ASME CARD 2025

CONFERENCE FOR ADVANCED REACTOR DEPLOYMENT

PROGRAM

CONFERENCE
SEPTEMBER 29 – OCTOBER 1

EPRI
CHARLOTTE, NC

https://event.asme.org/CARD

The American Society of Mechanical Engineers®
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SETTING THE STANDARD

Contents

Welcome from the conference chairs

2025 ASME/EPRI CONFERENCE FOR ADVANCED REACTOR DEPLOYMENT (CARD)

September 29 – October 1, 2025
EPRI, Charlotte, NC, USA

Dear Distinguished Attendees:

Welcome to the 2025 Conference for Advanced Reactor Deployment (CARD) which will, again, be held at EPRI headquarters in Charlotte, NC! This year, ASME has teamed with EPRI to bring this conference forward.

Now in its third year, CARD looks to build upon the industry momentum to deploy new nuclear technologies stemming from both nuclear utilities and other industries and end users.

Two years ago, the Potential Energy Coalition polled over 2,000 Americans and found that over 76% were supportive of advanced nuclear energy being a part of the U.S. energy mix. In addition to those in the U.S., globally, they polled additional individuals in South Korea, Japan, France, Germany, the United Kingdom, Poland, and Sweden. There they found that about 64% of people support advanced nuclear.

While the industry is positioned to build their order books and commit to new construction, it hasn't been easy. Over the last year, challenges with project cancellations and cost increases have impeded rapid growth. These challenges aren't unique to the nuclear industry, but developers must demonstrate the ability to execute their projects to attract additional customers, especially those customers who are less familiar with nuclear energy.

ASME CARD was envisioned to meet these challenges head on and provide a forum for key stakeholders to discuss opportunities and pathways to successful deployments. Codes and Standards are critical when it comes to construction timelines and cost. Therefore, ASME and its volunteer members will play a critical role in the success of the nuclear industry. In addition, entities like EPRI, with their cutting-edge research and broad network for engagement, seek to remove barriers and aid reactor deployments.

Just like last year, the CARD program was curated through a team effort – every member of the Organizing Committee and every ASME staff member played a significant role in setting the event up for success.

Thank you all for your attendance and participation. We look forward to seeing you in Charlotte!

Sincerely,

Thomas Vogan
ASME Senior Vice President, Standards & Certification

Christopher Wax
EPRI Senior Principal Team Leader

THANK YOU!

Thank you to our volunteers! Without their dedication and time commitment, CARD could not be a successful conference.

ASME 2025 CARD CONFERENCE ORGANIZERS

Tom Vogan
Conference Chair

Chris Wax
Conference Co-Chair

Maury Pressburger
Member

Guoqiang Wang
Member

Kathryn Hyam
Member

Yassin Hassan
Member

Asif Arastu
Member

Eli Windsor
Member

REGISTRATION INFORMATION

Building 3 EPRI headquarters, Lobby

Registration Hours:

Monday, September 29, 7:00AM–5:00PM

Tuesday, September 30, 7:00AM–4:00PM

REGISTRATION POLICIES

1. Conference registration fees include admission to all sessions and meals provided at the conference.
2. All attendees, including member, non-members, panelists, chairs, and co-chairs, must pay the appropriate registration fee.
3. One-day registration allows access to the conference activities only on that particular day.
4. No one will be allowed to attend the technical sessions or exhibits without first registering and obtaining the official CARD badge.

