



2022 MEDIA KIT





TABLE OF CONTENTS

About the NNSS	3
Locations	4
Programs	5
National Assets and Facilities	7
The Nevada Enterprise	9
Leadership	10
NNSS Facts	11
Site-Directed Research and Development (SDRD)	12
NNSS Honored as R&D 100 Winner and Finalist	13
Department of Energy Awards NNSS Employees with Highest Internal Honors	14
Community Outreach	15
Tour Program	16
Nevada Economic Impact	16
Resources	17
Media Inquiries	17

ABOUT THE NNSS

Mission

The Nevada National Security Site and its related facilities help ensure the security of the United States and its allies. We support the stewardship of the nation's nuclear deterrent; provide nuclear and radiological emergency response capabilities and training; contribute to key nonproliferation and arms control initiatives; execute national-level experiments in support of the National Weapons Laboratories; work with national security customers and other federal agencies on important national security activities; and provide long-term environmental stewardship of the NNSS' Cold War legacy.

More about the NNSS' work as a premier, high-tech national security asset [here](#).

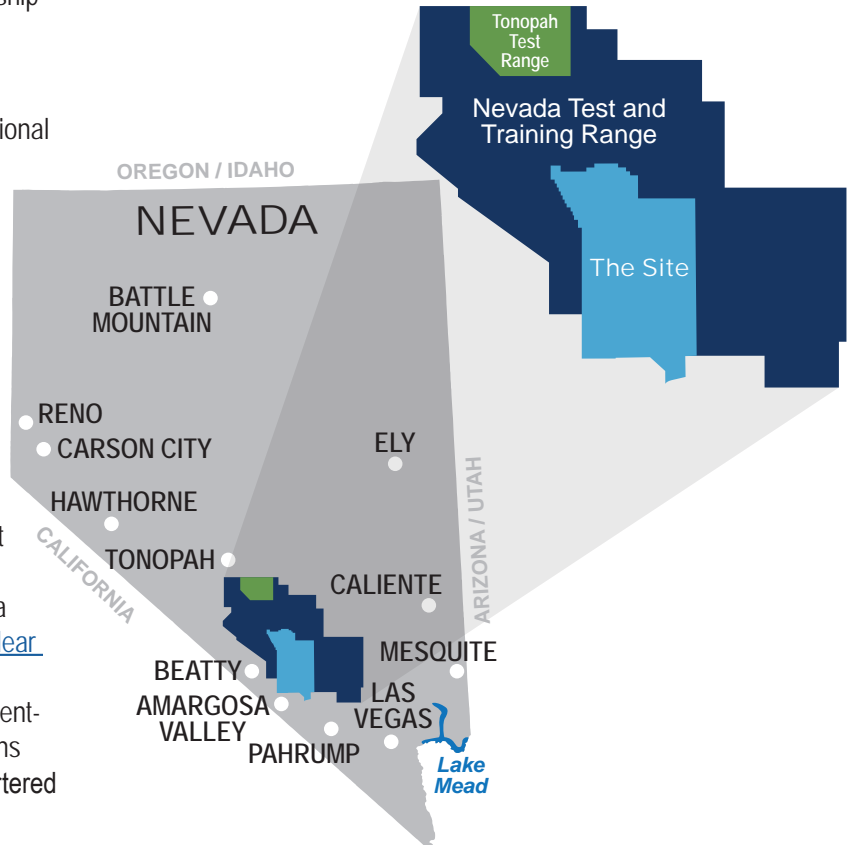
Video: [Nevada National Security Site – A Proud Past, An Exciting Future](#)

Management, operation and oversight

The NNSS is managed and operated by Mission Support and Test Services LLC (MSTS). MSTS is a joint venture between Honeywell International Inc., Jacobs Engineering Group Inc., and HII Nuclear. The NNSS is a national asset under the jurisdiction of the [National Nuclear Security Administration](#) (NNSA), a semi-autonomous agency within the U.S. Department of Energy. Government-controlled and contractor-operated, the NNSS' operations are overseen by NNSA's Nevada Field Office, headquartered in North Las Vegas.

About the Site itself

Located in a remote, highly secure area of Southern Nevada, the Site is a premier outdoor, indoor, airspace, and underground national laboratory. The 1,355-square-mile Site performs experiments supporting the NNSA's nuclear weapons stockpile stewardship programs; national defense programs; national security research, development and training programs; and vital programs of other federal agencies.



