design Parameters	E.H. Wilson (ANL)
			4. Progress on the Development of U-Mo Fuel for Qualification in Korea	Y. J. Jeong (KAERI)
			5. Closing Nuclear Security Gaps: International Cooperation in LEU Fuel Development and HEU Minimization Norms	M.R. Burnett (PNNL)
5:30 pm Adjourn				

Tuesday, October 14 Meeting Room: IAEA M-Building (Level – M01) Conference Room M1				
5	**MNSR and Japan Conversions to LEU Operation** Chaired by J. Dix	8:30 am	1. GTRI Role in MNSR and Japan Conversions	B. Waud (US-DOE NNSA)
			2. The Physics Experimental Study for Prototype MNSR with LEU Core	Y. Li (CIAE)
			3. Status Report of Activities for the Core Conversion of Nigeria MNSR to LEU	S.A. Jonah (CERT)
			4. Utilization of Low-Enriched High Density Fuel at Dry Cores of Kyoto University Critical Assembly - Current Progress of the Feasibility Study	H. Unesaki (KURRI)
			5. Conversion of the KUCA "Type-A" Cores to LEU Fuel Preserving Reactivity and Central Flux Spectra	J.A. Morman (ANL)
10:00 am Coffee Break, M01 Coffee Corner *(Self-Hosted)*				
6	**High Performance Reactor Conversions** Chaired by E. Wilson	10:15 am	1. Safety Analysis of U-Mo LEU Fuel with Unfinned Cladding for the MIT Research Reactor	T. Newton (MIT)
			2. Continuing LEU Conversion Activities at the High Flux Isotope Reactor	D.G. Renfro (ORNL)
			3. Accident Analyses for the Conversion of the University of Missouri Research Reactor from Highly-Enriched to Low-Enriched Uranium	L. Foyto (MURR)
			4. Planning for the Conversion of the NIST Center for Neutron Research to LEU from HEU	D.S. O'Kelly (NIST)
			5. Enhanced Low-Enriched Uranium Fuel Element for the Advanced Test Reactor	S.R. Morrell (INL)
			6. Plasma Sprayed Zirconium for US HPRR LEU Conversion Fuel Diffusion Barrier	K. Hollis (LANL)
12:15 pm Lunch Break				
7	**Fuel Development – Irradiation Testing, PIE Analysis and Modeling** Chaired by H. Breitkreutz	1:15 pm	1. Design of the MP-1 Experiment for Irradiation in the Advanced Test Reactor	I. Glagolenko (INL)
			2. IVG.1M - LEU Fuel Test Plan	A.D. Vurim (IAE-NNC)
			3. SEM Characterization of U-7Mo Irradiated to High Fission Density at Relatively High Power, High Temperature, and High Fission Rate	D.D. Keiser (INL)
			4. Capabilities Developed for Measurement of Thermal Conductivity and Fission Gas Release of Irradiated Nuclear Fuels at PNNL	A.J. Casella (PNNL)
			5. Creep and Mass Relocation of U-Mo/Al Dispersion Fuel Meat During Mini-plate Irradiation	Y.S. Kim (ANL)
3:00 pm Coffee Break and Refreshments, M1 Poster Area				
8	**Poster Session II: Fuel Development and Fabrication** Chaired by J. Holland	3:00 – 4:00 pm	1. Ultrasonic Testing of Dispersion Type Fuel Miniplates Manufactured with Hydrided U-Mo Powder	M. Barrera (CCHEN)
			2. Characterization of Si-coated U-Mo Fuel Particles before and after Interaction Annealing	L. Olivares (CCHEN)
			3. Thermal Conductivity of In-pile Irradiated AFIP-1 Dispersion U-Mo Fuel	T. K. Huber (LANL)
			4. UAlx Plate Production: Analysis of Intermetallic Growth in UAl2/Al	B. Stepnik (AREVA-CERCA)
			5. Thermal Conductivity of U-Mo/Al Dispersion Fuel: Effects of Particle Shape and Size, Stereography, and Heat Generation	T.W. Cho (UNIST)
			6. Fabrication Procedures for Manufacturing UMo-Al Dispersion Fuel at IPEN	M. Durazzo (IPEN-CNEN)
			7. Metal Coating on Atomized U-Mo Particles to Suppress Interdiffusion between U-Mo/Al	J.M. Park (KAERI)
			8. Residual Stress Measurement for Highly Radioactive Samples	D.E. Dombrowski (LANL)
			9. Bonding Toughness Measurements in LEU Fuel Plates	D.E. Dombrowski (LANL)
			10. Intelligent Integrated Machining: Zr Thickness Measurements Using XRF for Process Control and Quality Assurance	D.E. Dombrowski (LANL)
