

Molten Salt Reactor Workshop 2016

Moving MSR's 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 MSR's.

Draft Agenda as of September 21, 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</p> <p>Moving from Concept to Construction</p> <ul style="list-style-type: none"> Terrestrial Energy's IMSR 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 MSR's – Government Activities and Initiatives</p> <ul style="list-style-type: none"> DOE's GAIN Program for Advanced Reactors Safeguards and Security | <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. | <p><i>New Developments for MSR –NGOs</i></p> <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 MSRs from an Environmental Perspective | <p><i>Gary Mays, Panel Moderator</i></p> <p>Everett Redmond, NEI Andrew Sowder, EPRI Nick Smith, Southern Company Jessica Lovering, Breakthrough Institute</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> Point Design for an FHR Demonstration Reactor</p> | Lou Qualls, ORNL | |
| 1:30-2:45 p.m. | <p><i>New Developments for MSR – International –Session 1</i></p> <ul style="list-style-type: none"> • MSR R&D program in EU • Australian MSR GIF Participation–MSRs • Paul Scherrer Institut MSR R&D | <p><i>David Holcomb, Panel Moderator</i></p> <p>Ondrej Benes, European Commission–Joint Research Centre Lyndon Edwards, ANSTO Jiri Krepel, Paul Scherrer Institut</p> | |
| 2:45-4:00 p.m. | <p><i>New Developments for MSR – International – Session 2</i></p> <ul style="list-style-type: none"> • Update of TMSR research in SINAP • Czech Republic Reactivity Benchmarks • The SALIENT Fluoride Fuel Salt Irradiations | <p><i>David Holcomb, Panel Moderator</i></p> <p>Xiaohan Yu, SINAP Jan Uhlir, Research Centre Rez Ralph Hania, Nuclear Research and Consultancy Group</p> | |
| 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. | <i>R&D and Technology Developments – University Research</i> <ul style="list-style-type: none"> • MIT–UCB IRP • GA Tech–OSU IRP • Special Panel Session on R&D Objectives for Future DOE Integrated Research Programs for MSRs | <i>Michael Worley, US DOE, Panel Moderator</i> Charles Forsberg, MIT Farzad Rahnema, Georgia Tech Ed Blandford, University of New Mexico Charles Forsberg, MIT Per Peterson, UC Berkeley Farzad Rahnema, Georgia Tech Jinsuo Zhang, Ohio State University | 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. | MSR Technology Development Poster Session and Hors d’oeuvres and Networking Reception MSRE Feature Film <i>(Film will start at 6:45 p.m. in TN Rooms 202 A-C)</i> | Askin Guler Yigitoglu, ORNL Scott Greenwood, ORNL Jim Rushton, ORNL (Retired) | |
| 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 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 Power | <i>Doug Crawford, Panel Moderator</i> Jeff Latkowski, TerraPower Kirk Sorensen, FLiBE Energy Dane Wilson, ThorCon Power | |
| 11:15 a.m.-12:30 p.m. | R&D and Technology Development—Thermal Hydraulic Loops <ul style="list-style-type: none"> • SINAP Salt Loop Experience • ORNL Liquid Salt Test Loop Operations • UC Berkeley • Ohio State University | <i>Kevin Robb, Panel Moderator</i> Yuan Fu, SINAP Dave Felde, ORNL Per Peterson, UC Berkeley Xiaodong Sun, Ohio State University | |

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| Wednesday, October 5, 2016 (continued) | | | |
| Time | Event | Lead | Location |
| 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 | ORNL Conference Center, 2 nd floor foyer and TN Rooms 202 A-C |
| 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 • China’s SINAP TMSR Materials Program • Australian Materials R&D in Support of MSRs • GIF High Temperature Materials—MSR Aspects | <p><i>Jeremy Busby, Panel Moderator</i></p> <p>Vinay Deodeshmukh, Haynes International Ruobing Xie, SINAP</p> <p>Lyndon Edwards, ANSTO</p> <p>Weiju Ren, ORNL</p> | |
| 2:45-4:00 p.m. | <p><i>Developments in Safety and Licensing for MSRs</i></p> <ul style="list-style-type: none"> • NRC’s Preparations for Advanced Reactors • CNSC’s Preparations—Vendor Design Review • Performance Based Risk-Informed Licensing Approach | <p><i>George Flanagan, Panel Moderator</i></p> <p>Jan Mazza, US NRC</p> <p>Christian Carrier, Canadian Nuclear Safety Commission</p> <p>Amir Afzali, Southern Company</p> | |

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| Time | Event | Lead | Location |
| 4:00-4:15 p.m. | Break | All | |
| 4:15-5:00 p.m. | <p><i>Closing Plenary: Brief Summaries by Panel Members</i></p> <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 MSR's? • Discussion • Closing Remarks | <p>Per Peterson, UC Berkeley</p> <p>Rita Baranawal, INL Charles Forsberg, MIT Nick Irvin, Southern Company Jeff Latkowski, TerraPower Hongjie Xu, SINAP</p> <p>All</p> <p>Alan Icenhour, ORNL</p> | ORNL Conference Center, 2 nd floor foyer and TN Rooms 202 A-C |
| 5:00 p.m. | Adjourn Day 1 | All | |