The National Academies of
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Committee on Laying the Foundation for New and Advanced Nuclear Reactors in the United States

PUBLIC AGENDA for VIRTUAL MEETING #10
Tuesday and Wednesday, February 1-2, US EASTERN TIME

Conversations with Advanced Reactor Vendors

Meeting topics: Financing, commercialization strategies, licensing, construction and project management

Connection information:

Livestream link: **https://livestream.com/accounts/7036396/events/10103787**

Tuesday, February 1st

11:00 a.m. – 11:10 a.m. *Welcome and opening remarks*
Richard Meserve, Committee Chair

11:10 a.m. – 1:00 p.m. Panel 1: BWXT, Terrestrial Energy, Kairos Power
Each company will provide 5-10 minutes of opening remarks on the meeting topics, followed by Q&A and discussion directed to all four companies.

11:10 a.m. Jonathan Cirtain, Vice President and CTO, BWXT
11:20 a.m. David LeBlanc, Chief Technology Officer, Terrestrial Energy USA
11:30 a.m. Edward Blandford, Chief Technology Officer, and Per Peterson, Chief Nuclear Officer, Kairos Power
11:40 a.m. Rick Springman, Senior Vice President of International Projects, Holtec International
11:50 a.m. – 1:00 p.m. Panel Q&A and discussion with National Academies study committee

1:00 p.m. Adjourn

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Wednesday, February 2nd

11:00 a.m. – 11:10 a.m. *Welcome and opening remarks*
Richard Meserve, Committee Chair

11:10 a.m. – 1:00 p.m. **Panel 2: Oklo, Moltex, LeadCold, Framatome**
Each company will provide 5-10 minutes of opening remarks on the meeting topics, followed by Q&A and discussion directed to all four companies.

11:10 a.m. Jacob DeWitte, CEO and Co-founder, Oklo
11:20 a.m. Rory O'Sullivan, CEO for North America, Moltex Energy
11:30 a.m. Janne Wallenius, CEO, LeadCold
11:40 a.m. Farshid Shahrokhi, Director of HGTR Technology, Framatome
11:50 a.m. – 1:00 p.m. Panel Q&A and discussion with National Academies study committee

1:00 p.m. Adjourn

Speaker Biographies

Panel 1

Jonathan Cirtain, BWX Technologies, Inc.

Dr. Jonathan W. Cirtain is vice president and chief technology officer for BWX Technologies, Inc. (BWXT). He is responsible for identifying and developing new technologies for the company by integrating technical expertise and resources across the enterprise. He joined BWXT as director of commercial technologies in 2017 and most recently served as BWXT Advanced Technologies LLC president. Dr. Cirtain spent nine years with NASA. He received the prestigious Presidential Early Career Award for Scientists and Engineers and held positions of increasing responsibility from astrophysicist to the Science Research Office manager. He also co-founded Astraea, Inc., a machine learning and data science analytics company. With a passion for design and innovation, Dr. Cirtain has contributed to and led teams in revolutionary science and technology applications. He has developed plasma confinement systems for lab research, a solid rocket motor system for suborbital vehicles, and graphics processing unit technology for video systems. Dr. Cirtain earned his Ph.D. in physics from Montana State. He also holds two bachelor's degrees in physics and mathematics from the University of Memphis. Dr. Cirtain has served on advisory committees for NASA, the National Science Foundation, U.S. Department of Commerce's National Oceanic and Atmospheric Administration, U.S. Office of Science and Technology Policy, National Academy for Science and Engineering, Royal Academy of Science, European Space Agency and numerous universities.

David LeBlanc, Terrestrial Energy USA

Dr. David LeBlanc is a globally-recognized authority on Molten Salt Reactor technologies and has dedicated his career to the improvement and realization of advanced nuclear power systems, in particular MSR technologies. His work has focused on the simplification of design and reduction of R&D requirements to realize this goal. He obtained his Ph.D. in Physics from the University of Ottawa in 1998 during which time he focused on High Temperature Superconductivity and their application to fusion energy. He obtained long-term fellowship funding from Canadian Fusion Fuels Technology Project and later focused his interests on improving nuclear fission power. For 11 years Dr. LeBlanc held a teaching position with the Carleton University physics department. Concurrently he worked independently in the field of Molten Salt Reactors. In 2008, he founded Ottawa Valley Research Associates Ltd. to advance this work and has filed patents relating to innovations in MSR technologies that have specific bearing on improving and broadening the commercial application of the technology. Dr. LeBlanc has been published numerous times in academic journals in conference proceedings and is extensively cited. He is a frequent speaker at international nuclear industry conferences on Molten Salt Reactor design concepts. He has long recognized that public engagement and education are also necessary to advance MSR technologies. To meet this objective, Dr. LeBlanc has had numerous news media engagements, including interviews and media articles in *Mechanical Engineering Magazine*, *Popular Mechanics*, *Popular Science*, CBC Radio, the *Toronto Star* and *Nuclear Engineering Insider*.

