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| **Technical Meeting on Advanced Technology Fuels: Progress on their Design, Manufacturing, Experimentation, Irradiation, and Case Studies for their Industrialization, Safety Evaluation, and Future Prospects** | | | |
| **Vienna, VIC , Meeting Room: M BRA, M building** | | | |
| **28 October – 31 October 2025** | | | |
| **Ref. No.: EVT2404561** | | | |
| **PROGRAMME ( draft)** | | | |
| **Day 1 – 28 October (Tuesday)** | | | |
| **Opening Session** | | | |
| **10:00 (Vienna)** | 20m | Welcome from DIR-NEFW | **Ms Olena MYKOLAICHUK (DIR-NEFW, IAEA)** |
|  | Welcome from SH-NFCMS | **Mr Clement Hill (NFCMS)** |
| **10:20 (Vienna)** | 20m | Scientific Secretary’s introduction Purpose, scope, expectations and outcome of the meeting | **Ms Anzhelika Khaperskaia (TL/ NFE&FCF/ NFCMS, Scientific Secretary)** |
|  | Approval of the agenda, introduction of the Chairs of the Workshop, Chairs of the sessions | **Mr Jinzhao Zhang (Belgium) and Mr Martin Sevecek (Czech Republic) - co-chairs of the meeting** |
| **Technical Session I . Advances in ATF Materials and Manufacturing . Co- Chairs: Ms Nuria Doncel Gutierrez ( Spain), Mr Kan SAKAMOTO (Japan)** | | | |
| **10:40 ( Vienna)** | 30m | ATF CLADDING MATERIALS AND MANUFACTURING WITHIN IAEA ATF-TS CRP. | **Mr Martin SEVECEK (Czech Republic, CTU)** |
| **11:10 ( Vienna)** | 25 m | CURRENT STATUS OF DEVELOPMENT AND QUALIFICATION OF ADVANCED TECHNOLOGY FUEL (ATF) IN RUSSIA | **Mr Alexander RADOSTIN (Russia, TVEL)** |
| **11:35 (Vienna)** | 25m | DEVELOPMENT STATUS OF FECRAL-ODS CLADDED ACCIDENT TOLERANT FUEL FOR BWRS | **Mr Kan SAKAMOTO (Japan, Nippon Nuclear Fuel Development Co.)** |
| **12:00 (Vienna)** | 25m | RESEARCH PROGRESS AND PROSPECT OF CR COATED CLADDING USING IN CNNC | **Mr Yongjun JIAO (China, NPIC)** |
| **12:25 (Vienna)** | 25m | WESTINGHOUSE ENCORE® ACCIDENT TOLERANT FUEL AND HIGH ENERGY FUEL STATUS AND COMMERCIALIZATION | **Ms Jorie WALTERS (USA, Westinghouse Electric Company)** |
| **13:00-14:00** | | 60 m | **Lunch break** |  |
| **14:00 (Vienna)** | 25m | FRAMATOME PROGRAMS TO SUPPORT US PWR OPTIMIZATION | **Ms Lisa GERKEN (USA, Framatome)** |
| **14:25 (Vienna)** | 30m | Discussion on advances in ATF Materials and Manufacturing. The recommendations for future activities on the topic, including CRP | **All participants. Co-chairs of the sessions to lead** |
| **Session 2 - Experimental Testing of ATF Materials and Validation Database. Chairs: Mr Martin SEVECEK, Mr Robert Hansen** | | | |
| **15:00 (Vienna)** | 30m | SEPARATE EFFECT TESTS WITH ATF CLADDING MATERIALS WITHIN IAEA ATF-TS CRP | **Mr Martin SEVECEK (Czech Republic, CTU)** |
| **15:30 (Vienna)** | 30m | INTEGRAL TESTING OF ATF FUEL UNDER HIGH TEMPERATURE ACCIDENT CONDITIONS IN THE CODEX FACILITY | **Mr Zoltan HOZER (Hungary, EK)** |
| **16:00 (Vienna)** | 30m | **Coffee break** |  |
| **16:30 (Vienna)** | 25m | LEAD TEST RODS PROGRAM WITH CR-COATED CLADDING AT DOEL-4 | **Mr Jinzhao ZHANG (Belgium, Tractebel)**  **Ms Nuria DONCEL Gutierrez (Spain, ENUSA)** |
| **16:55 (Vienna)** | 25m | BEHAVIOUR OF BUNDLES WITH CR AND CR/CRN COATED ZR ALLOY CLADDING UNDER SIMULATING DESIGN EXTENTION CONDITIONS AT THE DEGREE FACILITY | **Mr Kinya NAKAMURA (Japan, CRIEPI)** |
| **17:20 (Vienna)** | 25m | ZIRCONIUM ALLOY CLADDING WITH CHROMIUM COATING: DIFFUSION-REACTION MECHANISMS AND STRUCTURAL DEGRADATION UNDER EXTREME TEMPERATURES | **Ms Lili LIU (China, NPIC)** |
