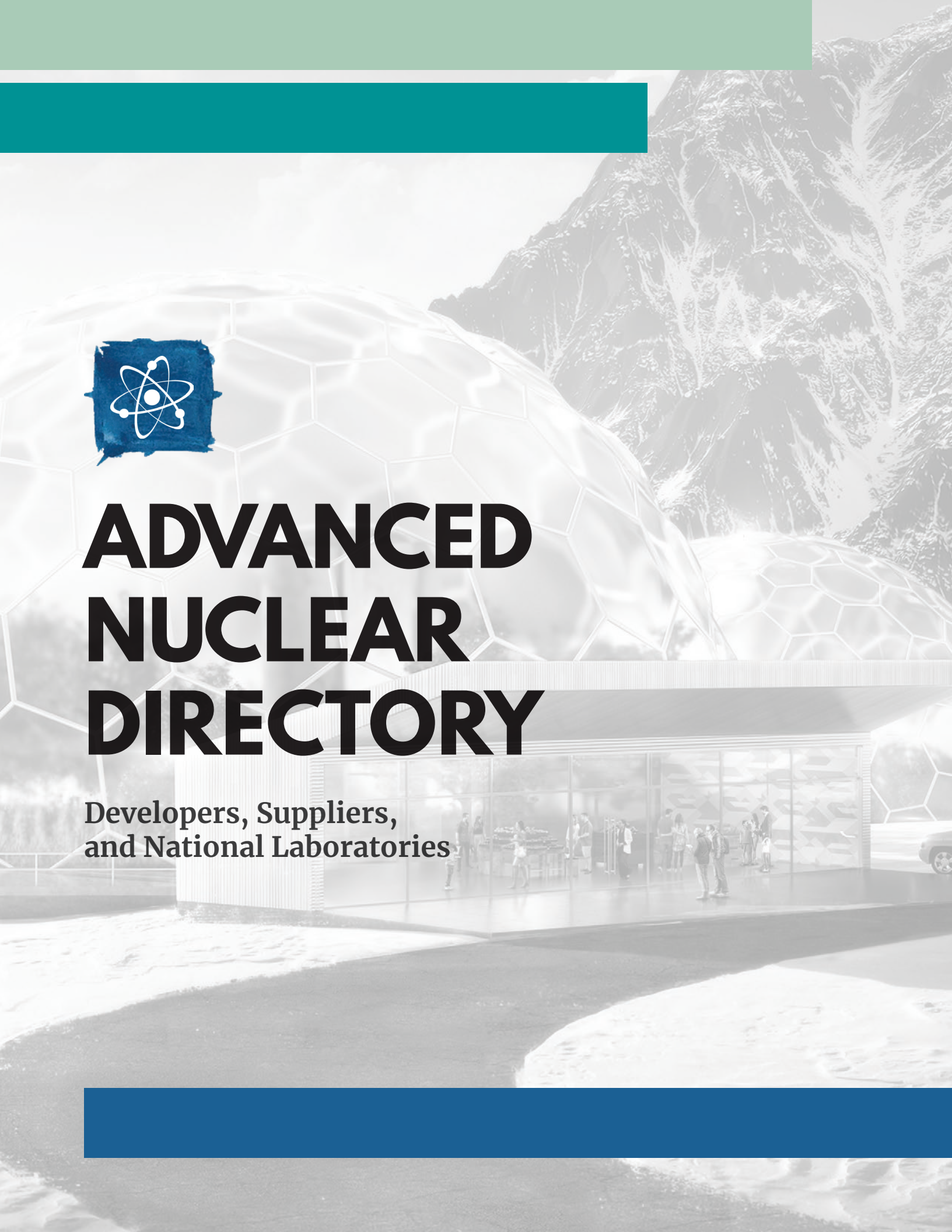

ADVANCED NUCLEAR DIRECTORY

Developers, Suppliers, and National Laboratories

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INTRODUCTION

This directory was created in partnership between the Gateway for Accelerated Innovation in Nuclear (GAIN) and Third Way, with the help of the United States Nuclear Infrastructure Council (USNIC). It offers a sample of companies engaged in the development of advanced nuclear technologies and should not be considered a comprehensive list of this industry. All companies featured have participated on a voluntary basis and are responsible for the information provided. Inclusion of a company does not indicate endorsement by any of the directory's sponsors.

GAIN Gateway for Accelerated Innovation in Nuclear

GATEWAY FOR ACCELERATED INNOVATION IN NUCLEAR

gain.inl.gov

The mission of the GAIN initiative is to provide the nuclear energy industry with access to the technical, regulatory, and financial support necessary to move advanced nuclear technologies toward commercialization, while ensuring the continued reliable and economic operation of the existing nuclear reactor fleet. GAIN offers a single point of access to the broad range of capabilities across the Department of Energy (DOE) national laboratory complex. DOE has invested billions of dollars to build and maintain expertise and infrastructure within the national laboratory system. This vast capability is being leveraged via GAIN to support commercialization of new advanced nuclear technologies.

Location: GAIN is managed out of the Idaho National Laboratory
Founded: November 2015
Director: Rita Baranwal
Federal Engagement: DOE-NE, NRC, NSUF, NEUP, LWRS, NEAMS, ART

Preferred Point of Contact
Lori Braase: lori.braase@inl.gov

DEVELOPERS

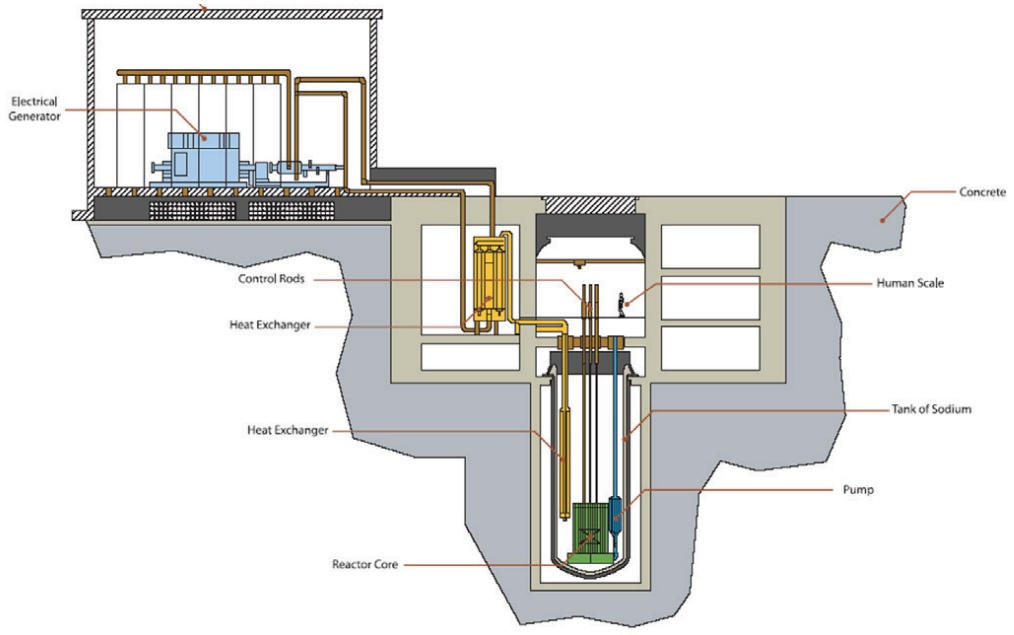
ADVANCED REACTOR CONCEPTS LLC

www.arcnuclear.com

ARC is seeking to commercialize a disruptive new technology for power generation in the form of an advanced small modular reactor offering 100 MWe. The reactor will be factory-built and offer the customer a twenty-year refueling cycle that provides fixed fuel costs for 20+ years.

Location: Chevy Chase, MD
Founded: September 2006
Principal/CEO: Donald Wolf
Major Investors: Founders and Insiders
Technology Class: Liquid Metal Cooled
Reactor Type: Sodium fast reactor with metal fuel
Power Output (MWe and MWt): 100MWe/260MWt

Preferred Point of Contact
info@ARCnuclear.com



BRILLOUIN ENERGY CORP.

www.brillouinenergy.com

Brillouin Energy Corp. is a clean-technology company located in Berkeley California, which is developing ultra-clean, low-cost, renewable energy technologies capable of producing commercially useful amounts of thermal energy. Brillouin's technologies are based on low energy nuclear reactions ("LENR"), which it generates on a controlled basis in its uniquely designed reactors.

Location: Berkeley, CA
Founded: January 2000
Principal/CEO: Robert W. George
Major Investors: Angel Investors
Technology Class: Gas Cooled
Reactor Type: Green Energy, Low Energy Nuclear Reactions
Power Output (MWe and MWt): 25 kWt
Federal Engagement: NRC

Preferred Point of Contact
Robert W. George: RWGeorge@BrillouinEnergy.com

COLUMBIA BASIN CONSULTING GROUP

www.cbcgllc.com

CBCG is a business management and technical consulting firm which provides services relating to advanced reactor engineering and development.

Location: Kennewick, WA
Founded: May 1998
Principal/CEO: William J. Stokes
Major Investors: Self-Funded
Technology Class: Liquid Metal Cooled
Reactor Type: Lead-Bismuth and Sodium
Power Output (MWe and MWt): 260 MWe/600MWt; 100 MWe/250MWt
Federal Engagement: DOE, GAIN, Other

Preferred Point of Contact
William J. Stokes: info@cbcgllc.com

CBCG PbBi Nuclear Plant Development - Power When You *Need* it to BE-THERE

E

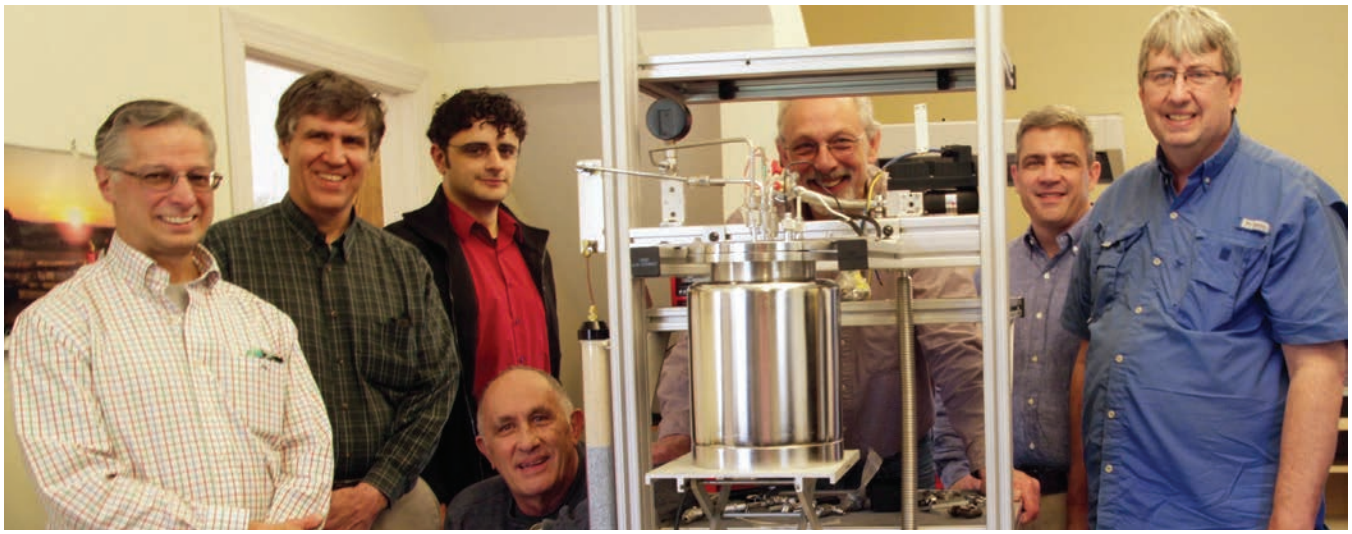
ELYSIUM INDUSTRIES

www.elysiumindustries.com

Elysium Industries is developing molten chloride salt fast reactor technology to unlock the abundance of clean, safe, and inexpensive energy for our growing globalized and digitized world.

