

Advanced Reactor Technologies Gas-Cooled Reactor Program Review

July 14-16, 2020
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July 14, 2020
GCR Fuels Program
Session 1 (All Times MT)

8:00	Welcome and Meeting Logistics	Gerhard Strydom, INL
8:10	Department of Energy Perspective	Tim Beville, DOE-NE
8:20	ART GCR Program Overview	Gerhard Strydom, INL
8:30	Advanced Gas Reactor Fuel Development and Qualification Program Overview	Paul Demkowicz, INL
8:45	Post-irradiation Examination (PIE) Overview	John Stempien, INL
9:05	AGR-2 Compact Destructive PIE and Safety Testing	John Hunn, ORNL
9:30	<i>Break</i>	
9:45	Scanning Electron Microscopy of Irradiated TRISO Fuel Particles	Tyler Gerczak, ORNL
10:15	Advanced Microscopy at Idaho National Laboratory	Isabella van Rooyen, INL
10:40	FITT Testing and Characterization Support for Oxidation Studies	Tyler Gerczak, ORNL
11:00	<i>Adjourn</i>	

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Session 2 (All Times MT)

12:00	AGR-3/4 PIE	John Stempien, INL
12:30	AGR-3/4 Modeling and Transport Parameters	Paul Humrickhouse, INL
12:50	AGR-3/4 Reirradiation Heating Tests	John Stempien, INL
13:20	<i>Break</i>	
13:35	AGR-5/6/7 Irradiation Summary as of the End of Cycle 167A	Joe Palmer, INL
14:00	Fission Gas Monitoring for the AGR-5/6/7 Experiment	Dawn Scates, INL
14:20	AGR-5/6/7 Irradiation Experiment: Summary Status and Path Forward	Paul Demkowicz, INL
14:25	AGR-5/6/7 PIE Preparations	John Stempien, INL
14:55	<i>Adjourn</i>	

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July 15, 2020
GCR Fuels Program
Session 3 (All Times MT)

8:00	PIE Tasks to completion: AGR-2 and AGR-3/4	John Stempien, INL
8:20	UCO TRISO Topical Report Update	Paul Demkowicz, INL
8:40	AGR Program Path Forward	Paul Demkowicz, INL
9:00	AGR Program Wrap-up Discussion	All
9:30	<i>Break</i>	
9:45	Multi-scale Computer Simulation and Experimental Validation of Fission Product Diffusion in Silicon Carbide (NEET-NSUF)	Fei Gao, University of Michigan
10:05	Radioisotope Retention in Graphite and Graphitic Materials Nuclear Energy University Program	Sudarshan K. Loyalka, University of Missouri
10:25	Mechanisms of Retention and Transport of Fission Products in Virgin and Irradiated Nuclear Graphite	Kevin Coffey, University of Central Florida
10:45	<i>Adjourn</i>	

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July 15, 2020
GCR Graphite Program
Session 4 (All Times MT)

12:00	ART Graphite R&D Introduction	Will Windes, INL
12:10	Graphite Baseline Status	Austin Matthews, INL
12:30	Irradiated Graphite Data and Analysis (Advanced Graphite Creep [AGC] Data)	Will Windes, INL
12:55	ART Graphite Irradiation Update (From AGC to HDG)	Michael Davenport, INL
13:15	Oxidation and Material Property Effects on Graphite	Rebecca Smith, INL
13:40	<i>Break</i>	
14:00	Microstructural Characterization and Irradiation Damage Studies of Graphite	Nidia Gallego, ONRL
14:20	Modeling Graphite Behavior (Fracture and Oxidation)	Joseph Bass, INL
14:45	ASME Graphite and Ceramic Composites (Nonmetallic) Core Components code and ASTM standards development	Wilna Geringer, ORNL
15:10	Discussion	All
15:30	<i>Adjourn</i>	

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July 16, 2020
GCR Advanced Materials and Experimental/Simulation Methods
Session 5 (All Times MT)

8:00	Advanced Materials Program Summary	Michael McMurtrey, INL
8:30	High Temperature Gas-Cooled Reactor (HTGR) Simulation Methods and International Collaborations	Sonat Sen, Gerhard Strydom, INL
9:00	Water-Cooled Natural Convection Shutdown Heat-Removal Test Facility (NSTF) Data and Status	Darius Lisowski, ANL
9:30	Integral System Testing for Prismatic Block Core Design HTGR at the Oregon State High Temperature Test Facility	Brian Woods, Izabela Gutowska, Oregon State University
9:55	<i>Break</i>	
10:10	RELAP5-3D Assessment of High Temperature Test Facility (HTTF) test PG-26 Depressurized Conduction Cooldown (DCC) Data	James Wolf, Aaron Epiney, INL
10:35	Computational fluid dynamics (CFD) and System Code Benchmark Data for Plenum-to-Plenum Flow Under Natural, Mixed and Forced Circulation Conditions	Austin Parker, Barton Smith, Utah State University
11:00	Experimental Determination of Helium/air Mixing in Helium Cooled Reactor	Zachary Welker, Victor Petrov, University of Michigan
11:25	High-resolution Experiments for Extended LOFC and Steam Ingress Accidents in HTGR	Xiaodong Sun, Chengqi Wang, University of Michigan