Edward Blandford, Kairos Power
Dr. Edward Blandford is a Co-Founder & Chief Technology Officer of Kairos Power. He is responsible for technology development, experimental testing, modeling and simulation, as well as fuels and materials activities at Kairos Power. Prior to co-founding Kairos Power, he was at the University of New Mexico where he was an assistant professor in the Department of Nuclear Engineering. Dr. Blandford was also a Stanton Nuclear Security Fellow at the Center for International Security and Cooperation at Stanford University. He also worked for several years as a project manager at the Electric Power Research Institute focusing on steam generator thermal-hydraulics and material degradation management. Dr. Blandford has a B.S. in Mechanical Engineering from University of California, Los Angeles and a M.S. and Ph.D. in Nuclear Engineering from the University of California, Berkeley.

Rick Springman, Holtec
Dr. Rick Springman is Senior Vice President of International Projects for Holtec International. In this role, Dr. Springman is responsible to manage international project development and oversee project execution for private and public sector utilities in South America, Europe (excluding Ukraine), Far East Asia, and Sub-Saharan Africa, reporting directly to the CEO. In conjunction with this responsibility, Dr. Springman is responsible for establishment and operations of Holtec's subsidiary companies Holtec Britain Limited (UK), Holtec do Brasil (Brazil), and Holtec EU (Madrid) and serves as the executive liaison for coordinating development and project activities with Holtec Africa (South Africa), also serving on the Board of Directors of Holtec Africa. In establishing new projects, he leads strategy development, strategic partnerships, and supply chain development in new markets. Dr. Springman works closely with Holtec's engineering and licensing departments, co-authoring three patents in the field of nuclear material management and supporting the environmental and nuclear licensing of storage and transportation packages for spent nuclear fuel and other forms of nuclear material. Before joining Holtec in 2009, Dr. Springman completed both his undergraduate and doctoral studies in Mechanical Engineering and Applied Mechanics at the University of Pennsylvania; he currently serves on the External Advisory Board for the department. His doctoral research focused on the mechanics of biological cell adhesion, which has important implications for directed growth of tissue culture and new therapies that can alter tissue environments to treat disease. As an undergraduate, his studies focused on robotics and control theory while he competed as an athlete on the University of Pennsylvania Wrestling Team, achieving NCAA All-American and Academic All-American status in two separate years. Dr. Springman also has prior experience as a technology consultant.

Panel 2

Jacob DeWitte, Oklo

Jacob DeWitte is the Founder and the CEO of Oklo Inc., a Sunnyvale, CA based company developing and building small nuclear reactors. Jacob has been working with nuclear technology for nearly 15 years and has experience with nuclear reactor design and analysis, spanning a variety of reactors including sodium fast reactors, molten salt reactors, and next generation PWRs. Jacob has worked at GE, Sandia National Labs, Urenco US, and the naval reactor research laboratories. At Sandia, Jacob worked on the Lab's irradiation facilities, including a fast test reactor. He led core design on the PRISM sodium fast reactor while at GE. Jacob is originally from Albuquerque, NM. He completed his undergraduate studies at the University of Florida and his SM and PhD at MIT in nuclear engineering where he developed strategies to introduce high performance light water reactor fuels as part of long term capital asset management planning for nuclear power plants.

Rory O'Sullivan, Moltex Energy

Rory O'Sullivan is the Chief Executive Officer, North America at Moltex. He joined the company as Chief Operating Officer in the UK, before moving to Canada to set up the North American business, Rory began his career as an award-winning project manager at the Bouygues group, running £50m+ projects. With a passion for delivering clean, low-cost energy to the world, he co-founded Energy Process Developments LTD to pursue advanced nuclear and led a government-funded feasibility study on the development of a prototype molten salt reactor. Rory sat on the IAEA MSR advisory committee and was a Forbes 30 Under 30 Standout. He obtained 1st class honours in Mechanical and Manufacturing Engineering from Trinity College Dublin and a degree in Mechanical Design Engineering from INSA Lyon in France.

Janne Wallenius, LeadCold

Farshid Shahrokhi, Framatome

Dr. Shahrokhi's entire professional career has been in the nuclear power industry. He began his career at the Oak Ridge National Laboratory as a graduate student adjunct research assistant. He then joined B&W, Framatome, and now AREVA 35 years ago where he has held a variety of technical leadership positions. As the Director of Reactor Technology for AREVA high temperature gas-cooled reactor (HTGR) technical team, he has designed several compact heat exchanger concepts, evaluated and selected appropriate high-temperature materials, and evaluated test results. He was the safety and licensing manager for the AREVA HTGR where he established the licensing strategy for AREVA HTGRs. He led the conceptual design and high-temperature material selection tasks for major HTGR components including the reactor vessel, the cross vessel and the steam generator vessel. Under his technical leadership AREVA completed the design of a multi-loop Helium cooled high temperature test facility capable of simulating high temperature conditions for testing the HTGR materials and components. As the manager of AREVA HTGR system engineering he developed allocated and maintained HTGR plant and system requirements. He is currently the Director of AREVA HTGR Technology.