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Mr. Christophe Davies (European Commission)	One electronic copy submitted via participant portal	
All consortium members and European Commission	One electronic copy available on the restricted area and the public part of the FIRST- Nuclides webportal	

Tuesday, 5th November 2013

Place: Radisson Blue Astrid Hotel, Antwerp, Belgium

14:00-15:00 **ExCom meeting**

15:00-15:15 **Welcome**

Bernhard Kienzler (KIT), Karel Lemmens (SCK·CEN)

WP1 plenary: Samples and tools

WP leader: Volker Metz (KIT)

15:15-15:35 **Introduction: overview of activities within WP1 + Characterization of PWR UOX fuel segments irradiated in the PWR Gösgen**

Volker Metz (KIT)

15:35-15:45 **Characterisation of commercial BWR spent fuel samples for IRF and oxygen diffusion studies**

Daniel Serrano-Purroy (JRC-ITU)

15:45-15:55 **Preparation of spent fuel samples for leach experiments and spectroscopic studies at PSI**

Annick Froideval Zumbiehl and Enzo Curti (PSI)

16:00-16:30 **-- Coffee Break --**

16:30-16:40 **SCK·CEN samples from Tihange 1 NPP: Status of the characterization**

Kevin Govers (SCK·CEN)

16:40-16:50 **Radiolytic corrosion of grain boundaries onto the UO₂ TRISO particle surface: solid characterization and irradiation cell development**

Ali Traboulsi (CNRS)

16:50-17:00 **Characterization and preparation of spent fuel samples at Studsvik**

Olivia Roth (STUDSVIK)

17:00-17:15 **Discussion on WP1 performance**



Topical session

17:15-18:00 **Evidence on spent fuel aging: gas behaviour and alpha-damage**

T. Wiss1, V.V. Rondinella, D. Staicu, Z. Talip, E. Maugeri, A. Janssen, J.-Y. Colle, O. Benes, R.J.M. Konings, P. Raison, D. Bottomley, P. Pöml, S. Bremier, D. Papaioannou, V. Di Marcello, P. Van Uffelen

Guided Tour

Wednesday, 6th November 2013

Place: Radisson Blue Astrid Hotel, Antwerp, Belgium

09:00-9:30 **Training activities**

9:00-9:10 **Summary of FIRST Nuclides lab meeting at PSI on March 18th and 19th 2013**

Enzo Curti, Annick Froideval Zumbiehl (PSI)

9:10-9:30 **WP5 – training activities summary**

Volker Metz (KIT/INE)

WP2 plenary: Gas release + rim and grain boundary diffusion

WP leader: Detlef Wegen (JRC-ITU)

9:30-9:45 **Introduction WP2**

Detlef Wegen (JRC-ITU)



Overview & Experimental determination of fission gas release

9:45-10:05 Determination of Gaseous Fission and Activation Products Released from 50.4 GWd/t PWR Fuel

E. Bohnert, E. González-Robles, M. Herm, B. Kienzler, M. Lagos, V. Metz (KIT)

10:05-10:25 Laser ablation experiments at Studsvik

O. Roth (Studsvik)

10:30-11:00 -- Coffee Break --

Rim and grain boundary diffusion

11:00-11:20 Oxygen and Water Diffusion into 42 GWd/tHM UO₂ Fuel under Reducing Conditions

P. Carbol (JRC-ITU)

11:20-11:40 Instant radionuclide release fraction of high burn-up spent nuclear fuel

H. Curtius, H.W. Müskes, N. Liek, M. Güngör, D. Bosbach (Jülich)

11:40-12:00 Impact of Water Radiolysis onto the UO₂ Corrosion

J. Vandenborre, A. Traboulsi, G. Blain, J. Barbet, M. Fattahi (CNRS)

13:00-14:30 -- Lunch --

Associated Group presentations

14:30-15:10 The characteristics and leaching behaviour of AGR spent fuel – an overview of current UK research