LOCATIONS



The Site
Nye County, Nevada



NNSS, Sandia Operations
Albuquerque, New Mexico



NNSS, Counterterrorism Operations Support (CTOS)
Edgewood, New York



NNSS, Remote Sensing Laboratory - Andrews
Joint Base Andrews, Maryland



NNSS, Special Technologies Laboratory
Santa Barbara, California



NNSS, Los Alamos Operations
Los Alamos, New Mexico



NNSS, Livermore Operations
Livermore, California



NNSS, Remote Sensing Laboratory - Nellis
Nellis Air Force Base, Nevada



NNSS, North Las Vegas Facility
North Las Vegas, Nevada

PROGRAMS

Stockpile Stewardship

A primary mission of the NNSS is to help ensure the Nation's nuclear weapons stockpile remains safe, reliable and secure from our enemies. To accomplish this, the science-based Stockpile Stewardship Program deploys a wide range of science and technologies, focused on experiments in weapons science and the potential for weapons dismantlement. The NNSS is the only facility in the country authorized to use weapons-grade plutonium in its subcritical experiments.

Since the United States no longer conducts full-scale nuclear tests – the U.S. voluntarily ended underground nuclear testing in 1992 – stockpile scientists and engineers now obtain data from breakthrough scientific experiments, engineering audits and analysis, high-tech computer simulations, and world-class diagnostic measurement systems.

[Learn more about Stockpile Stewardship at the NNSS.](#)

Global and Homeland Security

Global security is the totality of efforts to protect against threats, which are transnational in nature and pose a risk to human stability and survival. The NNSS is working to execute the activities needed to ensure our protection from transnational threats. Activities that support our global security efforts include international treaty compliance monitoring, cyber security, critical infrastructure threat mitigation, and radioactive material release threat reduction.

NNSS global security efforts are in response to six distinct areas of transnational threat: chemical, biological, radiological, nuclear, and explosive (CBRNE) and digital. These efforts encompass those activities that are, in most cases, direct outgrowths of NNSS' historical work in nuclear weapons issues. These efforts include counterterrorism activities, bio-security projects, nuclear forensics and detection capability development, weapons and material protection, and emergency and event response ([VIDEO](#)). Threat reduction comprises those activities intended to mitigate national security threats before they amass into distinct CBRNE threats.

[Learn more about NNSS Global Security Programs.](#)

Continued on Page 6 ...





Programs ... continued from Page 5

Global Security: Nuclear Nonproliferation/ Treaty Monitoring

In support of the Comprehensive Nuclear-Test-Ban Treaty, the NNSS supports the Nation's nuclear nonproliferation and treaty monitoring work. The NNSS conducts work aimed at improving arms control and nonproliferation treaty verification.

Some of the NNSS' work in this area includes safe and environmentally regulated [chemical/biological/explosive experiments](#) and experiments providing ground truth data that will enhance the United States' ability to detect and discriminate "low-yield" underground nuclear explosions from the clutter of conventional explosions and small earthquake signals.

- ▶ Corrective actions to address contaminated groundwater, facilities, and soils resulting from historic nuclear research, development, and testing at the Site and the Nevada Test and Training Range, which includes the Tonopah Test Range.

[Learn more about NNSS Environmental Programs.](#)

Strategic Partnership Programs

In addition to its work with the National Labs, the NNSS also works with entities outside the Department of Energy through cooperative research and development agreements and other strategic partnerships. A recent example of this is the NNSS' work with NASA and Los Alamos National Laboratory [to demonstrate a nuclear reactor power system](#) that could enable long-duration crewed missions to the Moon, Mars and destinations beyond.

Environmental Management

Environmental programs at the NNSS address the environmental legacy from historic nuclear weapons-related activities, as well as ensuring the health and safety of workers, the public, and the environment at the Site.

Environmental activities include:

- ▶ Radioactive waste management. The NNSS plays a pivotal role in the cleanup of historic nuclear weapons sites in the United States by providing a safe and environmentally effective facility for the permanent disposal of low-level radioactive, mixed low-level radioactive and classified waste. The waste disposed at the NNSS is accepted only from approved DOE and DoD sites and must comply with the [Nevada National Security Site Waste Acceptance Criteria \(NNSSWAC\)](#).
- ▶ Environmental protection, compliance, and monitoring of the air, water, plants, animals, and cultural resources at the NNSS, through studies like this recent survey of the Site's [pronghorn antelope and mule deer](#).



NATIONAL ASSETS AND FACILITIES

[Big Explosives Experimental Facility \(BEEF\) – VIDEO](#)

Providing data through explosive experiments, BEEF is a hydrodynamic testing facility that supports the Stockpile Stewardship Program and non-nuclear capabilities through diagnostics.

