

EHPG Lillehammer 2017

Technical Program Fuel and Materials

				Monday September 25
0830 - 1200	Paper No.:			Joint Opening Session Session Chair: J. Hartung (GRS)
	01		Margaret McGrath, Halden Project: <i>Welcome and Introduction</i>	
	02		Nils Morten Huseby, IFE: <i>Status and future plans for the Halden Reactor</i>	
	03		Ho Nieh, OECD NEA, France <i>Nuclear Safety Research Focus and Priorities</i>	
	04		Victor McCree, USNRC, USA <i>The View Over the Horizon: Looking Ahead at Nuclear Power</i>	
	05		N. Sekimura, University of Tokyo, Japan <i>Materials and their Systems for Continuous Improvement of Nuclear Safety</i>	
	06		Glyn Rossiter, NNL, UK <i>New build and new R&D in the UK: an update</i>	
	07		Meera al Mheiri, FANR, UAE <i>Progress of the UAE Nuclear Power Programme - Regulators Perspective</i>	

1200 – 1330				Lunch
1330 – 1720				Session F1: Accident Tolerant Fuels and Advanced Reactor Technologies Session chair: C. Delafoye (AREVA), K. Terrani (ORNL) Session secretary: S. Holcombe
1330-1355	F1.1		R. Szóke, Halden Project	Initial results from the accident tolerant cladding test IFA-796
1355-1420	F1.2		H-G. Kim, I-H. Kim, Y-L. Jung, D-J. Park, J-H. Park, B-K. Choi, Y-H. Lee, J-H- Yang, KAERI, Korea	Performance Evaluation of Surface Modified-Zr Cladding Concept for Accident Tolerant Fuel
1420-1445	F1.3		J.C. Brachet, M. Dumerval, V. Lezaud-Chaillieux, M. Le Saux, F. Lomello, F. Schuster, C. Bassi, H. Palancher, F. Delage, P. Bossis, CEA, France, J. Bischoff, C. Delafoye, AREVA, France, E. Pouillie, EDF, France	Behaviour of Enhanced Accident Tolerant Chromium Coated Zirconium Alloys Claddings
1445-1510	F1.4		P. Xu, J. Wright, E. Lahoda, J. Romero, S. Middleburgh, H. Shah, F. Boylan, R. Oelrich, Global ATF Technology, WEC	Westinghouse Accident Tolerant Fuel Materials
1510-1540				Coffee break
1540-1605	F1.5		J. D. Hales, K. A. Gamble, INL, USA	Modeling Advanced Technology Fuels
1605-1630	F1.6		B. Hallbert, D. Hurley, P. Calderoni, L. Aageson, I. van Rooyen, INL, USA	In-Pile Instrumentation Initiative: A Multidisciplinary Scientific Approach for Characterization of Fuels and Materials
1630-1655	F1.7		D-J. Kim, K-S. Kim, D-S. Kim, J-S. OH, J-H. Kim, J-H. Yang, Y-H. Koo, KAERI, Korea	Irradiation Test Status of Microcell UO2 Pellets for ATF in Halden Research Reactor
1655-1720	F1.8		C. M. Petrie, J. Burns, R. Morris, K. A. Terrani, ORNL, USA	Miniature Fuel Irradiations in the High Flux Isotope Reactor
1600-1830				Demo and Display Session
				Display of instrumentation used in HBWR experiments MTO demos (see MTO programme for details)

