



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

Day 1 – 28 October (Tuesday)

Opening Session

10:00 (Vienna)	10m	Welcome from DDG-NE	Mr Mikhail CHUDAKOV, (DDG-NE, IAEA)
10:20 (Vienna)		Scientific Secretary's introduction	Ms Anzhelika Khaperskaia (TL/ NFE&FCF/ NFCMS, Scientific Secretary)
	30m	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 , Mr Kan SAKAMOTO

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	DEVELOPMENT STATUS OF FECRAL-ODS CLADDED ACCIDENT TOLERANT FUEL FOR BWRS	Mr Kan SAKAMOTO (Japan, Nippon Nuclear Fuel Development Co.)

11:35 (Vienna)	25m	RESEARCH PROGRESS AND PROSPECT OF CR COATED CLADDING USING IN CNNC	Mr Yongjun JIAO (China, NPIC)
12:00 (Vienna)	25m	WESTINGHOUSE ENCORE® ACCIDENT TOLERANT FUEL AND HIGH ENERGY FUEL STATUS AND COMMERCIALIZATION	Ms Jorie WALTERS (USA, Westinghouse Electric Company)
12:25 (Vienna)	25m	FRAMATOME PROGRAMS TO SUPPORT US PWR OPTIMIZATION	Ms Lisa GERKEN (USA, Framatome)
12:50-14:00	70 m	Group Photo Lunch break	
14:00 (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 Zoltan HOZER, Mr Robert Hansen

14:30 (Vienna)	30m	SEPARATE EFFECT TESTS WITH ATF CLADDING MATERIALS WITHIN IAEA ATF-TS CRP	Mr Martin SEVECEK (Czech Republic, CTU)
15:00 (Vienna)	30m	INTEGRAL TESTING OF ATF FUEL UNDER HIGH TEMPERATURE ACCIDENT CONDITIONS IN THE CODEX FACILITY	Mr Zoltan HOZER (Hungary, EK)
15:30 (Vienna)	30m	Coffee break	
16:00 (Vienna)	30m	LEAD TEST RODS PROGRAM WITH CR-COATED CLADDING AT DOEL-4	Mr Jinzhao ZHANG (Belgium, Tractebel) Ms Nuria DONCEL Gutierrez (Spain, ENUSA)
17:00 (Vienna)	30m	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)
17:30 (Vienna)	30m	ZIRCONIUM ALLOY CLADDING WITH CHROMIUM COATING: DIFFUSION-REACTION MECHANISMS AND STRUCTURAL DEGRADATION UNDER EXTREME TEMPERATURES	Ms Lili LIU (China, NPIC)
18:00		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)
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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, Azul 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)
12:45 (Vienna)	75m	Lunch break	
14:00 (Vienna)	25m	HIGH-TEMPERATURE OXIDATION BEHAVIOUR OF CR/CRN MULTILAYER COATINGS ON ZR-NB ALLOY FOR ACCIDENT TOLERANT FUELS	Mr Abdollah RIAHI (Iran, AEOI)
14:25 (Vienna)	30m	SEPARATE EFFECTS TESTS CONDUCTED WITH ATF FUEL CLADDING MATERIALS	Mr Zoltán HÓZER, Mr Márton KIRÁLY (Hungary, EK)
14:55 (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
15:25 (Vienna)	35m	Coffee break	

Session 3 - ATF Modelling and simulation. Chairs: Mr Antoine BOULORÉ, Mr Paul VAN UFFELEN

16:00 (Vienna)	30m	IAEA ATF BENCHMARK OF SINGLE FUEL ROD CODES FOR SIMULATION OF SELECTED SEPARATE EFFECTS TESTS	Mr Antoine BOULORÉ (France, CEA)
16:30 (Vienna)	30m	IAEA ATF-TS BENCHMARK FOR SIMULATION OF BUNDLE TEST	Mt Juri Stuckert (Germany, KIT)
17:00 (Vienna)	30m	MODELLING OF ATF MICRO-CELL UO ₂ 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 (Mozart Room)**

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 Grabiell (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: Mr Jinzhao ZHANG, Ms Lisa Gerken

11:40 (Vienna)	30m	FUEL SAFETY EVALUATION METHODOLOGY FOR ATFS UNDER LOSS-OF-COOLANT ACCIDENTS	Mr Jinzhao ZHANG (Belgium, Tractebel)
12:10 (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)
12:35 (Vienna)	85m	Lunch break	
14:00 (Vienna)	25m	ADVANCEMENTS IN HYDROGEN-BASED TRANSIENT CLADDING STRAIN LIMITS TO SUPPORT ACCIDENT TOLERANT FUEL	Mr Michael ORNER (USA, Westinghouse Electric Company LLC)
14:25 (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)
14:50 (Vienna)	25m	SUMMARY OF NEA WORKING GROUP FOR FUEL SAFETY’S TECHNICAL OPINION PAPER ON ATF	Ms Lisa Gerken (USA, Framatome)
15:15 (Vienna)	30m	Coffee break	

15:45 (Vienna)	25m	EATF SAFETY BENEFIT: EDF PRELIMINARY ASSESSMENT	Mr Antoine AMBARD (EDF, France)
16:10 (Vienna)	25m	IAEA PRESENTATION ON FUEL SAFETY ACTIVITY	Mr Surik BZNUNI (NSNI, IAEA)
16:35 (Vienna)	25m	CONSTRAINTS INVOLVED IN SAFETY REVIEW OF ACCIDENT TOLERANT FUELS - PAKISTAN'S PERSPECTIVE.	Mr Hamid RAZA (Pakistan, PNRA)
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

Session 5. Future prospects of ATF. Chairs: Mr Yongjun Jiao, Mr Zoltan HOZER

17:30 (Vienna)	30m	ROLE OF ATF IN ENHANCING SMR PERFORMANCE	Mr Koroush Shirvan (USA, MIT)
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Daily adjourn

Day 4 – 31 October 2025 (Friday)

09:00 (Vienna)	25m	CURRENT STATUS OF DEVELOPMENT AND QUALIFICATION OF ADVANCED TECHNOLOGY FUEL (ATF) IN RUSSIA	Mr Vadim Kuzin and Mr Aleksey Gusev (Russia, TVEL)
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)	60m	Discussion Panel “What the future is for ATF” Convener: Mr Martin Sevecek Speakers: Mr Paul Van UFFELEN Ms Jorie WALTERS Mr Youho LEE Mr Yongjun JIAO Mr Antoine Ambard	

Wrap-up
Convener: Anzhelika Khaperskaia (IAEA)

11:40 (Vienna)	60m	General Discussion and Summary	The Co-Chairs of the sessions and meeting to provide summaries of the session discussion. All participants discuss the outcomes of the meetings
12:40 (Vienna)	20m	Closing Remarks	Ms Olena MYKOLAICHUK (DIR-NEFW, IAEA)
13:00 (Vienna)		Closure of the meeting	