C. Padovani (NDA)

15:10-15:40 Corrosion Behaviour of AGR Simulated Fuels – Evolution of the Fuel Surface

N. Rauff-Nisthar (Lancaster University)



15:40-16:20 **Atomistic Modelling of AGR SIMFUEL**

M. Cooper (Imperial College London)

16:30-17:00 **-- Coffee Break --**

Other European Projects

17:00-17:30 **Project CAST - understanding the Carbon-14 Source Term in geological disposal**

C. Padovani (NDA)

17:30-18:00 **Project InSOTEC**

A. Bergmans (University of Antwerp)

19:00 **Workshop DINNER**

Thursday, 7th November 2013

Place: Radisson Blue Astrid Hotel, Antwerp, Belgium

WP3 plenary: Dissolution based release

WP leader: Karel Lemmens (SCK·CEN)

08:30-08:40 **Introduction: overview of activities within WP3**

Karel Lemmens (SCK·CEN)

8:40- 8:55 **Determination of dissolution rates for damaged and leaking VVER fuel stored in water**

Emese Slonszki and Zoltán Hózer (MTA)

8:55-9:10 **Corrosion test on commercial BWR UO₂ SNF for fast/instant radionuclide release studies: first results for cladded segment samples**

Rosa Sureda, Joan de Pablo, Frederic Clarens, Daniel Serrano-Purroy, Ignasi Casas, Daniel Serrano-Purroy, Laura Aldave de las Heras, Jean Paul Glatz, Vincenzo Rondinella (JRC-ITU + CTM)



- 9:10-9:25 **Effects of matrix composition on instant release fractions from high burnup nuclear fuel**
O. Roth (Studsvik)
- 9:25-9:40 **C-14 measurements**
Daqing Cui (Studsvik)
- 9:40-9:55 **Determination of the fission gas release in the segment N0204 and gas phase results of anoxic leaching experiment**
Ernesto Gonzalez-Robles, Volker Metz, Elke Bohnert, Bernard Kienzler (KIT/INE)
- 9:55-10:10 **Leaching tests for the experimental determination of irf radionuclides from belgian high-burnup spent nuclear fuel: overview of pre-test fuel characterization, experimental set-up and first results**
Thierry Mennecart, Karel Lemmens, Christelle Cachoir Adriaensen Lesley, Dobney Andrew (SCK·CEN)
- 10:10-10:25 **X-ray absorption spectroscopy of selenium in nonirradiated doped UO₂ and high burn-up spent uo₂ fuel**
E. Curti, A. Froideval Zumbiehl, I. Günther-Leopold, M. Martin, A. Bullemer, H.P. Linder, C.N. Borca, D. Grolimund, J. Rothe and K. Dardenne (PSI)
- 10:25-10:40 -- **Coffee Break** --

WP4 plenary: Modelling

WP leader: Joan de Pablo (CTM)

- 10:40-11:00 **General overview of WP4**
Joan de Pablo (UPC-CTM)
- 11:00-11:30 **Speciation of ¹⁴C in spent nuclear Fuel**
(KIT/INE)
- 11:30-12:00 **IRF modeling of high burn-up spent fuel cladded segments from leaching experiments**
(UPC-CTM)
- 12:00-12:30 **Linking spent fuel water saturation with instant/fast radionuclide release**
(AMPHOS21)



12:30-13:30 -- **L u n c h** —

WP5 plenary: Knowledge, reporting and training

WP leader: Alba Valls (AMPHOS21)

13:30-14:00 **WP5 plenary: Knowledge, reporting and training**

Alba Valls (AMPHOS21)

14:00-14:30 **Reporting by the Coordination Team**

Bernhard Kienzler (KIT/INE)

14:30-15:30 -- **C o f f e e B r e a k** --

14:40-15:30 **EUG meeting.**

(Restricted to EUG and ExCom members)

15:30-16:30 **General Assembly**

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