Schedule at-a-Glance

MONDAY, SEPTEMBER 29, 2025	
7:30 AM - 8:30 AM	Breakfast – Dining Room
8:30 AM - 10:00 AM	Welcome Remarks and Keynote Presentations
10:00 AM - 10:15 AM	Networking Break
10:15AM - 12:00 PM	Reactor Technologies Non-Light Water Reactors Panel
12:00 PM - 1:00 PM	Networking Lunch
1:00 PM - 2:30 PM	Regulatory Modernization Panel
2:30 PM - 3:00 PM	Networking Break
3:00 PM - 4:30 PM	Reactor Technologies Light Water Reactors Panel
4:30 PM - 4:45 PM	James N. Landis Medal Award Fred Moody
5:00 PM - 6:30 PM	Welcome Reception - Reception Area
TUESDAY, SEPTEMBER 30, 2025	
7:30 AM - 8:30 AM	Breakfast – Dining Room
8:30 AM - 9:45 AM	Modularization and Advanced Manufacturing Panel
9:45 AM - 10:15 AM	Networking Break
10:15 AM - 11:30 AM	Data Centers and Industrial Facilities Panel
11:30 AM - 12:30 PM	Networking Lunch
12:30 PM - 1:45 PM	Updating Standards to Meet Advanced Reactor Design Panel
1:45 PM - 3:00 PM	Quality Assurance Panel
3:00 PM - 3:30 PM	Networking Break
3:30 PM - 4:45 PM	Nuclear Fuel Cycles Panel
6:00 PM - 6:15 PM	Conference Wrap up
WEDNESDAY, OCTOBER 1, 2025 (Optional)	
8:30 AM - 9:15 AM	Breakfast
9:15 AM - Noon	Optional Tour

MONDAY, SEPTEMBER 29
8:30AM-10:00AM

WELCOME REMARKS

Thomas Costabile, P.E.
Executive Director and CEO, ASME

Steve Chengelis
EPRI Vice President of Nuclear Development and Fusion

KEYNOTE PRESENTATIONS

Marc Nichol
Executive Director, New Nuclear
Nuclear Energy Institute (NEI)

Scott Hunnewell
TVA Vice President of the New Nuclear Program Operations

MONDAY, SEPTEMBER 29
10:15AM-12:00PM

Reactor Technologies Non-Light Water Reactors Panel

A wide variety of advanced reactor designs are being developed internationally. Advanced reactors will have simpler designs, be inherently and/or passively safe, and have an expected reduction in costs. Panel session discussions will focus on the various technologies and the challenges they are encountering, along with their timings for deployment.

Moderators:

Maury Pressburger
Sargent & Lundy

Dan Moneghan
EPRI

Panelists:

Tim Frazier
Terrestrial

Robert Iotti
ARC Clean Energy

Steve Unikewicz
Terra Power

Everett Redmond
Oklo

James Roll
X-Energy

Richard Williams
Aalo Atomics

Travis Chapman
BWXT

Michael Vandevanter
TerraPower

MONDAY, SEPTEMBER 29
1:00PM-2:30PM

Regulatory Modernization Panel

New reactor technologies approach safety in different ways, and it is important that the regulatory framework for these new designs can accommodate these different approaches while ensuring safety.

Moderators:

Chris Wax
EPRI

Asif Arastu
Retired

Panelists:

Kelli Voelsing
Nuclear Energy Institute

Brandon Chisholm
Southern Company Services

Mehdi Reisi Fard
USNRC

Michael Launi
Sargent & Lundy

Brian Torrie
Canadian Nuclear Association

MONDAY, SEPTEMBER 29
3:00PM-4:30PM

Reactor Technologies Light Water Reactors Panel

A wide variety of advanced reactor designs are being developed internationally. Advanced reactors will have simpler designs, be inherently and/or passively safe, and have an expected reduction in costs. Panel session discussions will focus on the various technologies and the challenges they are encountering, along with their timings for deployment.

Moderators:

Dan Moneghan
EPRI

Maury Pressburger
Sargent & Lundy

Panelists:

Joe Remic
NuScale

Harley Hutchins
Sargent & Lundy

Mark Salisbury
Rolls Royce

James N. Landis Medal Awardee

The James N. Landis Medal is presented for outstanding personal performance in the design, construction, or management of major steam-electric stations using nuclear or fossil fuels. The candidate must also demonstrate personal leadership in humanitarian pursuits, which may include committee activity, Section leadership, or the broad non-technical professional activity of the individual's engineering society.

The award was established in 1977 in honor of James N. Landis, President of ASME in 1958.

