

Molten Salt Reactor Workshop 2016

Moving MSRs Forward—The Next Steps

Workshop Objectives: (1) Provide a forum for sharing information and status on MSR R&D programs, technology developments, international collaborations, and state of maturity of evolving MSR design concepts; and (2) Build upon the successful workshop held in October 2015 Commemorating the 50th Anniversary of the Startup of the MSRE as an annual event to facilitate the ultimate commercial deployment of MSRs.

Final Agenda as of September 30, 2016

Event contacts	David Holcomb, 865-576-7889 (office); 865-898-2193 (mobile); holcombde@ornl.gov Gary Mays, 865-574-0394 (office); 865-599-5303 (mobile); maysqt@ornl.gov		
Tuesday, October 4, 2016			
Time	Event	Lead	Location
7:00-8:00 a.m.	ORNL Visitor Center Check-in		ORNL Conference Center, TN Rooms 202 A-C
8:00-9:30 a.m.	<p>Welcome</p> <ul style="list-style-type: none"> ORNL Welcome <p>Keynote Talks (Working Breakfast) Bridging the Gap-Moving from Concept to Construction</p> <ul style="list-style-type: none"> Advanced Reactor Opportunities and Developments Workshop Scope and Purpose 	<p>Alan Icenhour, Associate Laboratory Director, Nuclear Science and Engineering Directorate, ORNL</p> <p>Christopher Levesque, President, TerraPower</p> <p>Simon Irish, CEO, Terrestrial Energy, USA, Ltd.</p> <p>Alan Icenhour, ORNL</p>	
9:30-10:45 a.m.	<p>New Developments for MSRs – Government Activities and Initiatives</p> <ul style="list-style-type: none"> Gateway for Accelerated Innovation in Nuclear (GAIN) Update International Nuclear Safeguards for MSRs 	<p><i>Cecil Parks, Session Chair</i></p> <p>Rita Baranwal, Idaho National Laboratory Don Kovacic, ORNL</p>	
10:45-11:00 a.m.	Break	All	

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Tuesday, October 4, 2016 (continued)			
Time	Event	Lead	Location
11:00 a.m.-12:30 p.m.	<i>New Developments for MSR –NGOs</i> <ul style="list-style-type: none"> • NEI Advanced Reactor Working Group • EPRI Advanced Reactor R&D Program • GAIN MSR Working Group Activities • The Innovation Imperative for MSR's from an Environmental Perspective 	<i>Gary Mays, Panel Moderator</i> Everett Redmond, NEI Andrew Sowder, EPRI Nick Smith, Southern Company Jessica Lovering, Breakthrough Institute	ORNL Conference Center, 2 nd floor foyer and TN Rooms 202 A-C
12:30-1:30 p.m.	<i>Working lunch:</i> Point Design for an FHR Demonstration Reactor	Lou Qualls, ORNL	
1:30-2:45 p.m.	<i>New Developments for MSR – International –Session 1</i> <ul style="list-style-type: none"> • MSR R&D program in EU • Australian MSR GIF Participation-MSR's • Molten Salt Reactor R&D at Paul Scherrer Institut in Switzerland 	<i>David Holcomb, Panel Moderator</i> Ondrej Benes, European Commission–Joint Research Centre Lyndon Edwards, ANSTO Jiri Krepel, Paul Scherrer Institut	
2:45-4:00 p.m.	<i>New Developments for MSR – International – Session 2</i> <ul style="list-style-type: none"> • Update on SINAP TMSR Research • FHR Neutronics Benchmark Study and MSR Technology Development in the Czech Republic • The SALIENT Fluoride Fuel Salt Irradiations 	<i>David Holcomb, Panel Moderator</i> Hongjie Xu, SINAP Jan Uhler, Research Centre Rez Ralph Hania, Nuclear Research and Consultancy Group	
4:00-4:15 p.m.	Break	All	

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Tuesday, October 4, 2016 (continued)			
Time	Event	Lead	Location
4:15-5:30 p.m.	<p><i>R&D and Technology Developments – University Research</i></p> <ul style="list-style-type: none"> Fluoride-salt-cooled High-Temperature Reactor (FHR) with Nuclear Air-Brayton Combined Cycle (NACC) GA Tech–OSU IRP Special Panel Session on R&D Objectives for Future DOE Integrated Research Programs for MSRs 	<p><i>Michael Worley, US DOE, Panel Moderator</i></p> <p>Charles Forsberg, MIT</p> <p>Farzad Rahnema, Georgia Tech</p> <p>Ed Blandford, University of New Mexico</p> <p>Charles Forsberg, MIT</p> <p>Per Peterson, UC Berkeley</p> <p>Farzad Rahnema, Georgia Tech</p> <p>Jinsuo Zhang, Ohio State University</p>	ORNL Conference Center, 2 nd floor foyer and TN Rooms 202 A-C
5:30 p.m.	Break	All	
5:45-6:45 p.m.	<p>MSR Technology Development Poster Session and Hors d'oeuvres and Networking Reception</p> <p>MSRE Feature Film <i>(Film will start at 6:45 p.m. in TN Rooms 202 A-C)</i></p>	<p>Askin Guler Yigitoglu, ORNL</p> <p>Scott Greenwood, ORNL</p> <p>Jim Rushton, ORNL (Retired)</p>	
7:30 p.m.	Adjourn Day 1	All	

