

Scaling Down Reactors: A Different Model for Nuclear Energy

Panel Speakers:

Mark Campagna

COO, Hyperion Power Generation

Lay Nam Chang

Dean, Virginia Tech College of Science (GEM*STAR)

Paul Lorenzini

CEO, NuScale Power

Christofer Mowry

President and CEO, B&W Modular Nuclear Energy

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1:30 – 3:30 pm

CSIS B1 Conference Center

1800 K Street, NW

Washington, DC 20006

Nuclear energy will be an important component in the transition to a secure, low-carbon energy future. Many new reactors are already under construction around the world, and in the U.S., the Nuclear Regulatory Commission has received applications to build and operate an initial wave of proposed plants. Thus far, this generation of nuclear energy has been dominated by plans to install large gigawatt-sized light water reactors that will deliver large increments of power and achieving economies of scale. While these reactors represent one important model for nuclear energy deployment, others are emerging and deserving of consideration. Several companies and research teams are pioneering smaller reactor designs that could present a set of characteristics desirable to domestic utilities and nations interested in nuclear energy.

Each panelist will give a presentation discussing their technology, its applications, potential benefits and concerns, general U.S. and global market prospects (including barriers), and key policy issues. Following the presentations there will be a period of open Q&A with seminar participants.

Speaker Biographies

Mark S. Campagna is the Chief Operating Officer of Hyperion Power Generation. He has over 25 years experience in the nuclear power field. His assignments have been diverse and technologically challenging and have involved extensive business management and leadership roles. With a core specialty in the area of field Project Management and leadership of complex multidisciplinary teams, Mr. Campagna has performed on varied assignments ranging from a US Naval Officer on large nuclear powered warships through project engineering/management assignments implementing multi-million dollar projects at operating commercial nuclear power stations involving nuclear facility design, decommissioning and dismantlement (D&D), waste management, site remediation and nuclear fuel transport within the international arena.

Lay Nam Chang serves as the Dean of the Virginia Tech College of Science. Prior to this position, Chang was chair of the Department of Physics since 1995. He joined the Virginia Tech faculty in 1978 after working on the physics faculty at the University of Pennsylvania for seven years. Chang has conducted research at MIT and the University of Chicago and has been a visiting scientist or visiting instructor at institutions of higher education in Denmark, British Columbia, Singapore, and the United States. Since earning a Ph.D. in theoretical physics from the University of California at Berkeley, he has written extensively for refereed journals and has published numerous reports on his work.

Paul Lorenzini is the Chief Executive Officer of NuScale Power. He has extensive experience in both executive management and nuclear operations. Prior to co-founding NuScale, Lorenzini held several executive positions with PacifiCorp and its domestic and international subsidiaries. These positions included president of Pacific Power & Light, CEO of PacifiCorp Turkey, and CEO of Powercor Australia. Lorenzini previously worked with Rockwell International where he was named vice president and general manager of Rockwell's Hanford operations. Rockwell employed more than 5,000 people and was responsible for nuclear waste management, fuel reprocessing, the Basalt Waste Isolation Project and major site services. In earlier service with Rockwell, Lorenzini was involved in developing safety analysis codes for design of the Liquid Metal-Cooled Fast Breeder Reactor (LMFBR). An attorney as well as a nuclear engineer, Lorenzini worked with a Portland law firm where he represented community leaders in Eastern Oregon who intervened in state regulatory proceedings in support of a proposed nuclear plant in their community. Lorenzini holds a Ph.D. in nuclear engineering from Oregon State University and a J.D. from Loyola University. He is the current chair of the OSU Foundation and has served in leadership positions on numerous community organizations.

Christofer M. Mowry is the President and Chief Executive Officer of B&W Modular Nuclear Energy. In this role, Mr. Mowry is leading the development, licensing and delivery of B&W mPower™ nuclear reactor projects. Before joining B&W, Mr. Mowry served as President and Chief Operating Officer of Welding Services, Inc. (WSI) in Atlanta, Georgia, from 2005-2008. WSI is leader in the global energy infrastructure marketplace for specialty robotic in-situ repairs and related mechanical integrity solutions. Prior to this position, he held several high-level management positions with GE Energy. Mr. Mowry joined the company as a Program Manager and subsequently as a Sales Executive for GE Nuclear Energy. He went on to serve as President of GE Reuter-Stokes; General Manager of GE Management Systems; and General Manager of GE Hydro Projects and Services. Mr. Mowry began his career with the Philadelphia Electric Company, holding positions of increasing responsibility in nuclear operations and engineering at the Limerick Generating Station. Mr. Mowry holds a M.S. in Mechanical Engineering from Drexel University in Philadelphia, Pennsylvania. He also earned a B.S. in Engineering and a B.A. in Astronomy from Swarthmore College. Mr. Mowry speaks German and Swedish. He also holds four U.S. patents related to digital control systems.

Frank Verrastro (moderator) is Director and Senior Fellow with the Energy and National Security Program at the Center for Strategic and International Studies. He has extensive energy experience, having spent 30 years in energy policy and project management positions in the U.S. government and the private sector. His government service includes staff positions in the White House (Energy Policy and Planning Staff) and the Departments of Interior (Oil and Gas Office) and Energy (Domestic Policy and International Affairs Office). In the private sector, he has served as director of refinery policy and crude oil planning for TOSCO and more recently as senior vice president for Pennzoil. Responsibilities at Pennzoil included government affairs activity, both domestic and international, and corporate planning, risk assessment, and international negotiations. As part of Pennzoil's Caspian Team, he was instrumental in securing approval for the Baku-Supsa pipeline, precursor to the Baku-Tblisi-Ceyhan project. Verrastro holds a B.S. in biology/chemistry from Fairfield University, a master's degree from Harvard University, and he completed the executive management program at the Yale University Graduate School of Business and Management. He served as chair for the Geopolitics and Policy Task Groups for the 2007 National Petroleum Council report, *Hard Truths*, and as a Task Force member for the 2006 Council on Foreign Relations report, *National Security Consequences of U.S. Oil Dependency*. He has authored a variety of papers on energy and security topics and currently serves on the Advisory Board for the National Renewable Fuels Laboratory (NREL) in Golden, Colorado.