

EHPG Sandefjord 2019

Technical Program - Fuel and Materials

			Monday May 20
0830-1130			Joint Opening Session Session Chair: Spencer Brown, FANR
	Paper No.:		
	01	Jon Kvalem, Halden Project: <i>“Welcome and Introduction”</i>	
	02	Yeonhee Hah, Head of Division of Radiological Protection and Human Aspects of Nuclear Safety, OECD NEA: <i>“Moving Forward: Human, Technology and Organization”</i>	
	03	Raymond Furstenau, Director of the Nuclear Regulatory Research US NRC: <i>“Change and Innovation in the Nuclear Industry”</i>	
	04	Katharina Stummeyer, Head of Project Management, Gesellschaft für Anlagen- und Reaktorsicherheit (GRS): <i>“Nuclear Safety Research in Germany – challenges and perspectives”</i>	
1010-1030		Coffee Break	
	05	Libing Zhu, Shanghai Nuclear Engineering Research and Design Institute (SNERDI): <i>“Type Driven Technology in SNERDI for Future Nuclear Industry”</i>	
	06	Gina Strati, Director of Energy Program, Canadian Nuclear Laboratories: <i>“SMRs in the Canadian Landscape”</i>	
1130-1300		Lunch	

1300 – 1545				Session F1: Plant Ageing and Degradation Session chair: M. Miklos, CVR / P-B. Hoffmann, FRAMATOME Session secretary: J-H. Hansen, HRP
1300-1325	F1.1	HWR-1236	T.M. Karlsen, Halden Project	Crack Growth Rate Investigations in BWR (IFA-791) and PWR (IFA-817) Conditions
1325-1350	F1.2		M. Ivanchenko, VTT, Finland	Microstructural Investigation of Secondary Phases Occurring In-pile Tested Austenitic Stainless Steels: 4 dpa CW 316 Ti, 5.9 dpa 304L and 9 dpa CW 316
1350-1415	F1.3		T.M. Karlsen, Halden Project	Results from the PWR Crack Initiation Study on Alloy 718, IFA-786
1415-1430				Coffee Break
1430-1455	F1.4		T.M. Karlsen, Halden Project	Results from the PWR Crack Initiation Study IFA-793
1455-1520	F1.5		M. Adamech, J. Petzova, M. Březina, M. Kapusňák, VUJE, Slovakia	Using of SPT method for estimation of mechanical properties changes of RPV steels after irradiation in the Halden reactor
1520-1545	F1.6		T.M. Karlsen, Halden Project	Follow-on Small Punch Test: irradiation and testing at external facilities
1600-1800				Demo Session
			K-M. Haugen, Halden Project	HRP Legacy Database MTO demos (see MTO programme for details)

				Tuesday May 21
0830 - 1320				Session F2: Cladding Performance and Behaviour Session chair: A. Alvestav, SSM / S. Watanabe, MNF Session secretary: V. Grišmanovs, HRP
0830-0855	F2.1	HWR-1240	R. Szőke, Halden Project	Cladding Corrosion under High Li Conditions (IFA-785) – in-pile testing and NDE
0855-0920	F2.2	HWR-1274	R. Szőke, Halden Project	Testing of Candidate Cladding Materials for Accident Tolerant Fuel IFA-796 – in-pile testing and NDE

0920-0945	F2.3		K. Okamoto, MNF, Japan/ Halden Project T. Tverberg, Halden Project	Update on the PWR Cladding Creep Test IFA-741
0945-1000				Coffee Break
1000-1025	F2.4		X. Gong, Y.Ding, SNERDI, China	Review and Modeling of HRP Fuel Cladding Creep Tests under Load Changes
1025-1050	F2.5		K. Geelhood, PNNL, USA	Modelling Creep Tests IFA-699 and IFA-741 with FAST Fuel Performance Code
1050-1115	F2.6		J-H. Hansen, Halden Project	Fuel Cladding Behavior in Dry Storage IFA-803 – preparations and plans
1130-1230				Lunch
1230-1255	F2.7		F. Nindiyasari, P. Ter Pierick, D. Boomstra, A. M. Pandit, NRG, The Netherlands	Optimization of the ring tensile setup as a proof of principle for hotcell
1255-1320	F2.8		M. Kolluri, T. Bakker, A. de Jong, F. Nindiyasari, NRG, The Netherlands	Characterization of mechanical properties of pellet cladding interface
1330-1700				Session F3: LOCA Session chair: O. Marchand, IRSN / J. Zhang, Tractebel Session secretary: S. Nøvik / M. Lindell, HRP
1330-1355	F3.1	HWR-1260	C. Esnoul, EDF, France/Halden Project	IFA-650.16 In-pile results
1355-1420	F3.2	HWR-1268	P. Andersson, Uppsala University, Sweden	Inspection of LOCA Test Rod IFA-650.16 Using Gamma Emission Tomography
1420-1445	F3.3	HWR-1241	H. Jenssen, Halden Project	Non-Destructive Post Irradiation Examination (PIE) of IFA-650.16, rod 16 after LOCA testing performed in the Halden Reactor
1445-1510	F3.4	HWR-1256	V. Andersson. Presented by C. Esnoul EDF, France/Halden Project	Metallography in Balloon Region of M5 Rod Tested in IFA-650.15
1510-1530				Coffee Break