|  |  | **Daily adjourn** | |
| **Day 2 – 29 October (Wednesday)** | | | |
| **09:00 (Vienna)** | 25m | INVESTIGATION OF THE TEMPERATURE-DEPENDENT FAILURE PROCESSES IN A PVD CR-COATED ZIRLO NUCLEAR FUEL CLADDING MATERIAL USING REAL-TIME X-RAY MICRO-TOMOGRAPHY IMAGING | **Mr Guanjie YUAN (UK, University of Oxford)** |
| **09:25 (Vienna)** | 25m | STUDY ON THE INTERDIFFUSION PERFORMANCE OF CR-ZR UNDER HIGH TEMPERATURE IN CR-COATED CLADDING | **Mr Liang HE (China, NPIC)** |
| **09:55 (Vienna)** | 25m | INTEGRAL IRRADIATIONS AND POST-IRRADIATION EXAMINATIONS OF ATF CONCEPTS PERFORMED AT IDAHO NATIONAL LABORATORY | **Mr Robert HANSEN (USA, INL)** |
| **10:30 (Vienna)** | 30m | **Coffee break** | |
| **11:00 (Vienna)** | 25m | CORROSION KINETICS OF AUSTENITIC STAINLESS STEEL UNDER WATER NORMAL OPERATION PWR CONDITION | **Ms Vanessa da Silva  (Brasil, Amazul S.A. - Iperó)** |
| **11:25 (Vienna)** | 25 | IAEA FUEL DATABASE | **Ms Anzhelika Khaperskaia (NFCMS, IAEA)** |
| **11:50 (Vienna)** | 25m | AN OVERVIEW OF CEA LOCA SEPARATE EFFECTS TESTING APPLIED TO CHROMIUM-COATED ZIRCONIUM ALLOY CLADDINGS | **Mr Ali CHARBAL, Jean-Christophe Brachet, Jean-Mathieu Vanson (France, CEA)** |
| **12:15 (Vienna)** | 30m | TESTING-SIMULATION OF PELLET-CLADDING MECHANICAL INTERACTION WITH ATF CLADDINGS | **Mr Márton Király, (Hungary, EK)** |
| **13:00 (Vienna)** | 90m | **Lunch break** |  |
| **14:30 (Vienna)** | 25m | HIGH-TEMPERATURE OXIDATION BEHAVIOUR OF CR/CRN MULTILAYER COATINGS ON ZR–NB ALLOY FOR ACCIDENT TOLERANT FUELS | **Mr Abdollah RIAHI (Iran, AEOI)** |
| **14:55 (Vienna)** | 30m | SEPARATE EFFECTS TESTS CONDUCTED WITH ATF FUEL CLADDING MATERIALS | **Mr Zoltán HÓZER, Mr Márton KIRÁLY (Hungary, EK)** |
| **15:25 (Vienna)** | 30m | Discussion on experimental testing of ATF materials and Validation Databases. The recommendations for future activities on the topic, including CRP | **All participants. Co-chairs of the sessions to lead** |
| **16:00 (Vienna)** | 30m | Coffee break |  |
| **Session 3 - ATF Modelling and simulation. Chairs: Mr Antoine BOULORÉ, Mr Paul VAN UFFELEN** | | | |
| **16:30 (Vienna)** | 30m | IAEA ATF BENCHMARK OF SINGLE FUEL ROD CODES FOR SIMULATION OF SELECTED SEPARATE EFFECTS TESTS | **Mr Antoine BOULORÉ (France, CEA)** |
| **17:00 (Vienna)** | 30m | IAEA ATF-TS BENCHMARK FOR SIMULATION OF BUNDLE TEST | **Mt Juri Stuckert (Germany, KIT)** |
| **17:30 (Vienna)** | 30m | MODELLING OF ATF MICRO-CELL UO2 FUEL BEHAVIOUR UNDER IRRADIATION Impact of thermal conductivity on expected thermal-mechanical behaviour under irradiation | **Ms Veronica D'AMBROSI (France, CEA)** |
| **18:00 – 20:00** |  | **Reception (Salon A-B)** |  |
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| **Day 3 – 30 October 2025 (Thursday)** | | | |
| **09:00 (Vienna)** | 25m | THE IPEN/CNEN (BRAZIL) CONTRIBUTION TO ATF-TS CRP | **Mr Alfredo ABE (Brazil, IPEN-CNEN/SP)** |
| **09:25 (Vienna)** | 25m | STATUS OF FUEL AND THERMAL HYDRAULIC COUPLED ANALYSIS IN KOREA | **Hyo Chan KIM (Korea, KAERI)** |
| **09:50 (Vienna)** | 25m | MANDREL TEST SIMULATION USING THE TRANSURANUS CODE: INSIGHTS FROM AN OFFERR PROJECT | **Pau Aragon Grabiel (JRC, Karlsruhe, Germany)** |
| **10: 15 (Vienna)** | 30m | **Coffee break** | |