Location: Schenectady, NY
Founded: March 2015
Principal/CEO: President Youssef Ballout, CTO Ed Pheil, CEO Carl Perez
Technology Class: Liquid Salt Fueled/Cooled MSRs, Using the term "cooled" is misleading as there are salt cooled (solid fueled, salt cooled or salt fueled with the cooling salt being salt or something else. Most are liquid salt fueled, and secondary salt cooled.
Reactor Type: Molten Chloride Salt Fast Reactor (MCSFR)
Power Output (MWe and MWt): 20 MWe (125MWt) - 2000MWe (5000MWt) for MCSFR I design. MCSFR II design will be lower MWt
Federal Engagement: DOE, GAIN, Other

Preferred Point of Contact
Ed Pheil: e.pheil@elysium-v.com



framatome

FRAMATOME, INC.

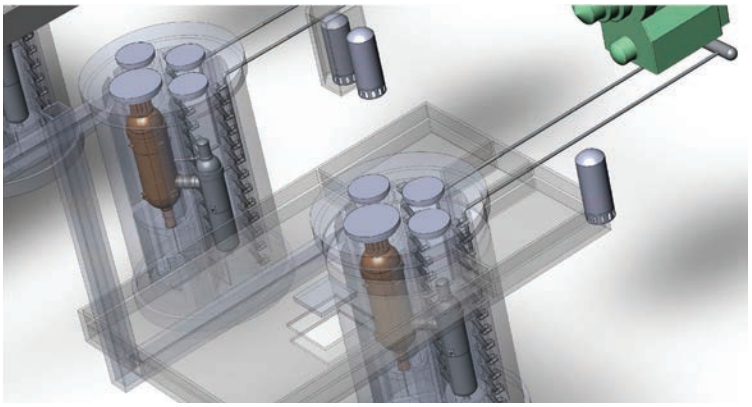
www.framatome.com

Framatome is a well-known brand and a unifying name with a solid reputation in the industry that has international reach. For decades, we have and continue to be involved in the design and manufacturing of nuclear power plants and associated services, components, fuel, and instrumentation and control systems.

Framatome is developing the Steam Cycle HTGR Generation IV advanced reactor concept. Its scalable design provides options for a variety of customer needs for high-temperature steam and electricity. Its unparalleled safety profile allows co-location with customer facilities. True walk-away safety and restart capability following a design-basis accident make the SC-HTGR a low investment risk for plant owners and operators.

Location: Charlotte, NC; Lynchburg, VA; Richland, WA; Washington, DC; Cranberry, PA; Benicia, CA; Fort Worth, TX; Houston, TX; Jacksonville, FL
Founded: April 1989
Principal/CEO: Gary Mignogna
Technology Class: High-temperature gas-cooled
Reactor Type: Steam-cycle high-temperature gas-cooled reactor for electricity generation, process heat, and cogeneration
Power Output (MWe and MWt): Deployable in a range of 50 MWt (22 MWe) to 625 MWt (272 MWe)
Federal Engagement: DOE, GAIN, ARPA-E, NRC

Preferred Point of Contact
Darryl Gordon: 202-969-3240



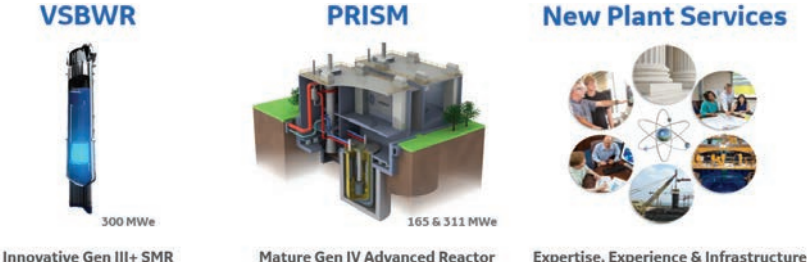
GE HITACHI NUCLEAR ENERGY

www.nuclear.gepower.com

GE Hitachi Nuclear Energy (GEH) is a global nuclear alliance and world-leading provider of advanced reactor technology, nuclear fuel and services, with more than 60 years of experience developing water and sodium-cooled reactor technology. PRISM is a sodium-cooled, advanced fast reactor that employs inherently-safe metal fuel and air-cooled passive safety, and can be utilized for power generation, process heat, and closing the fuel cycle. PRISM has significant licensing, testing, design, and operation basis (e.g. EBR-II) and provides the highest potential for a successful Generation IV project. VSBWR is an innovative water-cooled SMR based on, but simplifying, the NRC-licensed ESBWR. VSBWR is projected to cost significantly less per kW than current large and SMR nuclear designs, has competitive lifecycle costs with natural gas combined cycle plants, and is ready for near term deployment. In addition to providing advanced reactors, GEH also offers New Plant Services to support the various new reactor designers by sharing its expertise, experience, and infrastructure.

Location: Wilmington, NC
Founded: 1955
Principal/CEO: Jay Wileman
Technology Class: PRISM: GEN IV Advanced Reactor; VSBWR: GEN III+ SMR
Reactor Type: PRISM: Sodium Fast Reactor (SFR); VSBWR: Boiling Water Reactor (BWR)
Power Output (MWe and MWt): PRISM: 165 MWe (471 MWt) and 311 MWe (840 MWt); VSBWR: 300 MWe (910 MWt)MCSFR I design. MCSFR II design will be lower MWt
Federal Engagement: DOE, NRC, GNEP and ALMR

Preferred Point of Contact
Patrick Looney: Patrick.Looney@ge.com
Eric Lowen: Eric.lowen@ge.com
GEH.NPP@ge.com



GENERAL ATOMICS

www.ga.com

General Atomics has been at the forefront of innovation in nuclear energy since the 1950s. We continue to push the boundaries of what is possible in advanced nuclear reactors while helping to sustain our current reactor fleet and spinning off advanced material technologies that have the potential to enhance public safety and well-being.

GA's TRIGA® research reactors are the some of the most successful reactor designs in history. GA is building on its experience with TRIGA® in developing the next generation of advanced fission reactors. GA is developing the innovative Energy Multiplier Module (EM2), an advanced high temperature helium-cooled fast reactor, producing 265 MWe of power per module at a net efficiency of 53%. EM2 employs cutting-edge advances in materials science to address the four core challenges facing nuclear energy – safety, waste, cost, and non-proliferation. It can be powered by spent nuclear fuel and operates up to 30 years without refueling and would first be demonstrated at the smaller scale of 50MWe.

GA is also developing silicon carbide (SiC) composites for Accident Tolerant Fuel cladding as well as the EM2 reactor components. GA has also been developing specialty nuclear fuels, radioactive waste remediation solutions, technology solutions to support production of medical isotopes, and other technology and advanced materials for extreme environment applications.

Location: San Diego, CA
Founded: 1955
Principal/CEO: Neal Blue
Technology Class: Advanced nuclear technologies and materials
Reactor Type: High temperature gas-cooled fast reactor
Power Output (MWe and MWt): 265 MWe (500 MWt)
Federal Engagement: DOE, ARPA-E, GAIN, NRC

Preferred Point of Contact
Ron Faibish: ronfaibish@ga.com, 202-713-8333

generalfusion®

GENERAL FUSION

generalfusion.com

General Fusion is the world's most advanced private fusion technology venture, pursuing a faster and more practical path to commercially viable fusion energy.

Location: Vancouver, B.C., Canada; Washington, D.C., USA
Founded: April 2002
Principal/CEO: Christofer Mowry
Major Investors: Bezos Expeditions, Khazanah Nasional, Chrysalix Energy VC, Braemar Energy Ventures, SET Ventures, Cenovus Energy, BDC Canada, GrowthWorks, Entrepreneurs Fund, Sustainable Development Technology Canada
Technology Class: Fusion
Reactor Type: Magnetized Target Fusion
Power Output (MWe and MWt): 200MWe
Federal Engagement: Other

Preferred Point of Contact
Tim Howard: tim.howard@generalfusion.com

HolosGen™

HOLOSGEN LLC

www.holosgen.com

HolosGen develops mobile scalable integral nuclear generators with simplified and innovative designs that are optimized to produce economical, distributable, pollutant-free and, most importantly, safe electricity.

Location: Manassas Park, VA
Founded: September 2017
Principal/CEO: Claudio Filippone
Technology Class: Gas Cooled
Reactor Type: High-Temperature Gas Reactor
Power Output (MWe and MWt): 3 to 81 MWe; 5 to 135 MWt

Preferred Point of Contact
Claudio Filippone

HYBRID POWER TECHNOLOGIES LLC

www.hybridpowertechnologies.com

Hybrid Power Technologies LLC develops and promotes a new family of hybrid power plants that use nuclear and fossil fuel sources. The hybrid-nuclear approach is a major technological breakthrough that offers the real possibility of energy independence and a sustainable energy future.

Location: Overland Park, KS
Founded: June 2011
Principal/CEO: Michael F. Keller
Major Investors: Privately funded
Technology Class: Gas Cooled
Reactor Type: Graphite Moderated, Helium Cooled
Power Output (MWe and MWt): Plant electric power output: 950 MWe; Reader thermal input: 650 MWt; Fossil fuel thermal input: 1150MW (Higher Heating Value)

Preferred Point of Contact
Michael F. Keller: m.keller@hybridpwr.com

Kairos Power

KAIROS POWER LLC

www.kairospower.com

Our mission: enable the world's transition to clean energy, with the ultimate goal of dramatically improving people's quality of life while protecting the environment. Kairos Power will commercialize the fluoride salt-cooled high-temperature reactor (FHR), which can be deployed with robust safety, cost competitiveness through high efficiency and low-pressure small modular design, and flexible operation to accommodate the expansion of variable renewables.

Location: San Francisco Bay Area, CA
Founded: August 2016
Principal/CEO: Michael Laufer
Technology Class: Solid-Fueled / Molten Salt-Cooled
Reactor Type: Graphite-moderated, fluoride salt-cooled, high-temperature reactor
Federal Engagement: GAIN

Preferred Point of Contact
Jaclyn Rodriguez: rodriguez@kairospower.com

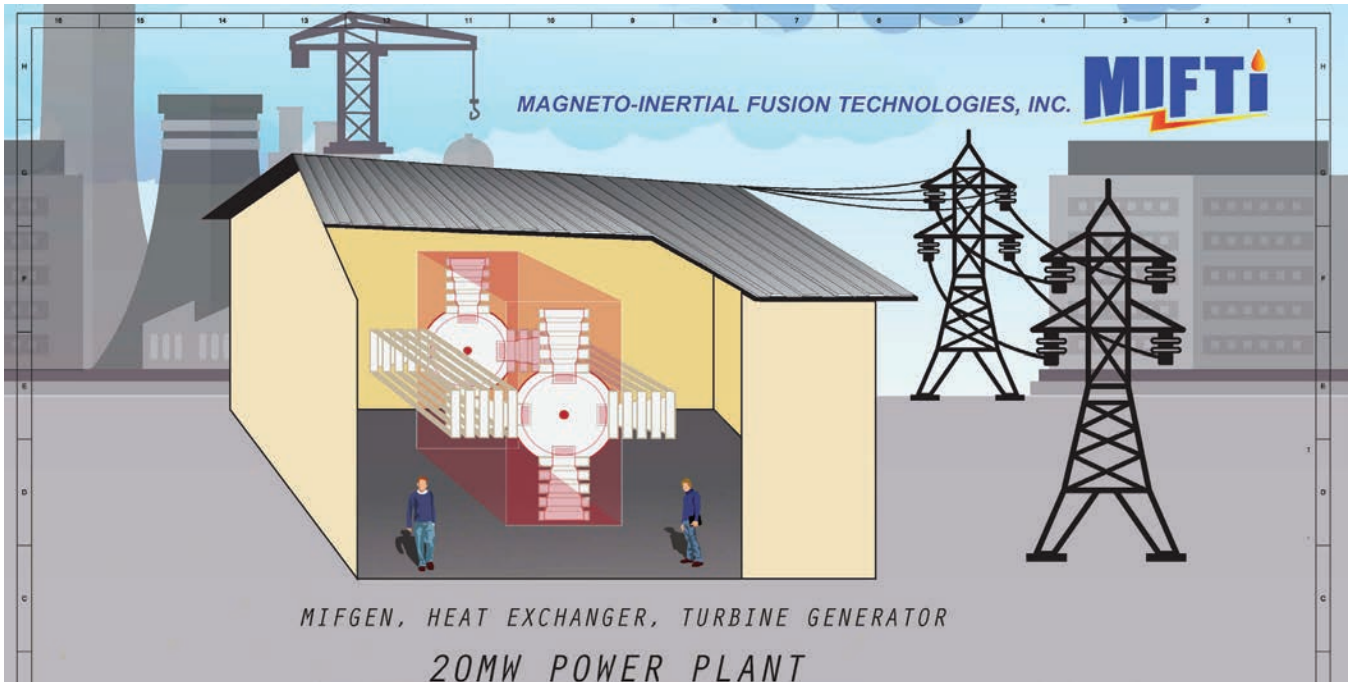
MAGNETO-INERTIAL FUSION TECHNOLOGIES, INC. (MIFTI)

www.mifti.com

MIFTI specializes in fusion energy and medical isotope technology.