Congratulations to Frederick Moody for being the 2025 medalist.

Biography: Fred Moody and his high school sweetheart Phyllis grew up in Aurora, Illinois. The married in 1955 and Phyllis worked to put Fred through engineering school at the University of Colorado. They moved to San Jose, California where Fred worked at the GE Nuclear Energy Division while studying at Stanford for a PhD and did adjunct teaching at San Jose State University. Fred and Phyllis have four sons, 10 grandchildren, and eight great-grandchildren. Phyllis died in 2014 and Fred has remained active in consulting, giving technical seminars, and Toastmasters. He has written over 50 technical papers, one textbook, *Introduction to Unsteady Thermofluid Mechanics*, and co-authored a reference book, *The Thermal-Hydraulics of a Boiling Water Nuclear Reactor*. He has also written three books describing life experiences that made him aware of our built-in capacity to exercise faith and see it work in everyday happenings: *The Day I Almost Quit*; *I Wasn't Expecting That*; and *What Should I Do Now?*.. His passion is to inspire others to dream big dreams and set goals beyond their limitations.

TUESDAY, SEPTEMBER 30TH
8:30AM-9:45AM

Modularization and Advanced Manufacturing Panel

The fundamentally different approach to manufacturing Small Modular Reactors / Advanced Reactors will challenge both nuclear suppliers as well as regulators. In order for new nuclear reactors to scale at the pace necessary, improvements in construction approaches and techniques – many of which are already used in in other industries – will be needed.

Moderator:

Ryan DeHoff
ORNL

Marc Albert
EPRI

Presenters:

Ahmed Ehattab
Kairos Power Company

Stephen Herrin
Reploy Power

William Cleary
Westinghouse

Meimei Li
Department of Energy

Jon Tatman
EPRI

TUESDAY, SEPTEMBER 30TH
10:15AM-11:30AM

Data Centers and Industrial Facilities Panel

As global energy demands rise and sustainability goals become more critical, industries must rethink how they power data centers, manufacturing plants, and large-scale facilities. This panel brings together experts in data centers, industrial operations, and combined heat and power (CHP), also known as co-generation to discuss innovative strategies for reducing carbon footprints, improving resiliency, and optimizing energy use, especially using small modular reactors and microreactors or other advanced reactors as co-generation sources.

Moderators:

Guoqiang Wang
Pacific Northwest National Lab

Li Shi
Duke Energy

Presenters:

Li Shi
Duke Energy

Dr. Prashant Jain
Oak Ridge National Laboratory

Jun Liao
Westinghouse Electric Company

Robert Runkle
Pacific Northwest National Lab

TUESDAY, SEPTEMBER 30TH
12:30PM-1:45PM

Updating Standards to Meet Advanced Reactor Design Panel

The rapid deployment of advanced reactors will require a change towards the international standardization of reactor designs and the harmonization of approaches to licensing, codes, and standards.

Moderators:

Hasan Charkas
EPRI

Kathryn Hyam
ASME

Presenters:

Larisa Logan
Canadian Standards Association

Tom Roberts
POMO18 Consult LLC

Dale Matthews
Framatome

Suzanne McKillop

MPR Associates, Inc.

Tom Ruggiero
ASME Fellow

TUESDAY, SEPTEMBER 30TH
1:45PM-3:00PM

Quality Assurance Panel

The Nuclear Assurance panel will discuss possible programs for advanced reactors to include considerations for NQA-1 Code, ISO 9001, Graded Quality Assurance concepts and Commercial Grade Dedication. We expect discussion on NRC acceptance of QA program variations.

Moderators:

Marc Tannenbaum
EPRI

Taunia Sandquist
Los Alamos National Laboratory

Presenters:

Mark Richter
Nuclear Energy Institute

Kerri Kavanagh
US Nuclear Regulatory Commission

Ed Renaud
Westinghouse Electric Company

Spencer Daw
Idaho National Laboratory

Marc Tannenbaum
EPRI

TUESDAY, SEPTEMBER 30TH
3:30PM-4:45PM

Nuclear Fuel Cycles Panel

This panel examines cutting-edge developments in nuclear fuel technology, fuel recycling, storage and long-term radioactive waste management to support advanced reactor development and deployment as well as a sustainable nuclear energy future.