| **10:45 (Vienna)** | 25m | FINITE ELEMENT SIMULATION OF MANDREL TEST WITH ATF CLADDING | **Mr Hamidreza YOUSEFI (Italy, Universita di Pisa) ?** |
| **11:10 (Vienna)** | 30m | Discussion on ATF Modelling and simulation. The recommendations for future activities on the topic, including CRP | **All participants. Co-chairs of the sessions to lead** |
| **Session 4- ATF Safety Analysis and Licensing Practices. Chairs: Ms Alice CHUNG , Mr Jinzhao ZHANG** | | | |
| **11:4 (Vienna)** | 30m | FUEL SAFETY EVALUATION METHODOLOGY FOR ATFS UNDER LOSS-OF-COOLANT ACCIDENTS | **Mr Jinzhao ZHANG (Belgium, Tractebel)** |
| **12:10 (Vienna)** | 25m | NRC’S RISK INFORMED APPROACH TO LICENSING | **Mr Scott KREPEL (USA, NRC)** |
| **12:35 (Vienna)** | 85m | **Lunch break** |  |
| **14:00 (Vienna)** | 25m | DEVELOPMENT OF A LOCA FUEL SAFETY EVALUATION METHODOLOGY FOR CR-COATED CLADDING ATF - TRACTEBEL CONTRIBUTION TO IAEA CRP ATF-TS (2021-2024). | **Mr Jinzhao ZHANG (Belgium, Tractebel)** |
| **14:25 (Vienna)** | 25m | TOWARDS RIA SIMULATIONS OF ATF FUEL IN LARGE AND SMALL MODULAR WATER-COOLED REACTORS BY MEANS OF TRANSURANUS” | **Mr Paul Van UFFELEN (JRC, Karlsruhe, Germany)** |
| **14:50 (Vienna)** | 25m | ADVANCEMENTS IN HYDROGEN-BASED TRANSIENT CLADDING STRAIN LIMITS TO SUPPORT ACCIDENT TOLERANT FUEL | **Mr Michael ORNER (USA, Westinghouse Electric Company LLC)** |
| **15:15 (Vienna)** | 30m | Coffee break |  |
| **15:45 (Vienna)** | 25m | SUMMARY OF NEA WORKING GROUP FOR FUEL SAFETY’S TECHNICAL OPINION PAPER ON ATF | **Ms Lisa Gerken ( USA, Framatome)** |
| **16:10 (Vienna)** | 25m | IAEA PRESENTATION ON FUEL SAFETY ACTIVITY | **Ms Tania VENEAU (NSNI, IAEA)** |
| **16:35 (Vienna)** | 25m | EATF SAFETY BENEFIT: EDF PRELIMINARY ASSESSMENT | **Mr Antoine AMBARD (EDF, France)** |
| **17:00 (Vienna)** | 30 m | Discussion on ATF Safety Analysis and Licensing Practices. The recommendations for future activities on the topic, including CRP | **All participants. Co-chairs of the sessions to lead** |
| **17:30** |  | Daily adjourn |  |
| **Day 4 – 31 October 2025 (Friday)** | | | |
| **Session 5. Future prospects of ATF . Chairs: Mr Yongjun Jiao, Mr Zoltan HOZER** | | | |
| **09:00 (Vienna)** | 25m | CONSTRAINTS INVOLVED IN SAFETY REVIEW OF ACCIDENT TOLERANT FUELS - PAKISTAN'S PERSPECTIVE. | **Mr Hamid RAZA (Pakistan, PNRA)** |
| **09:25 (Vienna)** | 25m | BWR PERSPECTIVE OF INDUSTRIAL APPLICATIONS OF ATF | **Mr Brian MOUNT**  **(USA, Dominion Generation)** |
| **09:50 (Vienna)** | 25m | OVERALL PERFORMANCE OF CR-COATED ACCIDENT TOLERANT FUEL CLADDING IN LARGE PWRS AND IMPLICATIONS FOR SMR APPLICATIONS | **Mr Youho LEE (Korea)** |
| **10:15 (Vienna)** | 30m | **Coffee break** |  |
| **10:45 (Vienna)** | 25m | ROLE OF ATF IN ENHANCING SMR PERFORMANCE | **Mr Koroush Shirvan (USA, MIT)** |
| **11:10 (Vienna)** | 30m | Discussion: IAEA future activity, including future CRP on ATF, and TM documentation strategy | **All participants. Co-chairs of the meeting to lead** |
|  |  | **Wrap-up** | |
| **11:40 (Vienna)** | 60m | Summary of the meeting | The Co-Chairs of the sessions to provide summaries of the session discussion.  The Co- Chairs of the meeting to present the outcomes of the discussions and recommendations for future IAEA activities in the ATF area |
| **12:40 (Vienna)** | 20m | Debriefing to Dir NEFW | Ms Anzhelika Khaperskaia (TL/ NFE&FCF/ NFCMS, Scientific Secretary |
| **13:00 (Vienna)** |  | Closure of the meeting |  |