			11. Heavy Ion Irradiation on U-Mo/Al Layer Systems: Dependence of IDL Thickness on Irradiation Temperature and Particle Flux	H. Breitkreutz (FRM2)
			12. Fuel Fabrication Process Optimization and Alternative Fabrication Development	D.M. Paxton (PNNL)

8	**Poster Session II** (Continued)		13. Design of a Full-Size Fuel Plate Irradiation for Monolithic Fuel Qualification	M. Meyer (INL)
			14. Xe irradiation on ZrN-coated U-Mo/Al dispersion fuel	Y.S. Kim (ANL)
9	**Russian-Designed Reactor Conversions** Chaired by V. Brusilovsky	4:00 pm	1. The Russian ARGUS Solution Reactor HEU-LEU Conversion: LEU Fuel Preparation, Loading and First Criticality	M. Sergey (NRC-KI)
			2. Current Status of Conversion at the WWR-K Research Reactor	A. Shaimerdenov (INP-KZ)
			3. Progress in Safety Assessment of the IR-8 Reactor During Conversion to LEU Fuel	Y. Pesnya (NRC-KI)
			4. HEU/LEU IGR Reactor Kinetics	R.A. Irkimbekov (IAE-NNC)
5:30 pm Adjourn				
Wednesday, October 15 Meeting Room: IAEA M-Building (Level – M01) Conference Room M1				
10	**Safety Analysis** Chaired by L.E. Kokajko	8:30 am	1. Comparative Safety Analysis of the MIR.M1 Reactor with Reference to Two Types of Low Enriched Fuel	A.L. Izhutov (SSC-RIAR)
			2. Analysis of Beyond Design Basis Accident for Conversion of IRT MEPhI Research Reactor to LEU Fuel	N.A. Hanan (ANL)
			3. Analysis of Beyond DBA Consequences of the IR-8 Reactor Primary Pipes Rupture during Conversion to LEU	A. Sidorenko (NRC-KI)
			4. Loss-of-Flow Simulations for the Conversion of BR2 to Low Enriched Uranium Fuel	J.R. Licht (ANL)
10:00 am Coffee Break, M01 Coffee Corner *(Self-Hosted)*				
11	**Fuel Development – Fabrication Technology** Chaired by C. Jarousse	10:15 am	1. Fabrication and Qualification of U_3Si_2 LEU Fuel Assemblies with Extrusion Technology for High Flux Reactor Petten	F.C. Klaasen (NRG)
			2. A Review of Fabrication Technologies for the MP-1 Experiment	D.E. Burkes (PNNL)
			3. Y-12 National Security Complex U-Mo Fabrication	H. Longmire (Y-12)
			4. LANL Progress on U-Mo Fuel Fabrication Process Development	D. Dombrowski (LANL)
			5. Protective Coatings for Long Term Wet Storage of Spent Aluminium-Clad Research Reactor Fuel	L. Ramanathan (IPEN)
			6. Performance and Fabrication Status of TREAT LEU Conversion Conceptual Design Concepts	I.J. van Rooyen (INL)
12:15 pm Lunch Break				
12	**Conversion Analysis and Methods** Chaired by Y. Calzavara	1:15 pm	1. IVG.1M Reactor Kinetics	R.A. Irkimbekov (IAE-NNC)
			2. Comparative Validation of Monte Carlo Codes for Conversion of IRT MEPhI Research Reactor to LEU Fuel	N.A. Hanan (ANL)
			3. Loss-of-Offsite-Power Simulations for the Conversion of RHF to Low Enriched Uranium Fuel	J.R. Licht (ANL)
			4. Evaluation of Numerical Methods for Transient Thermal-Hydraulic Reactor Analysis	P.L. Garner (ANL)
			5. Validation of the Fuel Plate Swelling Models used in the Multi-Physics Simulation of the E-FUTURE-1 Fuel Irradiation Experiment	A. Yacout (ANL)
3:00 pm Coffee Break and Refreshments, M1 Poster Area				
13	**Poster Session III: Conversion Analysis and Safety Licensing** Chaired by J. Holland	3:00 – 4:00 pm	1. Nigeria Research Reactor (NIRR-1) Conversion Programme Implementation - A Regulatory Approach	G. Omeje (NNRA)
			2. Practical Application of the Graded Approach on the Safety of NIRR-1 HEU to LEU Core Conversion	K.J. Adedoyin (NNRA)
			3. Vibration Diagnostics of Cooling Circuit in Maria Reactor Before and After Fuel Conversion from HEU to LEU	T. Krok (NCNR)
			4. Reversal of OFI and CHF in Research Reactors Operating at 1 to 50 Bar	B. Dionne (ANL)
14	4:00 pm **Summary and Closure** John Stevens (ANL) and Pablo Adelfang (IAEA)			
5:00 pm Adjourn				