				Tuesday September 26
0830 - 1135				Session F2: LOCA Session chair: M. Bales (USNRC), P-B. Hoffmann (AREVA) Session secretary: W. Beere, L. A. Moen
0840-0905	F2.1	HWR-1204	B. C. Oberländer, H. K. Jenssen, Halden Project	PIE on a pre-irradiated PWR fuel segment LOCA-tested in IFA-650.15 (part of the Halden / Studsvik LOCA counterpart tests)
0905-0930	F2.2	HWR-1205	P. Andersson, Uppsala University, S. Holcombe, T. Tverberg, Halden Project	Quantitative Gamma Emission Tomography Inspection of LOCA rod IFA-650.15
0930-0955	F2.3		J. Zhang, A. Dethioux, T. Drieu, B. Quivy, C. Schneidesch, Tractabel, Belgium	Statistical Uncertainty and Sensitivity Analysis on the FRAPTRAN-TE-1.5 Modelling of the Halden LOCA Tests IFA-650.9 and IFA-650.10
0955-1020	F2.4		C. Esnoul, Halden Project	In-core results from the PWR LOCA test IFA-650.16
1020-1045				Coffee break
1045-1110	F2.5		R. L. Williamson, G. Pastore, B. W. Spencer, J. D. Hales, INL, USA, T. Tverberg, Halden Project	BISON Validation for LOCA and PCMI Behaviour Using Measurements From the Halden Reactor Project
1110-1135	F2.6		J. McDuffee, N. Patel, J. Carbajo, D. Felde, ORNL, USA	Operational Possibilities of a Thermosyphon Facility for Fuels and Materials Irradiation
1135-1200	F2.7		Z. Hózer, I. Nagy, N. Vér, R. Farkas, MTA, Hungary	Simulation of Loss-of-Coolant Accidents in the CODEX Integral Test Facility
1200 – 1330				Lunch
1330 - 1600				Session F3: Fuel Behaviour Testing and Modelling I Session chair: Z. Hozer (MTA), J. Klouzal (UJV) Session secretary: R. Szóke
1340-1405	F3.1		T. Tverberg, Halden Project	Continued irradiation of 4 rods from IFA-716
1405-1430	F3.2	HWR-1555	H. K. Jenssen, Halden Project	Post irradiation examination (PIE) on the six test rods from the fission gas release (FGR) test IFA-716
1430-1455	F3.3		I. Arimescu, T. Davis, AREVA, USA	Analysis of IFA-677 and IFA-716 tests results by using RODEX4 fuel code
1455-1520	F3.4		J. Klouzal, V. Matocha, M. Dostál, ÚJV, Řež, M. Mikloš, CV Řež, Czech Republic	Application of HRP data in fuel performance modelling at UJV Rez

1520-1545	F3.5	HWR-1154	H. K. Jenssen, Halden Project	Post irradiation examination (PIE) on the gadolinia fuel segments from the fission gas release (FGR) test in IFA-720.2
1600-1900				<i>HPG meeting (HPG members only)</i>
1600-1900				<i>Demo and Display Session</i>
				Display of instrumentation used in HBWR experiments MTO demos (see MTO programme for details)
				Wednesday September 27
0830 - 1200				Session F4: Plant Lifetime Extension Session chair: M. Hiser (USNRC), M. Brezina (VUJE, a.s.) Session secretary: J.-H. Hansen
0840-0905	F4.1	HWR-1209	T.M. Karlsen, Halden Project	Results from the PWR Crack Initiation Study IFA-786
0905-0930	F4.2		T.M. Karlsen, Halden Project	Initial Results from the PWR Crack Initiation Study IFA-793
0930-0955	F4.3		K. Heckmann, J. Sievers, GRS, Germany	Integrity Assessment of Piping with the PROST code
0955-1020	F4.4		M. Ivanchenko, U. Ehrnsten, VTT, Finland, T.M. Karlsen, Halden Project	Microstructural characterization of the 4 dpa CW 316 Ti SS sample (HP1-9) and the 5.9 dpa 304L SS and 9 dpa CW 316 SS from IFA-718
1020-1045				<i>Coffee break</i>
1045-1110	F4.5		M. Březina, M. Hajas, J. Petzová, VUJE, Slovakia	Mechanical properties of VVER-440 reactor pressure vessel steels after irradiation in the Halden reactor
1110-1135	F4.6		M. Kolluri, H. Nolles, F. J. Frith, NRG, Netherlands, Z. Szaraz, O. Martin, P. Hähner, JRC Petten, Netherlands, V. Petrosyan, A. Petrosyan, ARMATOM, Armenia, G. Sevikyan, ANPP, Armenia	Investigation of long term aged VVER-440 Reactor Pressure Vessel steel for safe Long Term Operation
1135-1200	F4.7		T.M. Karlsen, Halden Project	Initial Results from the BWR Crack Growth Rate Study IFA-791
1200 – 1330				<i>Lunch</i>
1330 - 1420				Session F4: Plant Lifetime Extension (cont) Session chair: M. Hiser (USNRC), M. Brezina (VUJE, a.s.) Session secretary: J.-H. Hansen
1330-1355	F4.8		R. Van Nieuwenhove, Halden Project	On-line material creep results from IFA-744