Key topics may include:

- Next-Generation Fuels: Innovations in fuel design (e.g. high-assay low-enriched uranium (HALEU), TRISO particles, and metallic fuels for advanced reactors.

- Fuel Recycling & Closed Fuel Cycles: Advanced reprocessing techniques, transmutation of long-lived isotopes, and integration with fast reactors and molten salt reactors.

- Economic & Regulatory Challenges: Cost-benefit analysis of recycling vs. direct disposal, international waste management policies, and public acceptance.

In this panel session, experts will discuss fuel technological development, safe transportations, policy frameworks, and collaborative efforts to minimize waste, enhance resource utilization, and resolve practical challenges (economics, regulation, etc.).

Moderators:

Dan Moneghan
EPRI

Yassin Hassan
Texas A&M University

Presenters:

Mark Nutt
Pacific Northwest National Lab

Jesse Sloane
Deep Isolation

Guoqiang Wang
Pacific Northwest National Lab

WEDNESDAY, OCTOBER 1ST
8:30AM – 9:15AM

Room: Building 1, Foyer

Breakfast

WEDNESDAY, OCTOBER 1ST
9:15AM – 12:00PM

EPRI- Building 1

EPRI TOUR

The laboratory facilities at the EPRI Charlotte site are equipped with state-of-the-art capabilities to support a diverse range of research and development activities. Our laboratory facilities boast a comprehensive suite of Non-Destructive Evaluation (NDE) capabilities across various specialized labs, such as, Advanced Ultrasonics, Boiling Water Reactor Vessel & Internals Program (BWRVIP) NDE lab, Fossil Generation NDE, Guided Wave R&D, and the NDE Performance Demonstration (PD) lab. The PD lab has more than 700 mock-ups, including varying metals for piping, bolting, and Reactor Pressure Vessels. These specialized facilities collectively contribute to EPRI's cutting-edge advancements in non-destructive evaluation methodologies.

We also house specialized labs in critical research areas like the Corrosion Lab, Digital I&C Lab for cybersecurity and digital instrumentation, Electronics Lab for remote sensing equipment, and the Flex Lab designed for various ongoing research projects. The Chemistry Lab supports research in water treatment technologies, steam cycle chemistry, and corrosion, with advanced equipment for various applications.

Our machine shop is a crucial part of the facility, fabricating samples that are used across research labs. Materials Characterization Lab supports projects with Scanning Electron Microscope analysis, and multiple Materials Labs offer diverse testing capabilities. The Metallurgy Lab analyzes materials in minute detail, aiding in failure analysis and stress testing. The Welding Research Lab supports welding services and is part of the Nuclear Sector's Welding & Repair Technology Center.

Our comprehensive facilities ensure cutting-edge capabilities for a wide array of energy research endeavors.

The lab tour will cover the following EPRI labs: Digital I&C Lab, High Temperature Mechanical Test Lab, Materials Characterization Lab, Welding Research Lab, and Machine Shop.

THANK YOU TO OUR EXHIBITORS

Nuclear Talent Scout

Nuclear Talent Scout provides premium staffing and recruiting services. A woman owned small business delivering unique value by emphasizing quality candidates and helping clients plan their staffing strategy. Free courses, podcasts, and collaboration advancing nuclear standards/ regulations/supply chain. The best eye for niche nuclear talent in the industry.

TPAC

We specialize in phased array, full matrix capture, multichannel ultrasound electronics, and high-performance software with our family of TFM imaging algorithms. At TPAC, we offer ultrasonic nondestructive testing solutions used in security-sensitive industries (aerospace, railways, nuclear, etc.) or high-output manufacturing (bars, tubes, plates, rails, etc.). As advanced solutions, our technology is adopted by many R&D centers around the world.

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