Location: Tustin, CA
Founded: November 2009
Principal/CEO: Gerald Simmons, Chairman/CEO
Major Investors: DOE/ARPA-E, Strong Atomics Fund 1
Technology Class: Thermonuclear Fusion
Reactor Type: Nuclear Fusion Reactor
Power Output (MWe and MWt): 20MWe
Federal Engagement: DOE, ARPA-E

Preferred Point of Contact
Jerry Simmons



Muons, Inc.
Innovation in Research

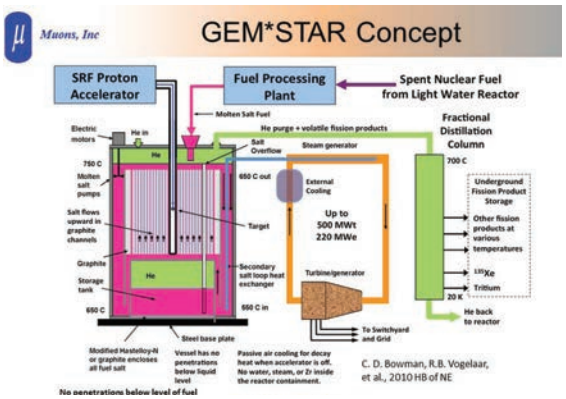
MUONS, INC.

www.muonsinc.com

Partnering with national labs and universities with their extraordinary people and facilities, Muons has leveraged its creative talents to provide solutions to many problems of global and national interest. Muons has received over $30M in competitive DOE contracts and Small Business Innovation and Technology Transfer Research grants, which have generated intellectual property as well as appreciation for our work in the accelerator and reactor communities. Examples of our inventions are included in discovery science (Muon Collider, the next atom smasher), medicine (Energy-Recovery Linacs for commercial production of new radioisotopes for therapy and diagnostics), national security (photon and neutron sources for cargo scanning), energy and environment (GEM*STAR subcritical system for carbon-free energy production) and industry (magnetron power sources for RF cavities). As a supporter of science and technology, Muons supports students and post-docs and provides computer programs for accelerator and reactor communities.

Location: Batavia, IL
Founded: February, 2002
Principal/CEO: President, Rolland Johnson, Ph.D.
Major Investors: Rolland Johnson
Technology Class: Advanced Reactor Developer
Reactor Type: SRF Linac Driven Subcritical Molten Salt Fueled Thermal Spectrum SMR
Power Output (MWe and MWt): 220 MWe, 500 MWt
Federal Engagement: DOE, ARPA-E, GAIN, DOE SBIR-STTR Programs

Preferred Point of Contact
Rolland Johnson: rol@muonsinc.com
757-870-6943



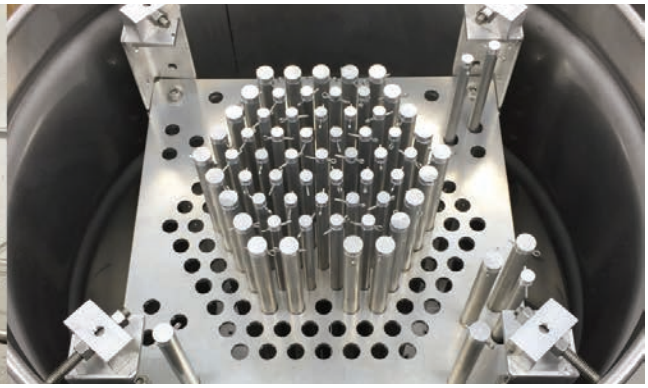
NIOWAVE, INC.

www.niowaveinc.com/

Niowave is utilizing transformative science and technology for advancing nuclear power to meet the nation's energy and security needs. Niowave's Radioisotope Program established both the facilities and the NRC license to operate a subcritical assembly and perform nuclear fuel reprocessing. The team is developing a hybrid fast/thermal spectrum subcritical testbed, coupled to a superconducting electron linac, to provide peak fast-spectrum neutron fluxes greater than 1E15 n/cm2s in heavy liquid-metal environment. The facility will be used to test novel fuels, materials, instruments and components, reactor safety designs, provide data for reactor code development, and support the regulatory process for licensing novel technology.

Location: Lansing, MI
Founded: December 2005
Principal/CEO: Dr. Terry L. Grimm, President and Senior Scientist
Major Investors: DOE/ARPA-E, Strong Atomics Fund 1
Technology Class: Liquid Metal Cooled (Lead-Bismuth Eutectic)
Reactor Type: Hybrid Fast/Thermal Spectrum Subcritical Testbed
Power Output (MWe and MWt): 0.1-10 MWt (no electricity generation like FFTF)
Federal Engagement: DOE, NRC, DOD, NIH

Preferred Point of Contact
Faisal Y. Odeh: odeh@niowaveinc.com



NUSCALE POWER

www.nuscalepower.com

NuScale is developing SMR that integrate the reactor, steam generator, pressurizer, and containment into a single module. Nuclear power plants using NuScale technology can be designed to accommodate growing electrical demand by simply adding additional modules as the need arises.

Location: OR, NC, MD, VA, WA; London, UK
Founded: July 2007
Principal/CEO: John Hopkins
Major Investors: Fluor Corporation
Technology Class: Water Cooled
Reactor Type: Integral Pressurized Water Reactor (IPWR) based on light water reactor technology
Power Output (MWe and MWt): 50 MWe
Federal Engagement: DOE, NRC

Preferred Point of Contact
Lenka Kollar: lkollar@nuscalepower.com

SILICON ACCELERATOR, INC (SAI)

SAI designs small computer chip-driven accelerator-based fission/fusion power systems.

Location: San Francisco, CA
Founded: January 2006
Principal/CEO: CEO & CTO Ed Pheil
Technology Class: Accelerator driven direct ion to electricity conversion
Reactor Type: Heavy Ion Inertial Confinement Fission/Fusion, Prefered p B11 fission to He4
Power Output (MWe and MWt): mW to 1MWe max. per module
Federal Engagement: Other

Preferred Point of Contact
Ed Pheil: e.pheil@elysium-v.com

TERRAPOWER, LLC

terrapower.com

TerraPower is a nuclear innovation company that originated with Bill Gates and a group of like-minded visionaries who evaluated the fundamental challenges to raising living standards around the world. TerraPower's mission is to be a world leader in new nuclear technologies, while developing innovators and future leaders in the nuclear field.

Location: Bellevue, WA
Founded: January 2008
Principal/CEO: Bill Gates, Chairman; Lee McIntire, CEO; Chris Levesque, President
Technology Class: Liquid metal and salt cooled
Reactor Type: Traveling Wave Reactor (TWR) – sodium-cooled fast reactor; Molten Chloride Fast Reactor (MCFR) – molten salt/liquid fuel fast reactor
Power Output (MWe and MWt): Various (up to 1200MWe) for both concepts
Federal Engagement: DOE, NRC

Preferred Point of Contact
inquiries@terrapower.com

TERRESTRIAL ENERGY USA

TERRESTRIAL ENERGY USA, INC.

www.terrestrialusa.com

Terrestrial Energy USA (TEUSA) is developing an advanced Small Modular Reactor (aSMR) using Integral Molten Salt Reactor (IMSR®) technology, for first commercial deployment in the 2020's, and to provide cost-competitive electricity and process heat to industry. The IMSR® design is a graphite moderated, LEU once-through fueled, fluoride molten salt reactor (MSR) that uses a replaceable reactor core architecture.

Location: New York, NY
Founded: August, 2014
Principal/CEO: Simon Irish
Major Investors: Private investors
Technology Class: Advanced Small Modular Reactor (aSMR)
Reactor Type: Molten Salt Reactor
Power Output (MWe and MWt): 192 MWe, 400MWth
Federal Engagement: DOE, GAIN, ARPA-E, NRC

Preferred Point of Contact
Robin Rickman: rrickman@terrestrialusa.com, 724-421-6434

THORCON
POWERING UP OUR WORLD

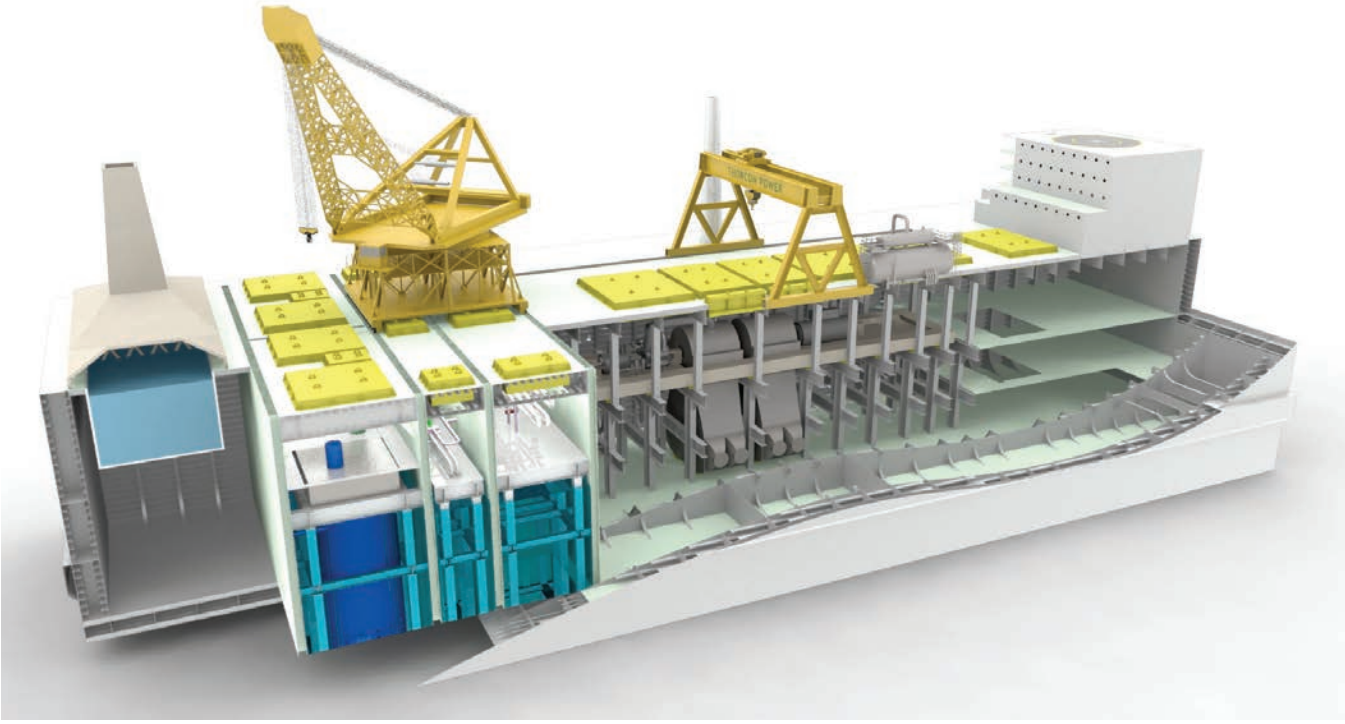
THORCON INTERNATIONAL

thorconpower.com

ThorCon is developing a hybrid thorium/uranium liquid fission power plant that generates clean, full-time electric power at a cost cheaper than coal.