1355-1420	F4.9		Y. Le Pape, T. M. Rosseel, A. B. Giorla, ORNL, USA, M. Sircar, USNRC, USA, I- Maruyama, Nagoya University, Japan	Effects of Irradiation on Concrete
<i>TABLED</i>	F4.10	HWR-1196	K. Hata, JAEA, Japan	Summary of results from integrated time-to-failure study IFA-733
1420 - 1625				Session F5: Fuel and Cladding Performance Session chair: H. Teshima (MNF), J. Wright (Westinghouse) Session secretary: P. Szabo
1420-1445	F5.1		N. Kitashiba, Halden Project	Latest results from the cladding creep test IFA-741
1445-1510	F5.2	HWR-1195	R. Szóke, Halden Project	Results from the first interim inspection of the PWR cladding corrosion test IFA-785
1510-1535	F5.3		B.C: Oberländer, Halden Project, V. E. Shestak, IBRAE, Russia, M. S. Veshchunov, IAEA	Analysis of Fuel Clad Double-Side Oxidation and Secondary Hydriding under LOCA Conditions in IFA-650.2 Test in Framework of IAEA CRP "FUMAC"
1535-1600	F5.4	HWR-1156	H. K. Jenssen, R. Szóke, A. Palencsár, Halden Project	PIE results and mechanistic interpretation of on-line EIS data from the cladding corrosion test IFA-731
1600-1625	F5.5		J-H. Hansen, Halden Project	Design of and initial results from the test on fuel cladding behaviour in dry storage, IFA-803
1630-1900				Atomic games

				Thursday September 28
0900 - 1200				Session F6: Fuel Behaviour Testing and Modelling II Session chair: B. Baurens (EDF), G. Rossiter (NNL) Session secretary: N. Kitashiba, Y. Udagawa
0905-0930	F6.1	HWR-1208	S. Holcombe, Halden Project	Gamma Measurements on HBWR Driver Fuel Rods for use in the IFA-803 Fuel Dry Storage Test
0930-0955	F6.2	HWR-1197	T. Ikonen, VTT, Finland	Summary of observed fission gas release behaviour in selected experiments performed at the Halden Reactor Project
0955-1020	F6.3		G. Pastore, C. P. Folsom, R. L. Williamson, J. D. Hales, INL, USA, L. Luzzi, D. Pizzocri, T. Barani, Polimi, Italy	Modeling Fission Gas Behavior with the BISON Fuel Performance Code
1020-1045				Coffee break

1045-1110	F6.4	HWR-1152	H. K. Jenssen, Halden Project	Post Irradiation Examination (PIE) of the high burnup MOX fuel disks from IFA-629.7 and IFA-629.8
1110-1135	F6.5		K. D. Johnson, Studsvik, Sweden	Post Irradiation Examination and Waste Treatment of Accident Tolerant Fuel Concepts
1135-1200	F6.6		K. Geelhood, PNNL, USA	Recent Features Added to FRAPCON to Allow Accurate Modelling of Halden Tests
1200 – 1330				Lunch
1330 - 1700				Session F6: Fuel Behaviour Testing and Modelling II (cont) Session chair: B. Baurens (EDF), G. Rossiter (NNL) Session secretary: N. Kitashiba, Y. Udagawa
1340-1405	F6.7	HWR-1091	H. K. Jenssen, Halden Project	Post Irradiation Examination (PIE) of four UO ₂ VVER-1000 fuel rods from IFA-676
1405-1430	F6.8		Y. Udagawa, Halden Project	Initial results from the fuel creep test IFA-795
1430-1455	F6.9		V. Grismanovs, T. Tverberg, Halden Project	Update on the fuel thermal conductivity experiment in IFA-744
1455-1520	F6.10		K. Terrani, M. Cinbiz, ORNL, USA, W. Wiesenack, Halden Project, S. Yagnik, EPRI, USA	Preliminary Results from IFA-744 Fuel Thermal Conductivity Analysis
1520-1545				Coffee break
1545-1610	F6.11	HWR-1203	H. K. Jenssen, Halden Project	Post irradiation examination (PIE) on the MDA fuel segments from overpressure testing in IFAs 610.12 and 610.13
1610-1635	F6.12		V. V. Novikov, V. I. Kuznetsov, P.G. Demianov, JSC VNIINM, Russia, B. Yu. Volkov, IFE, Norway	E110 cladding fuel rod lift-off experiment verification with START-3A code
1635-1700	F6.13		P. R. Hania, D. A. Boomstra, O. Benes, P. Soucek, A. J. de Koning, I. Bobeldikj, S. de Groot, M. Najj, R. J. M. Konings, E. D'Agata, E. Capelli, A. L. Smith, J. L. Kloosterman, NRG/JRC/TUD, Netherlands	Molten salt irradiation tests at the HFR Petten and issues related to molten salt waste
TABLED	F6.14	HWR-1202	B. Volkov, Halden Project	Final report on the irradiation of Gd doped VVER fuel in IFA-676