



FIRST-Nuclide

Fast / Instant Release of Safety Relevant Radionuclides from Spent Nuclear Fuel

Contract Number: 295722

FIRST-Nuclides 1st Annual Workshop Agenda



October 9th - 11th, 2012

Location: Radisson BLU Béke Hotel, Budapest, Hungary

Tuesday, 9th October 2012

Place: Radisson BLU Béke Hotel, Budapest, Hungary

14:30-15:30 **ExCom meeting**

15:30-16:30 **EUG meeting.**

(Restricted to EUG and ExCom members)

16:30-17:00 **-- C o f f e e B r e a k --**

Associated Group presentations

17:00-17:30 **Behaviour of UK Advanced Gas-cooled Reactor fuel in geological environments**

David Hambley_(NNL)

17:30-18:00 **Applicability of Past Spent Fuel Research in the US to a Salt-Based HLW Repository**

Donald Reed (Los Alamos)

18:00-18:30 **Source term modelling for spent fuel elements in performance assessment**

Artur Meleshyn_(GRS)

19:30-21:00 **Dinner**

Wednesday, 10th October 2012

Place: Radisson BLU Béke Hotel, Budapest, Hungary

08:30-09:00 **Welcome**

Bernhard Kienzler (KIT), Zoltán Hózer (EK)

WP1 plenary: Samples and tools

WP leader: Volker Metz (KIT)

09:00-09:20 **Introduction: overview of activities within WP1 + Description of fuel segment (50.4 GWd/tHM burn-up) studied at KIT-INE within FIRST-Nuclides**

Volker Metz (KIT)

09:20-09:30 **Non-destructive analysis of a PWR fuel segment with a burn-up of 50.4 GWd/tHM**

D.H. Wegen, D. Papaioannou, R. Nasyrow, R. Gretter (JRC-ITU)

09:30-09:40 **HTR spent fuel - selected material for FIRST-Nuclides**

Hilde Curtius (JÜLICH)

09:40-09:50 **Selection and description of spent fuel samples selected for PSI studies in frame of the FIRST Nuclides project**

A. Froideval Zumbiehl, E. Curti, I. Günther-Leopold (PSI)

09:50-10:00 **Characterisation of SCK-CEN fuel samples used for leach tests in FIRST-Nuclides project**

Karel Lemmens (SCK-CEN)

10:00-10:10 **Radiolytic corrosion of grain boundaries onto the UO₂ TRISO particle surface: Solid characterization and irradiation cells development**

Johan Vandenborre (CNRS)

10:10-10:20 **SNF selected for the FIRST Nuclides WP1**

R. Sureda, J. de Pablo, I. Casas, F. Clarens, D. Serrano-Purroy, P. Carbol, J.P. Glatz, D. Papaioannou, V. Rondinella (CTM-ITU)

10:20-10:30 **Characterisation of spent VVER-440 fuel to be used in the FIRST-Nuclides project**

Zoltán Hózer (EK)

10:30-10:40 **Sample Selection and Characterization at Studsvik**

Olivia Roth (STUDSVIK)

10:40-10:50 **Discussion on WP1 performance**

10:50-11:20 **-- C o f f e e B r e a k --**

WP2 plenary: Gas release + rim and grain boundary diffusion

WP leader: Detlef Wegen (JRC_ITU)

11:20-11:40 **Introduction & Sampling and Measurement of Fission Gas from Spent Nuclear Fuel**

D.H. Wegen, D. Papaioannou, W. de Weerd (JRC-ITU)

11:40-12:00 **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)

12:00-12:20 **Preparations and experimental start-up at Studsvik WP2**

Olivia Roth (STUDSVIK)

12:20-12:40 **Oxygen and Water Diffusion into 42 GWd/tHM UO₂ Fuel under Reducing Conditions**

P. Carbol, I. Marchetti (JRC-ITU)

12:40-13:00 **HTR Spent Fuel -Microstructure and Radionuclide Inventory**

H. Curtius_(JÜLICH)

13:00-14:30 **-- L u n c h --**

14:40-15:00 **Radiolytic Corrosion of Grain Boundaries onto the UO₂ TRISO Particle Surface**

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

Topical session

15:00-16:30 **Characteristics of Spent Nuclear Fuel**

Christoph Gebhardt, Wolfgang Goll (AREVA)

16:30-18:00 **The potential of the TRANSURANUS code for source term calculation of spent nuclear fuel**

Paul Van Uffelen (DG JRC)

19:00h **Workshop DINNER**

Thursday, 11th October 2012

Place: Radisson BLU Béke Hotel, Budapest, Hungary

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)

08:40-08:55 **Evaluation of activity concentration data measured at Paks NPP**

Zoltán Hózer and Emese Slonszki (*EK*)

08:55-09:15 **Overview of activities. Experimental set-up**

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

09:15-09:30 **Preparations and experimental start-up at Studsvik WP3**

Olivia Roth, Anders Puranen, Charlotta Askeljung (*STUDSVIK*)

09:30-09:45 **Characterization of 50.4 GWd/t PWR fuel and set-up of dissolution experiments**

E. González-Robles, B. Kienzler, A. Loida, N. Müller, V. Metz (*KIT/INE*)

09:45-10:00 **Concept of leach tests for the experimental determination of IRF radionuclides from Belgian high-burnup spent nuclear fuel in FIRST-Nuclides**

Thierry Mennecart, Karel Lemmens, Kevin Govers, Adriaensen Lesley, Christelle Cacho Dobney Andrew, Gysemans Mireille, Van Renterghem Wouter, Verwerft Marc (*SCK·CEN*)

10:00-10:15 **XRF/XAS feasibility study for radionuclides determination in spent fuel samples**

I. Günther-Leopold, E. Curti, A. Froideval Zumbiehl (*PSI*)

10:15-10:30 **Discussion of methods**

10:30-11:00 **-- C o f f e e B r e a k --**

WP4 plenary: Modelling

WP leader: Joan de Pablo (CTM)

11:00-11:20 **Summary of WP4 activities**

Joan de Pablo (*CTM*)

11:20-11:50 **Modelling of SF Saturation with Water (Approach, Preliminary Results and Potential Implications)**

Marek Peřala, Andrés Idiart, Lara Duro, Olga Riba (*AMPHOS21*)

11:50-12:20 **Modelling of boundary and initial conditions for upscaling migration / retention processes of fission products in the spent nuclear fuel structure**

Bernhard Kienzler, Chistiane Bube, Ernesto González-Robles Corrales and Volker Metz (*INE-KIT*)

12:20-12:50 **IRF modelling from high burn-up spent fuel leaching experiments**

Ignasi Casas (*UPC-CTM*)

12:50-13:00 **ITU activities in WP4**

(*ITU*)

13:00-14:30 **-- L u n c h --**

WP5 plenary: Knowledge, reporting and training

WP leader: Alba Valls (AMPHOS21)

14:30-15:00 **Status and overview of WP5**

Alba Valls (AMPHOS21)

15:00-15:30 **State of the art**

Lara Duro (AMPHOS21)

15:30-16:30 **Reporting by the Coordination Team**

16:30-17:00 **-- C o f f e e B r e a k --**

17:00-18:00h **General Assembly**