Location: Singapore; Stevenson, WA
Founded: August 2016
Principal/CEO: Lars Jorgensen, CEO
Technology Class: Salt Cooled
Reactor Type: Thermal Molten Salt Reactor
Power Output (MWe and MWt): 250 MWe/557 MWt per power module

Preferred Point of Contact
info@thorconpower.com



TRANSATOMIC POWER

www.transatomicpower.com

Transatomic is designing a thermal-spectrum molten salt reactor fueled by fresh uranium.

Location: Cambridge, MA
Founded: April 2011
Principal/CEO: Dr. Leslie Dewan
Major Investors: Founders Fund, Acadia Woods Partners, Daniel Aegerter
Technology Class: Molten Salt-Fueled
Reactor Type: Thermal spectrum, uranium-fueled molten salt reactor
Power Output (MWe and MWt): 520 MWe/1250 MWt
Federal Engagement: GAIN, NRC

Preferred Point of Contact
Dr. Leslie Dewan: ldewan@transatomicpower.com

WESTINGHOUSE ELECTRIC COMPANY LLC

westinghousenuclear.com/New-Plants/Lead-cooled-Fast-Reactor

Westinghouse Electric Company is the world's leading supplier of safe and innovative nuclear technology, providing utility customers around the world with the most reliable, dependable nuclear power plants, nuclear fuel, plant automation and operating plant products and services. Westinghouse is driven by its powerful history and experience, ground-breaking ideas, focus on safety and sustainability, and our strong team of approximately 10,000 employees around the world.

Location: USA, Canada, Asia, India, Japan, South Korea, UAE, Africa, Europe, United Kingdom
Founded: January 1886
Principal/CEO: José Emeterio Gutiérrez, President and CEO
Major Investors: Westinghouse Electric Company LLC
Technology Class: Liquid Metal Cooled
Reactor Type: Lead-cooled Fast Reactor: 400-500 MWe, 950MWt (preceded by a lower power prototype); Heat Pipe Cooled Reactor: 0.5-50 MWe, 2MWt – 100MWt, CHP (600°C max temperature)
Power Output (MWe and MWt): 400-500 MWe/950MWt (preceded by a lower power prototype)
Federal Engagement: DOE

Preferred Point of Contact
Layla Sandell: sandell@westinghouse.com

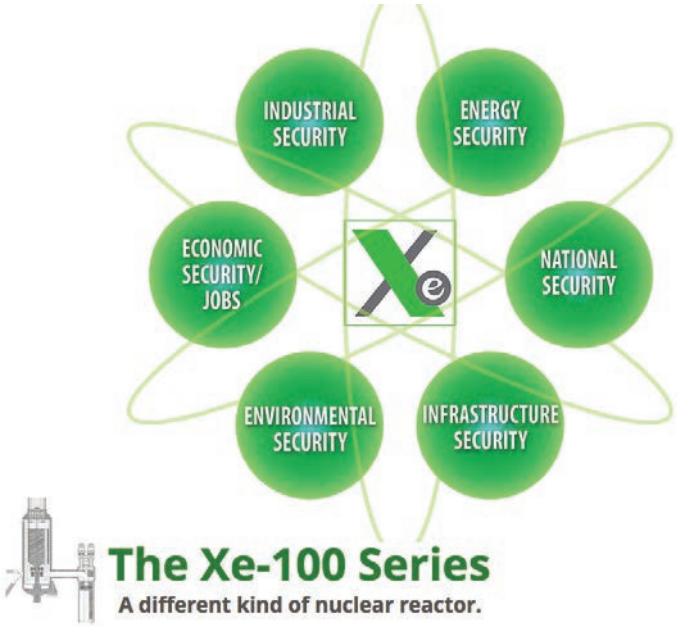
X-ENERGY, LLC

www.x-energy.com

X-energy is a nuclear reactor and fuel design engineering services company developing Generation IV, high-temperature gas-cooled nuclear reactor designs that are smaller, simpler and meltdown-proof when compared to conventional nuclear designs.

Location: Greenbelt, MD
Founded: September 2009
Principal/CEO: Dr. Kam Ghaffarian
Technology Class: Gas Cooled
Reactor Type: High Temperature Gas Cooled Pebble Bed Reactor
Power Output (MWe and MWt): 76MWe/200MWt
Federal Engagement: DOE, GAIN, ARPA-E, NRC

Preferred Point of Contact
Jeff Harper: jharper@x-energy.com



YELLOWSTONE ENERGY

www.yellowstone.energy

Yellowstone Energy focuses on advanced nuclear reactor design.

Location: Knoxville, TN
Founded: October 2016
Principal/CEO: Matt Ellis
Technology Class: Salt Cooled
Reactor Type: Molten Salt Reactor
Power Output (MWe and MWt): 200 MWe/500 MWt
Federal Engagement: DOE

Preferred Point of Contact
Matt Ellis: 208.344.3570

SUPPLIERS

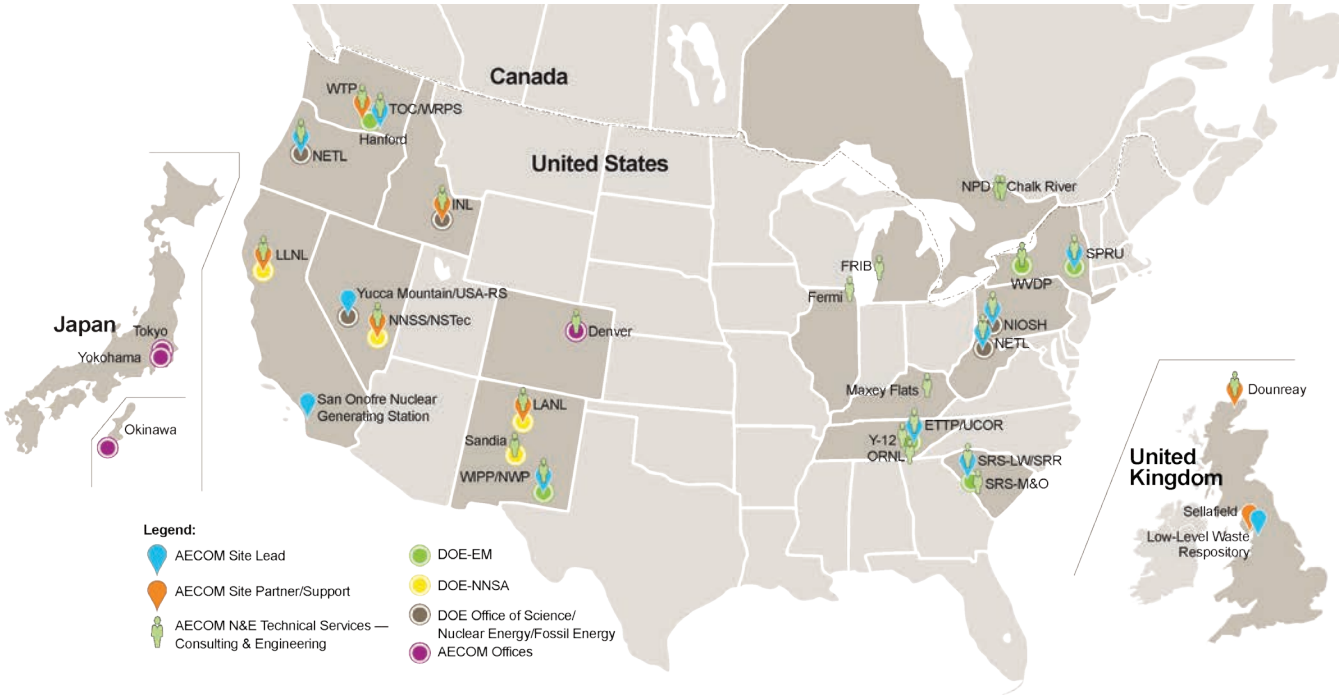
AECOM

www.aecom.com

AECOM is a global network of experts working with clients, communities and colleagues to develop and implement innovative solutions to the world's most complex challenges, from delivering clean water and energy to helping governments maintain stability and security. AECOM connects expertise across services, markets, and geographies to deliver transformative outcomes.

Location: Aiken, SC
Founded: April 1990
Principal/CEO: Mike Burke
Federal Engagement: DOE, Other

Preferred Point of Contact
Eric Knox: eric.knox@aecom.com



INNOVATING NUCLEAR TECHNOLOGY
ANALYSIS AND MEASUREMENT SERVICES CORPORATION

ANALYSIS AND MEASUREMENT SERVICES CORPORATION (AMS)

www.ams-corp.com

AMS provides the worldwide nuclear industry with products and services to measure I&C performance and verify compliance with technical specifications and regulatory requirements.

Location: Knoxville, Tennessee
Founded: July 1977
Principal/CEO: Dr. H.M. Hashemian
Federal Engagement: DOE, GAIN, Other

Preferred Point of Contact
Dr. H.M. Hashemian: info@ams-corp.com

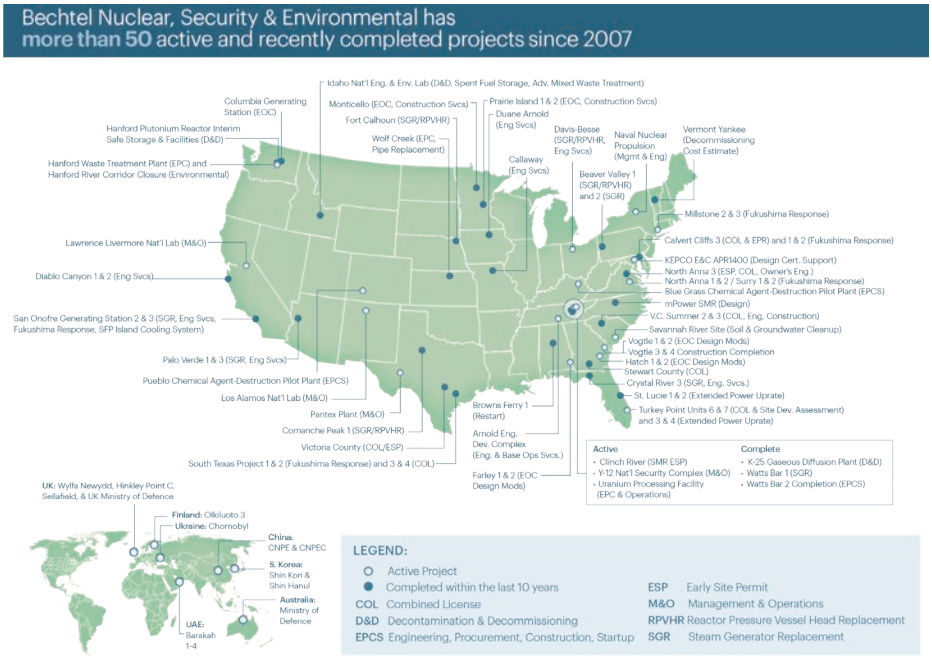
BECHTEL NUCLEAR, SECURITY & ENVIRONMENTAL

www.bechtel.com

Bechtel's Nuclear, Security & Environmental global business unit leverages Bechtel's six decades in the nuclear industry to execute both commercial and government projects across the nuclear lifecycle. Bechtel's commercial nuclear power division is a global leader in the licensing, design, procurement, and construction of nuclear power plants, whether it is new build, plant completion or recovery, modifications to existing facilities, or advanced reactor technology development.