1530-1555	F3.5		C. Struzik, CEA, France, J. Karlsson, Studsvik, Sweden, X. Haller, Framatome, France, B. Baurens, EDF, France	IFA-650.15 and Studsvik counterpart test analysis by the fuel performance code ALCYONE
1555-1620	F3.6		J. Zhang, Tractebel, ENGIE, Belgium; M. Veshchunov, IAEA, Austria	IAEA FUMAC fuel rod code benchmark, uncertainty and sensitivity analysis on the Halden LOCA
1620-1700	F3.7		B. Volkov, Halden Project	Hot cell LOCA test planned for the VVER rod tested in IFA-789
1600-1800				<i>Demo Session</i>
			K-M. Haugen, Halden Project	HRP Legacy Database MTO demos (see MTO programme for details)

				Wednesday May 22
0830 - 1345				Session F4: Fuel Behaviour Testing and Modelling Session chair: Y. Long, Westinghouse Session secretary: K. Okamoto / C. Esnoul, HRP
0830-0855	F4.1	HWR-1269	J. Heikinheimo and V. Tulkki, VTT, Finland	Fission gas release in VVER large grain fuel in IFA-676 experiments
0855-0920	F4.2		J. Julien, C. Bassi, A. Bouloré, C. Struzik, CEA, B. Baurens, EDF, C. Delafoy, FRAMATOME, France	Analysis of IFA-716-6 tests results using the ALCYONE fuel code
0920-0945	F4.3		G. Pastore, J.D. Hales, INL, USA, Y. Che, K. Shirvan, MIT, USA	Simulation of Cr ₂ O ₃ -doped Fuel Tests in IFA-677 and IFA-716 using Bison
0945-1010	F4.4	HWR-1270	K. Okamoto, MNF, Japan/ Halden Project	Fission gas release from Cr-doped fuel in IFA-720.3
1010-1030				<i>Coffee Break</i>
1030-1100	F4.5	HWR-1266	W. Wiesenack, Halden Project	Analysis of IFA-677 nuclear heating data with respect to fuel thermal conductivity degradation
1100-1120	F4.6	HWR-1271	Y. Udagawa, JAEA, Japan T. Tverberg, Halden Project	In-pile densification of Gd fuel in the fuel creep test IFA-795

1130-1230				Lunch
1230-1255	F4.7		C. M. Petrie, J. Burns, A. Raftery, A. Nelson, K. Terrani, ORNL, USA	Separate Effects Miniature Fuel Irradiation Testing to Support Fuel Safety
1255-1320	F4.8		P. Xu, E. Lahoda, F. Boylan, Global ATF Technology, Westinghouse, USA	Westinghouse EnCore® Accident Tolerant Fuel Program and Irradiation Testing Update
1320-1345	F4.9		D-J. Kim, D. S. Kim, S-C. Jeon, K. S. Kim, J. H. Kim, J-H. Yoon, J. H. Yang, KAERI, Korea	Development Status of Microcell and Microplate UO ₂ Pellets for ATF
1345-1400				Coffee Break
1400-1730				Session F5: HRP Legacy Database Session chair: Glynn Rossiter, NNL Session secretary: B. Volkov / T. Tverberg, HRP
1400-1425	F5.1	HWR-1237, HWR-1264	K-M. Haugen, Halden Project	Project, workshop and goals
1425-1450	F5.2		P. Kvalvik, Halden Project	Data lake technology
1450-1515	F5.3		B. Volkov, F. Brodal, T. M. Karlsen, Halden Project	Supplemental data for the HRP legacy database
1515-1530				Coffee Break
1530-1600	F5.4	HWR-1263	W. Wiesenack, Halden Project	Modifications to IFA-677 data conversion
1600-1630	F5.5		W. Wiesenack, Halden Project	Verification and improvement of test data for the HRP Legacy Data Base
1630-1715	F5.6		P. Kvalvik, T. Tverberg, Halden Project	Data lake demonstration

				Thursday May 23
0900 - 1620				Session F6: Irradiation Facilities and In-pile Testing Session chair: T. Ivanova, OECD NEA / K-M. Haugen, HRP Session secretary: T. M. Karlsen / R. Szőke, HRP
0900-0910			K-M. Haugen, Halden Project	Introduction
0910-0940	F6.1		T. Ivanova, OECD NEA, France	New NEA Framework for In-pile Fuels and Materials Testing
0940-1000	F6.2		M-C. Anselmet-Vitiello, CEA, France	Implementation of a challenging fuel experimental program in the frame the FIDES new initiative in the post Halden era: The P2M (Power to Melt and Maneuverability) Joint Project
1000-1015				Coffee Break
1015-1035	F6.3		S. Van den Berghe, SCK-CEN, Belgium	BR2 reactor at SCK-CEN, Belgium
1035-1055	F6.4		A.A. Tuzov, A.L. Izhutov, A.L. Petelin, A.V. Burukin, V.A. Ovchinnikov, Jsc "Ssc Riar", Russian Federation	Experimental Capabilities of The Mir.M1 Reactor To Test LWR Advanced Fuel
1055-1115	F6.5		F. Klaassen, NRG, Netherlands	The High Flux Reactor Petten; irradiation capabilities and experience
1130-1300				Lunch
1300-1320	F6.6		M. Mikloš, J. Šoltés, CVR, Czech Republic	LVR-15 as a reactor valuable for HRP community
1320-1340	F6.7		D. M. Wachs, INL, USA	Overview of TREAT commissioning tests and plans for fuel safety research
1340-1440	F6.8		Halden Project	Feasibility studies for possible future in-pile irradiations
1440-1510				Coffee Break
1510-1620			K-M. Haugen, Halden Project	Panel discussion / concluding remarks