[Device Assembly Facility \(DAF\) – VIDEO](#)

Special nuclear material, radiation test objects and high explosives studies are conducted at the DAF in support of Stockpile Stewardship and other programs.

[National Criticality Experiments Research Center \(NCERC\)](#)

Providing Nuclear Arms Treaty verification technologies, emergency response training, and nuclear criticality investigations, the NCERC is located inside the DAF and is operated by the Los Alamos National Laboratory.

[Joint Actinide Shock Physics Experimental Research \(JASPER\) – VIDEO](#)

Featuring a two-stage, light gas gun to assess behaviors of materials under various conditions, the JASPER facility predicts performance of aging weapons and analyzes effects of shockwaves on nuclear material.

[U1a Complex – VIDEO](#)

The underground U1a Complex houses a wide range of experiments – from measuring element properties under weapons-like conditions to developing diagnostics to studying radiography – all in in a subcritical, environmentally safe manner.

[Counter Terrorism Operations Support – VIDEO](#)

CTOS develops and conducts radiological and nuclear response training for more than 13,000 emergency responders each year.

[Nonproliferation Test and Evaluation Complex \(NPTEC\) – VIDEO](#)

NPTEC is the largest facility in the world used for training and open-air testing of hazardous materials and biological stimulants in addition to light aircraft and Unmanned Aerial Vehicle support.

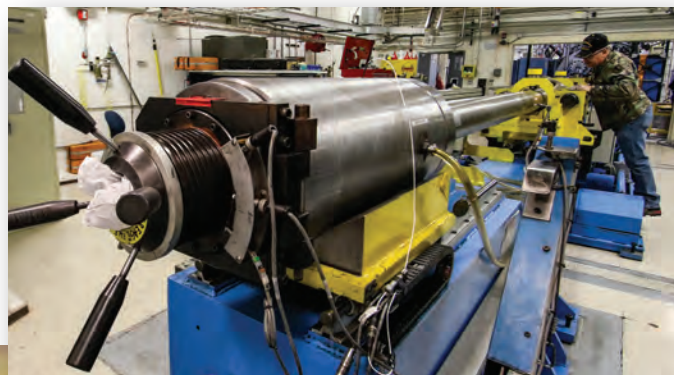
[Radiological/Nuclear Countermeasures Test and Evaluation Complex \(RNCTEC\)](#)

RNCTEC delivers system performance validation to protect the nation from radiological or nuclear threats.

[Livermore Operations](#)

The Livermore, California, facility develops and maintains the diagnostic instrumentation and sensor capabilities used in energy measurement experiments.

Continued on Page 8 ...





National Assets ... continued from Page 7

North Las Vegas Facility

The North Las Vegas facility supports the Site by providing administrative and operational assistance.

New Mexico Operations

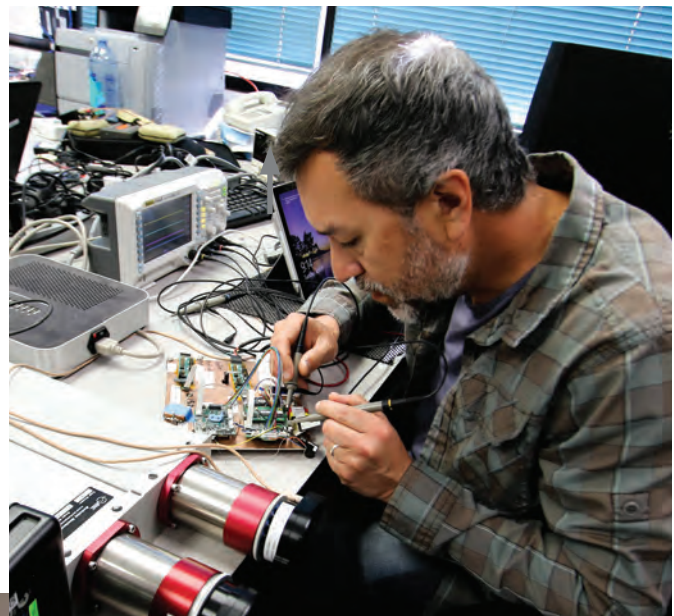
Los Alamos and Sandia operations in New Mexico support the Stockpile Stewardship Program and subcritical experiment diagnostic development.