Location: Reston, VA
Founded: 1898
Principal/CEO: Barbara Rusinko
Federal Engagement: DOE, NRC, ARPA-E, DOD

Preferred Point of Contact
Muhammad Fahmy: mgfahmy@bechtel.com, 703-429-6859



BURNS & MCDONNELL

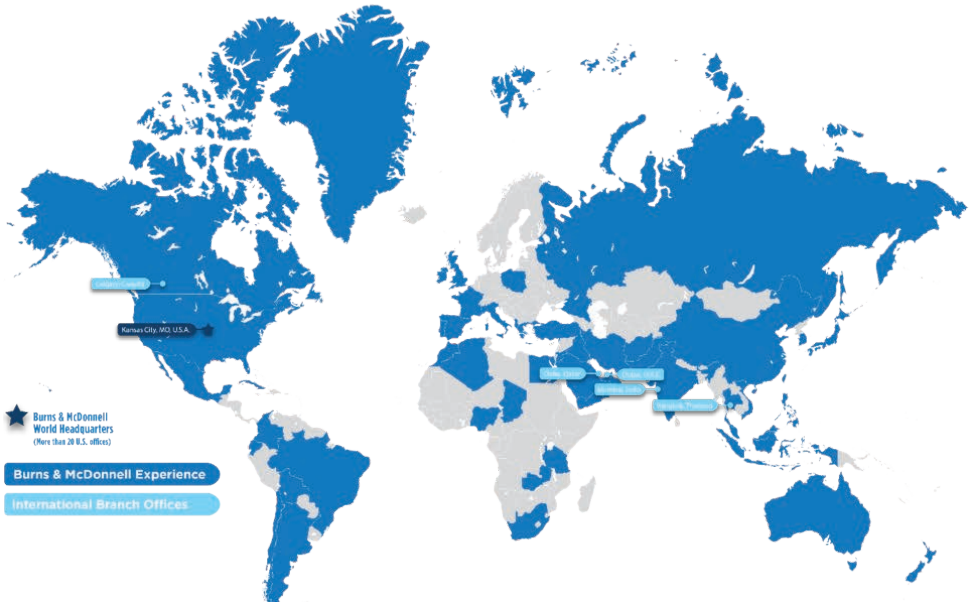
www.burnsmcd.com

Burns & McDonnell is a worldwide leader in engineering and construction with over 6,000 employee-owners in over 40 offices across the US and throughout the world. At Burns & McDonnell, our engineers, architects, scientists and construction professionals do more than plan, design and implement. With a mission that remains unchanged since our founding in 1898 - Make Our Clients Successful – our team partners with you on the toughest challenges, constantly working to make the world an amazing place.

Location: Kansas City, MO; over 40 offices globally
Founded: April 1898
Principal/CEO: Ray Kowalik
Federal Engagement: DOE, NRC, Other

Preferred Point of Contact
Glenn Neises: gneises@burnsmcd.com

World Energy Experience



BWX TECHNOLOGIES, INC.

www.bwxt.com

BWXT has been involved in the nuclear industry since its beginning. As a federal contractor, BWXT provides nuclear components and fuel for the US Navy's submarine and aircraft carrier fleet. Commercially, BWXT manufactures heavy components for CANDU reactors, provides services for the US and Canadian nuclear markets, and provides engineering and design capabilities for advanced reactor technologies and fuel.

Location: Offices in VA, OH, IN, TN, and Ontario, Canada
Founded: January 2017
Principal/CEO: Rex Geveden
Federal Engagement: DOE, NRC, Other

Preferred Point of Contact
Joe Miller: jkmiller@bwxt.com

CENTRUS TECHNICAL SOLUTIONS

www.centrusenergy.com

Centrus Energy Corp. is a trusted supplier of the world's most diversified supply of enriched uranium fuel for civilian nuclear power reactors, with expertise in uranium enrichment, uranium chemistry and nuclear fuel transportation.

Location: Oak Ridge, TN
Founded: July 1998
Principal/CEO: Larry Cutlip, Vice President Field Services
Federal Engagement: DOE, GAIN, ARPA-E, NRC, Other

Preferred Point of Contact
Larry Cutlip: cutliplb@centrusenergy.com

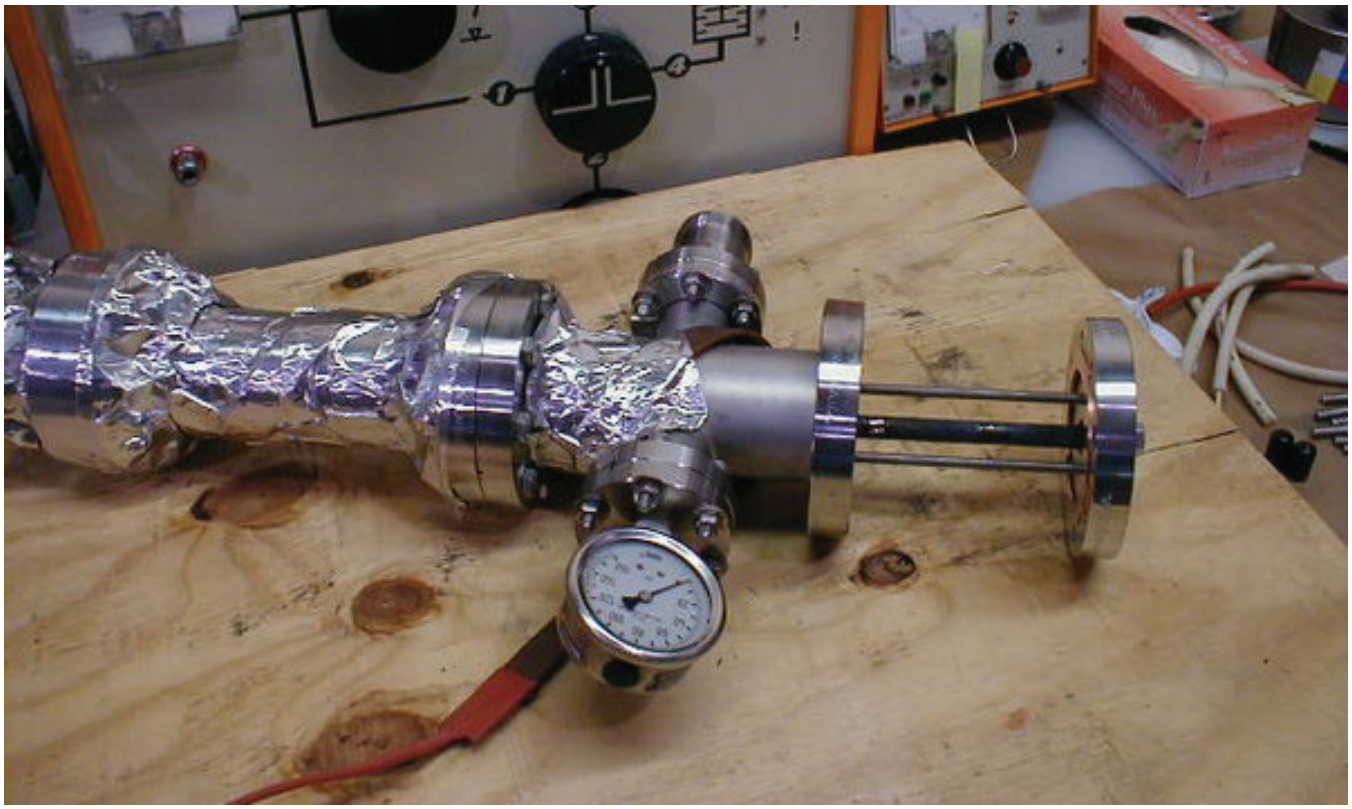
CERAMIC TUBULAR PRODUCTS

www.ctp-usa.com

Ceramic Tubular Products develops and supplies very high temperature ceramic tubes and materials for existing and future nuclear and solar thermal applications.

Location: Lynchburg, VA
Founded: October 2006
Principal/CEO: Jeffrey Halfinger
Federal Engagement: DOE, GAIN

Preferred Point of Contact
Jeffrey Halfinger: 301.946.2381



COMPETITIVE ACCESS SYSTEMS (CAS), INC.

CAS, Inc.develops self-recharging nuclear battery technologies.

Location: Wylie, TX
Founded: June 1996
Principal/CEO: Eric Delangis

Preferred Point of Contact
Linda Delangis: ldelangis@neukenergy.com

FinRex® and ShimRex® Technologies

COMPREX, LLC

www.comprex-llc.com

CompRex, LLC designs custom compact heat exchangers and compact heat exchange reactors for a wide range of chemical process applications where efficient heat transfer is critical.

Location: De Pere, WI
Founded: April 2014
Principal/CEO: Zhijun Jia
Federal Engagement: DOE, GAIN

Preferred Point of Contact
Zhijun Jia: Zhijun.jia@comprex-llc.com

CONCURRENT TECHNOLOGIES CORPORATION

www.ctc.com

Concurrent Technologies Corporation specializes in the development of technologies for advanced manufacturing.

Location: Johnstown, PA
Founded: August 1987
Principal/CEO: Ed Sheehan
Federal Engagement: DOE, GAIN

Preferred Point of Contact
Robert Akans: 703.310.5652

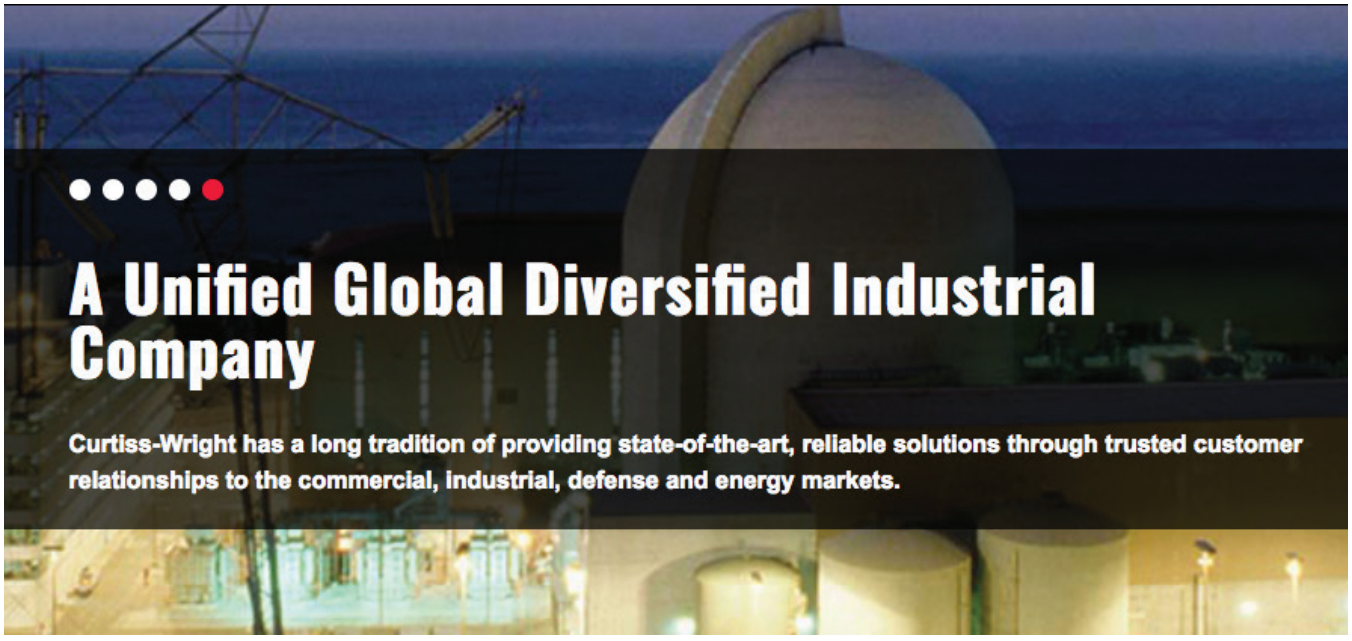
CURTISS-WRIGHT

www.curtisswright.com/markets/power-generation/default.aspx

Curtiss-Wright provides advanced products and services in support of the nuclear power industry.