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Wednesday, October 5, 2016			
Time	Event	Lead	Location
8:00-8:15 a.m.	Day 2 Overview and Focus	Alan Icenhour, ORNL	ORNL Conference Center, 2 nd floor foyer and TN Rooms 202 A-C
8:15-9:00 a.m.	Keynote Talk (Working Breakfast) DOE's Reactor R&D Programs	John Kotek, Acting Assistant Secretary for the Office of Nuclear Energy	
9:00-10:00 a.m.	New Design and Technology Developments—MSR Developers—Session 1 <ul style="list-style-type: none"> • Transatomic • Terrestrial Energy, USA, Ltd. 	<i>Doug Crawford, Panel Moderator</i> Sean Robertson, Transatomic Power David LeBlanc, Terrestrial Energy, USA, Ltd.	
10:00-10:15 a.m.	Break	All	
10:15 a.m.-11:15 a.m.	New Design and Technology Developments—MSR Developers—Session 2 <ul style="list-style-type: none"> • TerraPower, LLC / Southern Company • FLiBE Energy • ThorCon: Powering Up Our World-- Status Report 	<i>Doug Crawford, Panel Moderator</i> Jeff Latkowski, TerraPower Kirk Sorensen, FLiBE Energy Dane Wilson, ThorCon Power	

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Wednesday, October 5, 2016 (continued)			
Time	Event	Lead	Location
11:15 a.m.-12:30 p.m.	<p><i>R&D and Technology Development—Thermal Hydraulic Loops</i></p> <ul style="list-style-type: none"> • SINAP Loop Operations-Summary of Experience to Data • ORNL Liquid Salt Test Loop Operations • FHR and MSR Thermal Hydraulics Research at UC Berkeley • OSU Thermal Hydraulic Loops 	<p><i>Kevin Robb, Panel Moderator</i></p> <p>Yuan Fu, SINAP</p> <p>Dave Felde, ORNL Per Peterson, UC Berkeley</p> <p>Xiaodong Sun, Ohio State University</p>	ORNL Conference Center, 2 nd floor foyer and TN Rooms 202 A-C
12:30-1:30 p.m.	<p><i>Working lunch:</i></p> <ul style="list-style-type: none"> • Consortium for Advanced Simulation of Light Water Reactors Mod-Sim Lessons Learned for MSRs 	Jess Gehin, ORNL	
1:30-2:45 p.m.	<p><i>R&D and Technology Development—Materials</i></p> <ul style="list-style-type: none"> • Haynes International—Advanced Alloys for MSRs • Progress of Materials R&D in TMSR Project • Australia’s Participation in GIF • GIF High Temperature Materials—MSR Aspects 	<p><i>Jeremy Busby, Panel Moderator</i></p> <p>Vinay Deodeshmukh, Haynes International</p> <p>Ruobing Xie, SINAP</p> <p>Lyndon Edwards, ANSTO</p> <p>Weiju Ren, ORNL</p>	

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Wednesday, October 5, 2016 (continued)			
Time	Event	Lead	Location
2:45-4:00 p.m.	<i>Developments in Safety and Licensing for MSRs</i> <ul style="list-style-type: none"> • NRC's Preparations for Advanced Non-LWRs • Consideration in Pre-licensing Reviews of New Reactor Technologies • Performance Based Risk-Informed Licensing Approach • ANS Standards for MSR Reactors 	<i>George Flanagan, Panel Moderator</i> Jan Mazza, US NRC Christian Carrier, Canadian Nuclear Safety Commission Amir Afzali, Southern Company George Flanagan, ORNL	
4:00-4:15 p.m.	Break	All	
4:15-5:00 p.m.	<i>Closing Plenary: Brief Summaries by Panel Members</i> <ul style="list-style-type: none"> • Workshop Highlights • What are the priority R&D, technology development, and policy-related issues to be addressed at this time for the ultimate deployment of MSRs? • Discussion • Closing Remarks 	Per Peterson, UC Berkeley Rita Baranwal, INL Charles Forsberg, MIT Jess Gehin, ORNL Nick Irvin, Southern Company Jeff Latkowski, TerraPower Hongjie Xu, SINAP All Alan Icenhour, ORNL	ORNL Conference Center, 2 nd floor foyer and TN Rooms 202 A-C
5:00 p.m.	Adjourn Day 2	All	