Remote Sensing Laboratories (RSL) – VIDEO

Equipped with emergency response operations, remote sensing activities and counterterrorism capabilities in relation to the loss, theft or release of nuclear or radioactive material, the NNSS' Remote Sensing Laboratories – located at Nellis Air Force Base in Nevada and Joint Base Andrews in Maryland – are poised to deploy within hours' notice to begin scanning the area of any unplanned radiological event throughout the world. By providing detailed, accurate scans of the path of radiological fallout, RSL's aerial measurements provide affected communities with information they can use to address the health and safety of their people, food supplies and air.

Federal Radiological Monitoring and Assessment Center (FRMAC)

The FRMAC holds the capability to deploy response teams within 24 hours to a radiological emergency, which include, but are not limited to, nuclear device detonation, nuclear power plant radiation release and terrorist threats.



Special Technologies Laboratory (STL)

Located in Santa Barbara, California, the STL develops methods and instruments for experiments in field or laboratory environments.

NNSS Fire & Rescue

Highly trained in specialized rescue operations, the Fire and Rescue Department provides emergency response services to more than 3,000 site employees as well as surrounding communities and motorists traveling the highway adjacent to the Site.

Area 5 Radioactive Waste Management Site – VIDEO

Low-level and mixed low-level radioactive waste is regulated, managed and permanently disposed of in Area 5.



THE NEVADA ENTERPRISE

National Nuclear Security Administration (NNSA) Nevada Field Office (NFO)

Originally established in 1962 to oversee the work at the then-Nevada Test Site, the Nevada Field Office today provides federal oversight to the NNSS management and operating contractor. Their purview includes the NNSS and all of its related laboratories and facilities in California, Maryland, Nevada, New Mexico and New York.

Mission Support and Test Services

The management and operating contractor for the NNSS, MSTS is a joint venture limited liability company consisting of Honeywell International Inc., Jacobs Engineering Group Inc. and HII Nuclear, Inc.

SOC

Owned by Day & Zimmerman, SOC provides security protective force and systems services at the Site and North Las Vegas Facility.

Navarro

Navarro performs work at the Site on behalf of the Department of Energy Environmental Management Nevada Program.

JGMS, Inc.

A contractor for the NNSA NFO, JGMS Inc. provides administrative support services.

Joint Laboratory Office – Nevada (JLON)

Representatives from Los Alamos National Laboratory, Lawrence Livermore National Laboratory and Sandia National Laboratories are based out of the NNSS and are a part of the Nevada Enterprise.



LEADERSHIP

Dr. David R. Bowman

Manager, Nevada Field Office



Dr. David R. Bowman serves as the manager of the National Nuclear Security Administration (NNSA)'s Nevada Field Office (NFO). He is responsible for operation and maintenance of the 1,355-square-mile Nevada National Security Site (NNSS) and other facilities across the United States that accomplish NNSA's missions in stockpile stewardship,

nuclear nonproliferation, counterterrorism, treaty verification, nuclear test readiness, national and international emergency response, environmental management, and science and technology development.

The NNSS supports high-hazard operations, testing, training, diagnostics and instrumentation, data analysis, and materials storage; conducts criticality experiments; provides research test beds for nuclear nonproliferation and counterterrorism activities; and facilitates low-level radioactive waste material disposition. This complex employs approximately 3,000 people and has a budget of more than \$900 million. The complex also executes a significant Strategic Partnership Program mission, supporting such initiatives as threat reduction, first responder training, and sensor development.

Prior to joining the NFO, Dr. Bowman supported Department of Energy (DOE)/NNSA emergency response and nuclear counterterrorism for more than 20 years as a scientist, field team leader, project and program manager, deputy office director, director of the Office of Emergency Response, and associate administrator for Counterterrorism and Counterproliferation. In the weeks and months following the 2011 release from the Fukushima Dai-ichi nuclear power plants in Japan, he led the DOE teams assessing contamination around the damaged reactors. He also deployed as a technical team leader in support of national security in the weeks and months following the 9/11 attacks.

Dr. Bowman earned a bachelor's degree in chemistry from the University of Michigan, Ann Arbor, and a Ph.D. in chemistry from the University of California, Berkeley.

Garrett Harencak

President, Mission Support and Test Services LLC



As President of Mission Support and Test Services LLC (MSTS), Garrett Harencak provides leadership and management direction for the effective and efficient execution of operations at the Nevada National Security Site (NNSS) and leads development of a visionary and executable strategic plan.

Prior to joining MSTS in 2022, Harencak was the Vice President of Strategic Defense Programs and Deputy Program Manager of the Missile Defense Agency Integrated Research and Development for Enterprise Solutions contract at Jacobs Engineering. Under his leadership, Harencak's team developed and communicated the vision for safe, secure, environmentally and fiscally sound contract execution with full authority and accountability to manage and integrate all contractual, financial and technical performance.