Location: Civil nuclear power focused offices in CA, ID, FL, PA, OH, NY, CT, and AL.
Founded: January 1929
Principal/CEO: Jim Leachman SVP and GM of Nuclear Division
Federal Engagement: DOE, NRC

Preferred Point of Contact
Gary Wolski: info@curtisswright.com

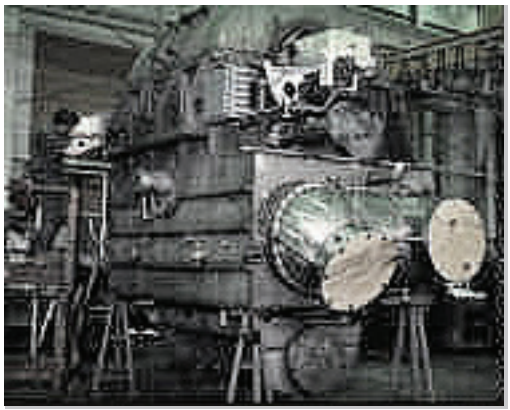


DC FABRICATORS, INC.

www.dcfab.com

DC Fabricators manufactures heat exchange equipment for the power generation and defense industries. DCF specializes in small to medium size cylindrical and rectangular condensers and heat exchangers for industrial and cogeneration applications, geothermal power plants, large main station condensers (to over 500,000 sq.ft.), process heat exchangers with pressures over 2,000 psi, and nuclear power systems. DCF's backs up its manufacturing capabilities with complete engineering analysis and design capabilities that conform to ASME Code, TEMA Standards, HEI Standards for Steam Condensers, and International Codes and Standards.

Location: Florence, NJ
Founded: January 1993
Principal/CEO: Gary Butler
Major Investors: John Frieling
Technology Class: PWR
Reactor Type: DOD
Power Output (MWe and MWt): Confidential
Federal Engagement: DOE, DOD
Preferred Point of Contact
Lou Iszak: liszak@dcfab.com, 609-499-3000 ext. 297



FAUSKE & ASSOCIATES, LLC (FAI)

www.fauske.com

FAI specializes in modeling and analyzing both power and non-power nuclear facilities, including light water and liquid metal cooled reactors (LMRs), as well as used fuel and legacy waste processing and storage facilities. Originally developed by Fauske & Associates, LLC (FAI), as part of the Industry Degraded Core Rulemaking (IDCOR) program, the Modular Accident Analysis Program (MAAP)—an Electric Power Research Institute (EPRI) owned and licensed computer software—simulates the response of light water and heavy water moderated nuclear power plants during a severe accident. FAI also developed FATE, a facility modeling code originally created to support design and safety analyses of uranium bearing waste during retrieval, packaging, transport, and storage at USDOE's Hanford site. FAI is active in specialized areas such as severe accident code development, dust and hydrogen explosion testing, reactive chemical calorimetry, and thermal-hydraulic experimentation to resolve practical problems such as water hammer and air intrusion in piping.

Location: Burr Ridge, IL
Founded: January 1980
Principal/CEO: Kris Fauske
Federal Engagement: DOE, GAIN, NRC

Preferred Point of Contact
Sung Jin Lee: info@fauske.com

FISONIC ENERGY SOLUTIONS - POWER SYSTEMS DIVISION

fisonicsolutions.com

Fisonic Energy Solutions designs pumping systems for power plants that require only heat to operate (no electricity), and use waste heat as a power source where possible.

Location: Waltham, MA
Founded: October 2016
Principal/CEO: CTO Ed Pheil
Federal Engagement: Other

Preferred Point of Contact
Ed Pheil: ed.pheil@fisonic.us

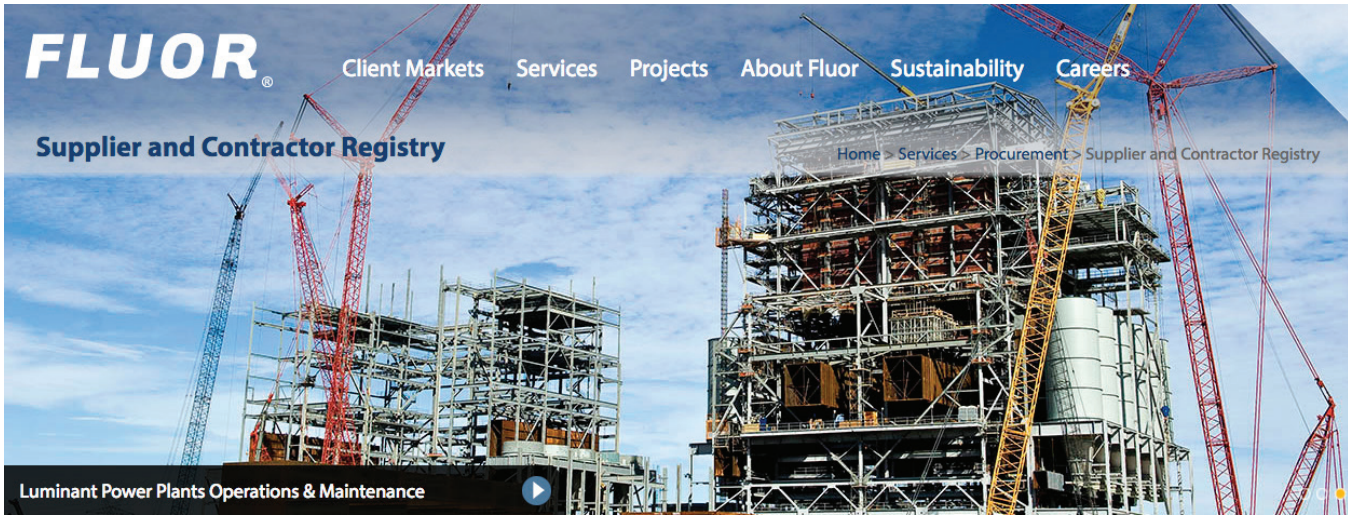
FLUOR

www.fluor.com

Fluor is one of the world's largest publicly-traded engineering, procurement, fabrication, construction (EPFC) and maintenance companies, offering integrated solutions for clients' projects. For the past 70 years, Fluor has executed some of the most complex and challenging projects in the nuclear industry.

Location: Global
Founded: April 2012
Principal/CEO: David Seaton
Federal Engagement: DOE, NRC, Other

Preferred Point of Contact
Brad Porlier: brad.porlier@fluor.com



framatome

FRAMATOME

www.framatome.com

Framatome is a well-known brand and a unifying name with a solid reputation in the industry that has international reach. For decades, we have and continue to be involved in the design and manufacturing of nuclear power plants and associated services, components, fuel, and instrumentation and control systems.

At Framatome, our people and their expertise drive the company. That expertise and operational excellence are at the heart of our strategy. Framatome has approximately 2,300 employees working across North America.

Location: Charlotte, NC; Lynchburg, VA; Richland, WA; Washington, DC; Cranberry, PA; Benicia, CA; Fort Worth, TX; Houston, TX; Jacksonville, FL
Founded: April 1989
Principal/CEO: Gary Mignogna
Federal Engagement: DOE, GAIN, ARPA-E, NRC, Other

Preferred Point of Contact
Darryl Gordon: 202-969-3240

GSE SYSTEMS®
Your performance improvement partner

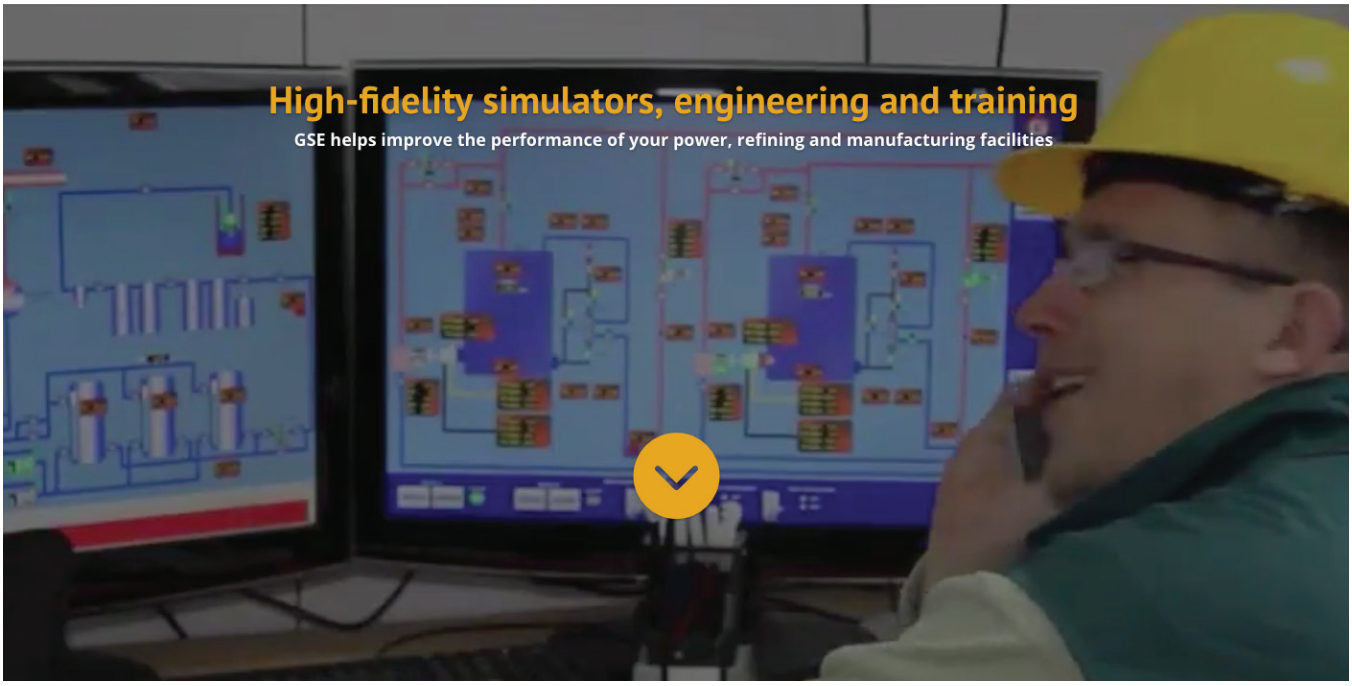
GSE PERFORMANCE SOLUTIONS, INC.

www.gses.com

GSE is the world leader in simulation systems and solutions for the nuclear power industry. GSE's technology allows the end user to conduct engineering and design studies, conduct "what if" analyses, and train personnel to exacting standards. GSE's technology is critical for customers to improve load factors, reduce operational risk, and lower operating costs.

Location: Sykesville, MD, Huntsville, AL, Navarre, FL
Founded: March 1994
Principal/CEO: Kyle Loudermilk
Federal Engagement: DOE, GAIN, ARPA-E, NRC

Preferred Point of Contact
Jay Umholtz: info@gses.com



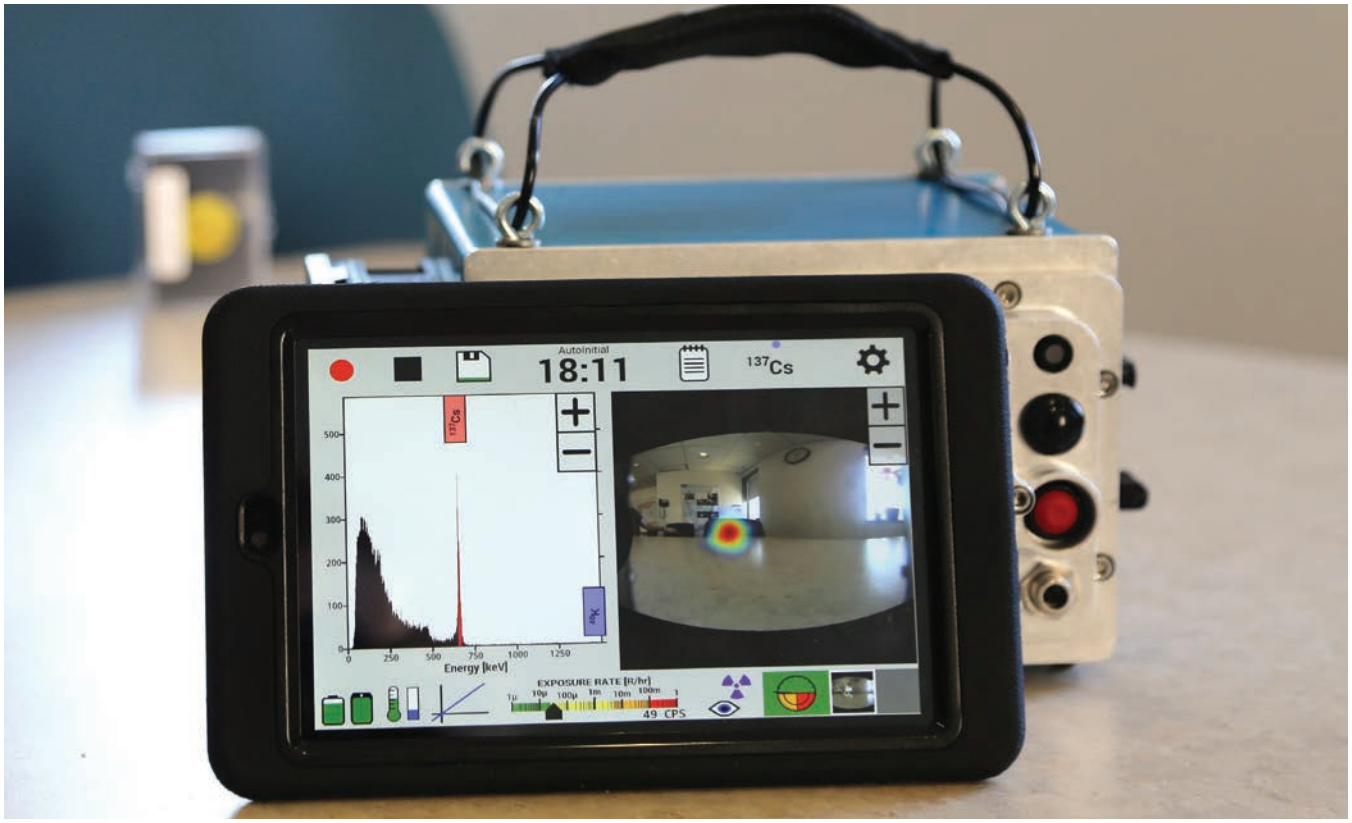
H3D, INC.

www.h3dgamma.com

H3D offers the world's highest-performance imaging spectrometers. Quickly identifying and localizing gamma-ray sources with a single measurement, H3D is revolutionizing how measurements are performed. H3D detectors are used in over half of U.S. nuclear power plants.

Location: Ann Arbor, MI
Principal/CEO: Dr. Willy Kaye
Federal Engagement: DOE

Preferred Point of Contact
Dr. Andy Boucher: andy@h3dgamma.com



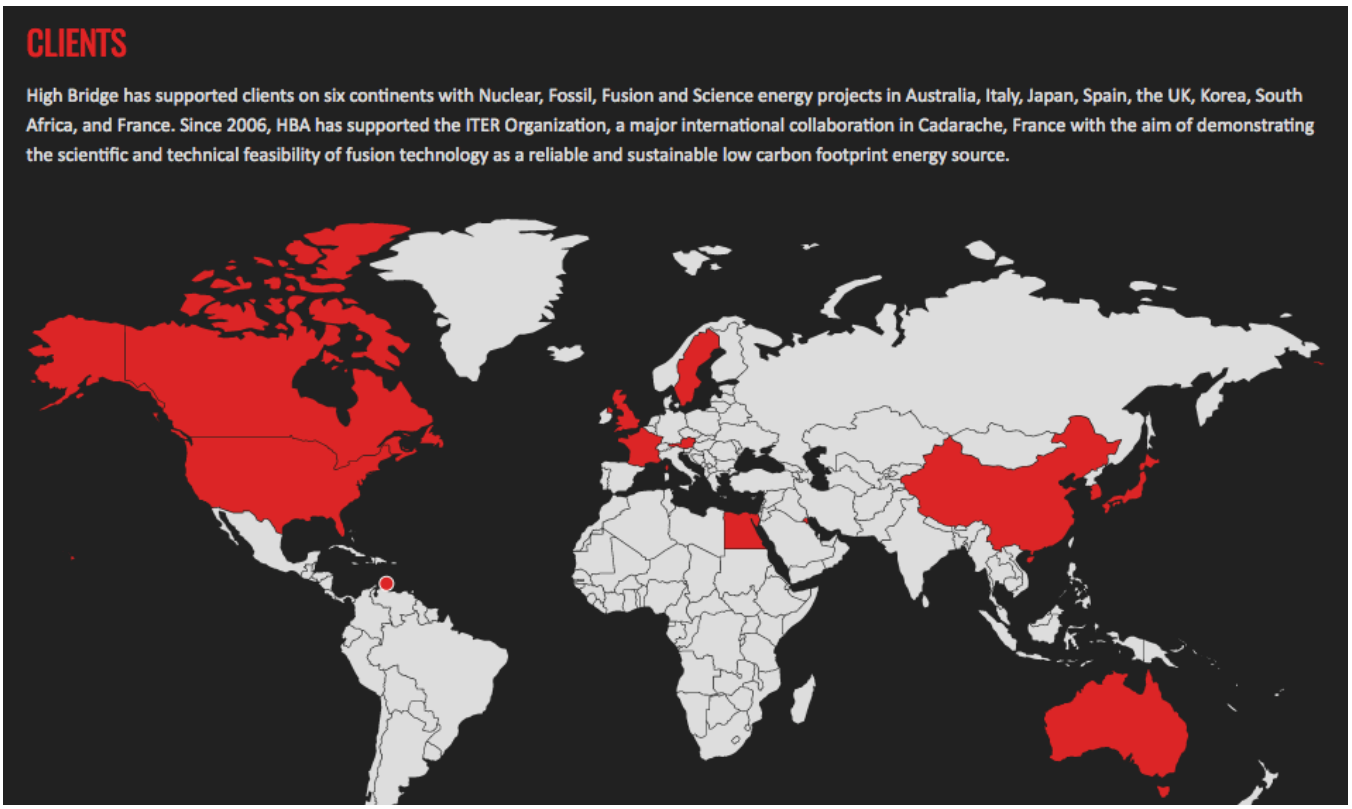
HIGH BRIDGE ENERGY DEVELOPMENT

www.hba-inc.com

High Bridge Energy Development conceptualizes and executes projects for advanced reactors and SMRs.

Location: GA, PA, OH, NY, CT, and AL.
Founded: December 2011
Principal/CEO: Steve R. Maehr
Federal Engagement: DOE, GAIN, ARPA-E, NRC

Preferred Point of Contact
Philip Moor: 770-729-8755



LIGHTBRIDGE CORPORATION

ltbridge.com

Lightbridge develops next generation fuel technology.

Location: Reston, VA
Founded: October 2006
Principal/CEO: Seth Grae
Federal Engagement: DOE, NRC

Preferred Point of Contact
Seth Grae: 571-730-1200

MAIDANA RESEARCH

https://www.maidana-research.com

MAIDANA RESEARCH specializes in engineering design and scientific research and provides technical, scientific and business consulting.

Location: ID, UT, Switzerland, Thailand
Founded: May 2015
Principal/CEO: Dr. Carlos O. Maidana
Federal Engagement: DOE, GAIN, Other

Preferred Point of Contact
management@maidana-research.com

NUVISION ENGINEERING, INC

www.nuvisioneng.com

NuVision Engineering is a leading edge technology, remote handling, and applications engineering company focused on providing value in commercial nuclear and power plant industries, government waste remediation facilities and waste cleanup. For over 45 years, NuVision has developed an excellent reputation by consistently and proficiently applying expertise in science, technology, engineering, field services, fabrication, and staffing to satisfy customers' technical, schedule, and economic requirements. NuVision's customers include major NSSS suppliers, the US Department of Energy, public utilities, international governments, and a variety of domestic and international clients.

Location: Headquarters in PA; Other locations in NC and CO
Founded: March 1971
Principal/CEO: Van Walker - President and Chief Executive Officer
Federal Engagement: DOE, GAIN, ARPA-E, NRC, Other

Preferred Point of Contact
Joe Dixon: info@nuvisioneng.com

PRECISION CUSTOM COMPONENTS, LLC

www.pcc-york.com

PCC has been manufacturing large hydro, fossil, and nuclear power generation equipment in our York, PA location for over 140 years. We have fabricated large pressure vessels and other equipment for the nuclear and process industries including Westinghouse, GE, AREVA, ExxonMobil, Dow, DuPont, US Navy, DOE, electric utilities, and others. Our nuclear manufacturing history dates back to the industry's origins with Shippingport-1 and continues to this day with Gen III+ and Gen IV reactor hardware and design support.

Location: York, PA
Founded: December 1876
Principal/CEO: Gary Butler
Major Investors: John Frieling
Technology Class: PWR, BWR, Liquid Metal Cooled
Reactor Type: Navy PWR, AP1000, others
Power Output (MWe and MWt): 40 MWe to 1000 MWe
Federal Engagement: DOE, NRC, DOD, NASA

Preferred Point of Contact
Jim Stouch: jstouch@pcc-york.com, 717- 434-1802

Studsvik

STUDSVIK SCANDPOWER

www.studsvik.com/about-studsvik/organization/studsvik-scandpower

Studsvik Scandpower provides nuclear simulation software and services which manage fuel from arrival on site to departure in casks. Key software products include CASMO/SIMULATE, GARDEL, S3K, S3R, MARLA, SNF, and CASKLOAD.

Location: Global
Principal/CEO: Steve Freel
Federal Engagement: DOE, GAIN, ARPA-E, NRC, Other

Preferred Point of Contact
Art Wharton: art.wharton@studsvik.com

NATIONAL LABORATORIES

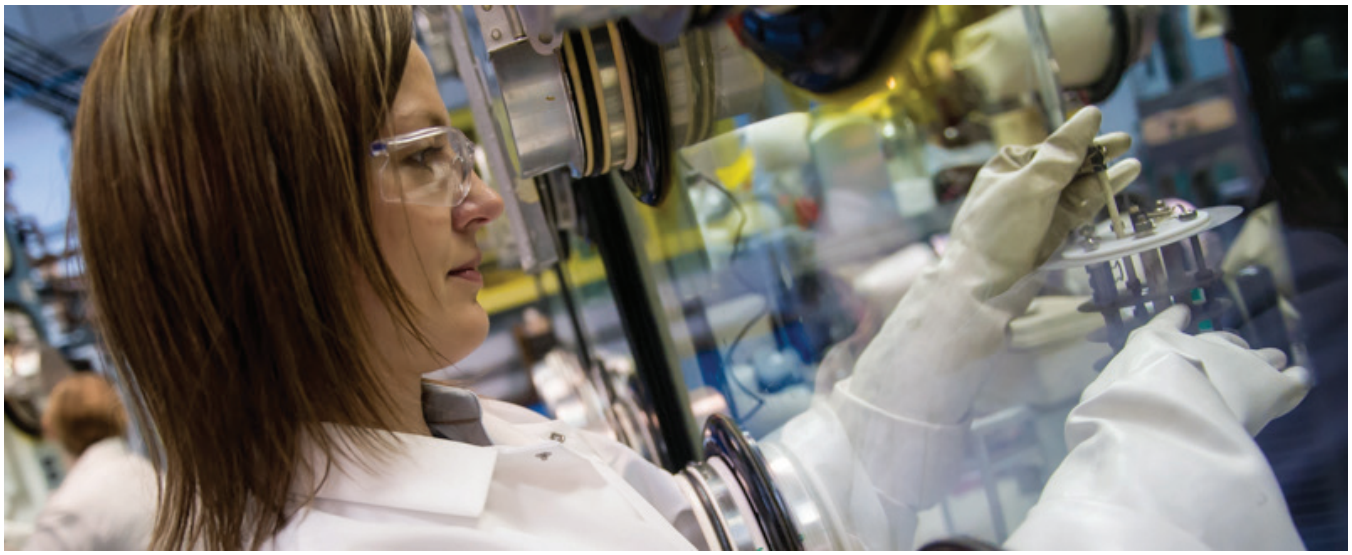
ARGONNE NATIONAL LABORATORY

www.anl.gov

Argonne is a multidisciplinary science and engineering research center, where scientists and engineers work together to answer the biggest questions facing humanity, from how to obtain affordable clean energy to protecting ourselves and our environment. Argonne was born out of the University of Chicago's work on the Manhattan Project in the 1940s. Ever since that time, the Laboratory's goal has been to make an impact—from the atomic to the human to the global scale. Argonne pioneered the application of nuclear fission for energy generation and maintains leading-edge experimental and computational capabilities for developing innovative reactor and fuel cycle systems.

Location: Lemont, IL
Founded: July 1946
Principal/CEO: Dr. Paul K. Kearns (director)
Federal Engagement: DOE-SC, DOE-NE, NNSA, DOE-EERE, U.S. NRC, ARPA-E, DOD, DHS

Preferred Point of Contact
Hussein S. Khalil: hkhalil@anl.gov, 630-252-7266



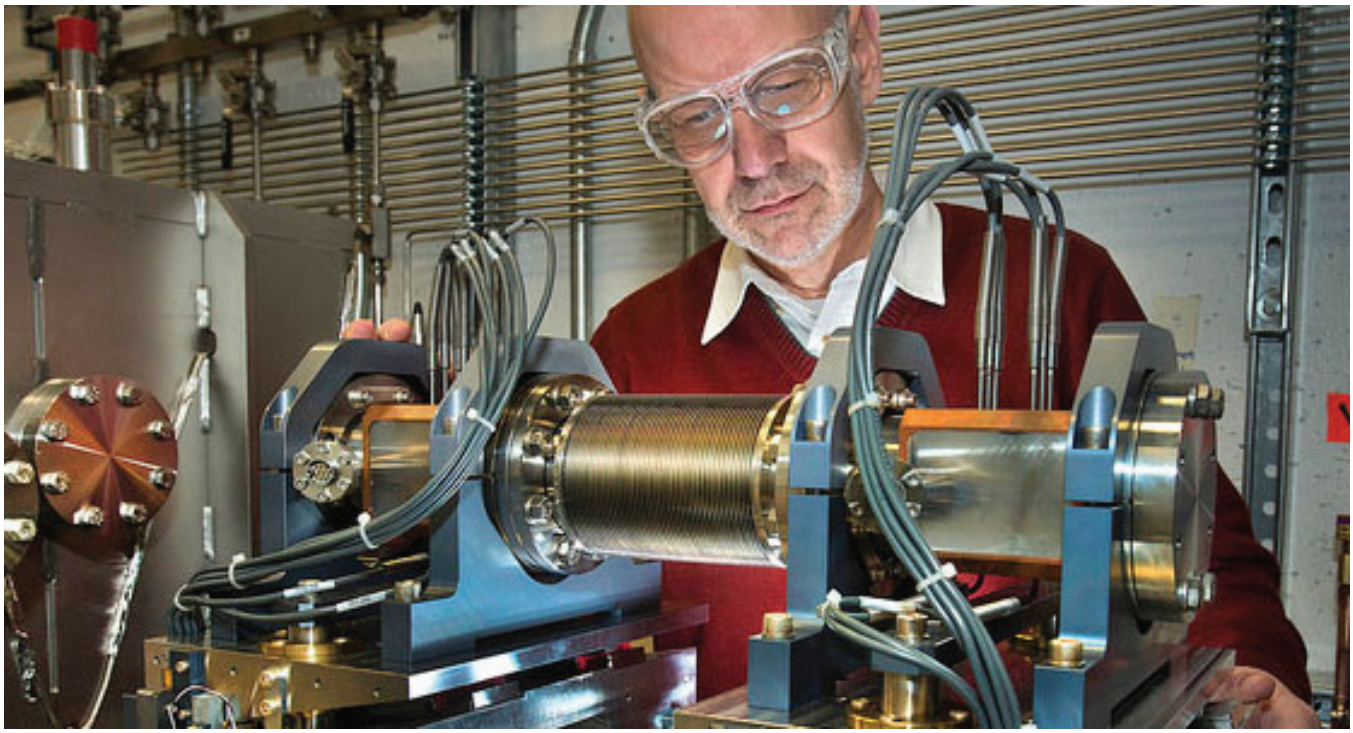
BROOKHAVEN NATIONAL LABORATORY

www.bnl.gov/world

Brookhaven National Laboratory's Department of Nuclear Science and Technology conducts research and development related to nuclear technologies (reactors and accelerator-driven systems), reliability and risk assessment, and advanced modeling techniques for reactor simulation and energy systems.

Location: Upton, NY
Founded: October 1947
Principal/CEO: Dr. Doon Gibbs
Federal Engagement: DOE, GAIN, ARPA-E, NRC, Other

Preferred Point of Contact
William C. Horak: horak@bnl.gov, 631-344-2627



IDAHO NATIONAL LABORATORY

www.inl.gov/research-programs/nuclear-energy

NUCLEAR SCIENCE USER FACILITIES (NSUF)

nsuf.inl.gov

Idaho National Laboratory (INL) is the nation's lead laboratory for nuclear energy research, development, demonstration, and deployment. INL's nuclear energy researchers work with unparalleled irradiation and post-irradiation examination, fuel fabrication, and materials testing facilities to develop new fuels to extend the life of the current fleet and fuels and materials for advanced nuclear reactor designs. INL leads many key initiatives for DOE's Office of Nuclear Energy, including GAIN, the Light Water Reactor Sustainability (LWRS) program, and NSUF.

NSUF is DOE-NE's first and only user facility. Through a distributed partnership, NSUF integrates national laboratory, university, and industry research to benefit the nation.

Location: Idaho Falls, ID
Founded: 1949
Principal/CEO: Dr. Mark Peters
NSUF Director: Dr. Rory Kennedy
Federal Engagement: DOE, GAIN, ARPA-E, NSUF, NEUP, NRC

Preferred Point of Contact
INL - Joseph Campbell: Joseph.Campbell@inl.gov, 208-526-7785
NSUF - Laura Scheele: Laura.Scheele@inl.gov, 208-526-0442

LAWRENCE BERKELEY NATIONAL LABORATORY

www.lbl.gov

Lawrence Berkeley National Laboratory specializes in science and technology development for energy applications.

Location: Berkeley, CA
Founded: August 1931
Principal/CEO: Dr. Michael Witherell
Federal Engagement: DOE, GAIN, ARPA-E, NRC, Other

Preferred Point of Contact
Peter Hosemann: peterh@berkeley.edu, 510-717-5752

LOS ALAMOS NATIONAL LABORATORY

www.lanl.gov

Los Alamos National Laboratory's mission is to solve national security challenges through scientific excellence. The laboratory conducts fundamental nuclear materials research for future nuclear reactor designs and fuel cycle options, develops detection technologies needed for global nuclear materials management, and supports nuclear energy initiatives through advanced modeling and simulation.

This work includes:

- fundamental advances in nuclear fuels and cladding materials
- nonproliferation safeguards
- reactor concepts
- reactor waste disposition

Location: Los Alamos, NM
Founded: 1943
Director: Dr. Terry Wallace
Federal Engagement: DOE, GAIN, NRC, ARPA-E

Preferred Point of Contact
DV Rao: dvrao@lanl.gov, 505-667-5098

OAK RIDGE NATIONAL LABORATORY

www.ornl.gov/science-area/nuclear-sciences

Oak Ridge National Laboratory (ORNL) is the U.S. Department of Energy's largest science and energy laboratory with signature strengths in computing, materials, neutron science, and nuclear science and technology. ORNL provides science and technology capabilities and services to extend the life of our existing light water reactor fleet, create and develop concepts for advanced reactor technologies, develop accident tolerant and proliferation resistant nuclear fuel cycles, and support modernization of the U.S. nuclear regulatory infrastructure.

Location: Oak Ridge, TN
Founded: November 1943
Principal/CEO: Dr. Thomas Zacharia
Federal Engagement: DOE, GAIN, ARPA-E, NRC, Other

Preferred Point of Contact
Kenneth W. Tobin: tobinkwjr@ornl.gov, 865-574-5267
Andrew Worrall: worralla@ornl.gov, 865-576-9369

Pacific Northwest NATIONAL LABORATORY

Proudly Operated by Battelle Since 1965

PACIFIC NORTHWEST NATIONAL LABORATORY

nuclearenergy.pnnl.gov

Pacific Northwest National Laboratory conducts R&D across the nuclear fuel cycle to support DOE and industry in development of advanced materials, advanced fuels, and Gen IV reactors for the next generation of nuclear energy. Drawing on decades of expertise in nuclear science, engineering and regulation, along with its Category 2 Nuclear Facility assets, PNNL supports technology development across the TRL spectrum.

Location: Richland, WA
Founded: 1965
Lab Director: Dr. Steven F. Ashby
Federal Engagement: DOE, GAIN, NRC, ARPA-E, NNSA, DHS

Preferred Point of Contact
Stephen D. Unwin: Stephen.Unwin@pnnl.gov, 509-375-2448

Sandia National Laboratories

SANDIA NATIONAL LABORATORIES

www.sandia.gov

A Federally Funded Research and Development Center for the National Nuclear Security Administration with a strong science, technology, and engineering foundation enables Sandia's mission to develop advanced technologies to ensure global peace through a capable research staff working at the forefront of innovation, collaborative research with universities and companies, and discretionary research projects with significant potential impact. Sandia National Laboratories unique mission responsibilities in the nuclear weapons program create a foundation from which they leverage capabilities, enabling them to solve complex national security problems.

Location: Headquartered in Albuquerque, NM and Livermore, CA.
Founded: October 1949
Principal/CEO: Dr. Steven Younger
Federal Engagement: DOE, GAIN, ARPA-E, NRC, Other

Preferred Point of Contact
Richard Griffith: rogrif@sandia.gov, 505-844-8232
Gary E. Rochau: gerocha@sandia.gov, 505-845-7543

SRNL™
SAVANNAH RIVER NATIONAL LABORATORY
OPERATED BY SAVANNAH RIVER NUCLEAR SOLUTIONS

SAVANNAH RIVER NATIONAL LABORATORY

srnl.doe.gov

Savannah River National Laboratory has core competencies in nuclear materials management and advanced materials design, manufacture, characterization and testing. SRNL has many unique laboratory facilities enabling the safe study and handling of nuclear materials and nuclear fuel as well as ultra-sensitive measurement and analysis of radioactive materials.

Location: Aiken, SC
Founded: 1951
Principal/CEO: Dr. Terry A. Michalske
Federal Engagement: DOE, GAIN, ARPA-E, NRC

Preferred Point of Contact
Kallie Metzger: kallie.metzger@srnl.doe.gov, 803-725-6265

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THIRD WAY

GAIN Gateway for Accelerated Innovation in Nuclear

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