Before joining Jacobs, Harencak served in the U.S. Air Force for more than 39 years and rose to the rank of Major General. Positions he held include Commander, USAF Recruiting Command; Assistant Chief of Staff, Strategic Deterrence and Nuclear Integration; Commander, Air Force Nuclear Weapons Center, Kirtland Air Force Base; Principal Assistant Deputy Administrator for Military Application, National Nuclear Security Administration; and Commander, 509th Bomber Wing, Whiteman Air Force Base.

Harencak holds a bachelor's degree in humanities from the U.S. Air Force Academy, a master's degree in management from Abilene Christian University, and a master's degree in national security studies from the Air War College, Maxwell Air Force Base. He is an Adjunct Professor of Nuclear Deterrence and Assurance for the Air Force Nuclear College at the Air Force Institute of Technology and a member of the Board of Regents, Strategic Deterrent Coalition, Washington, D.C.

NNSS FACTS

- ▶ Following the first nuclear test at the Trinity Site in New Mexico, the United States moved its nuclear weapons experimentation program to the Pacific. Security and logistical issues quickly illustrated the need for a continental test site. In 1950, the Atomic Energy Commission determined that the Las Vegas Bombing and Gunnery Range in Nevada satisfied nearly all criteria. President Harry Truman authorized a 680-square mile section of the Range as the Nevada Proving Grounds the same year. In 1955, the name was changed to the Nevada Test Site (NTS).
- ▶ The first atmospheric nuclear test, "Able," was detonated at the NTS January 27, 1951. A total of 100 atmospheric tests were conducted at the NTS until July 1962. All atmospheric testing was banned on August 5, 1963, when the Limited Test Ban Treaty was signed in Moscow, giving birth to the age of underground testing.
- ▶ The United States conducted 828 underground tests at the NTS. The last underground test, "Divider," was conducted September 23, 1992.
- ▶ After conducting 928 nuclear tests, full-scale nuclear testing came to an end in 1992 when the U.S. entered into a unilateral testing moratorium with Russia and France, followed by the Comprehensive Nuclear Test Ban in 1996, which effectively ended the nuclear test era. In order for the U.S. to maintain the safety and reliability of its nuclear stockpile without conducting full-scale tests, subcritical experiments – where no critical mass is formed and no self-sustaining nuclear reaction occurs – were initiated at the NTS.
- ▶ In 2010, the NTS was renamed the Nevada National Security Site (NNSS) to more accurately reflect its mission.
- ▶ The Site includes 433 buildings, 340 miles of primary roads and 300 miles of secondary roads. The Site is supported by three public water systems and 174 power substations.



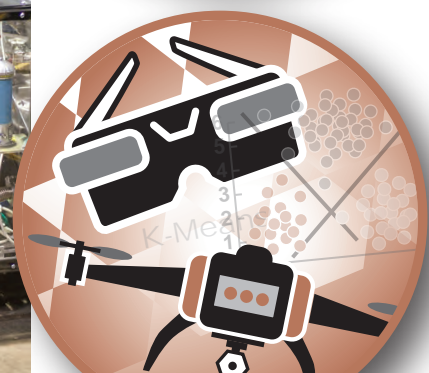
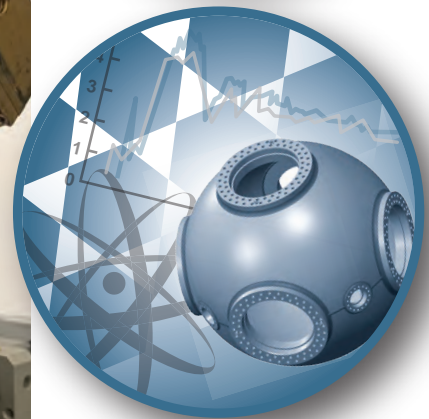
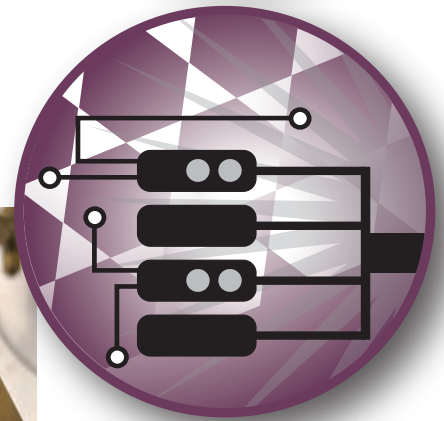
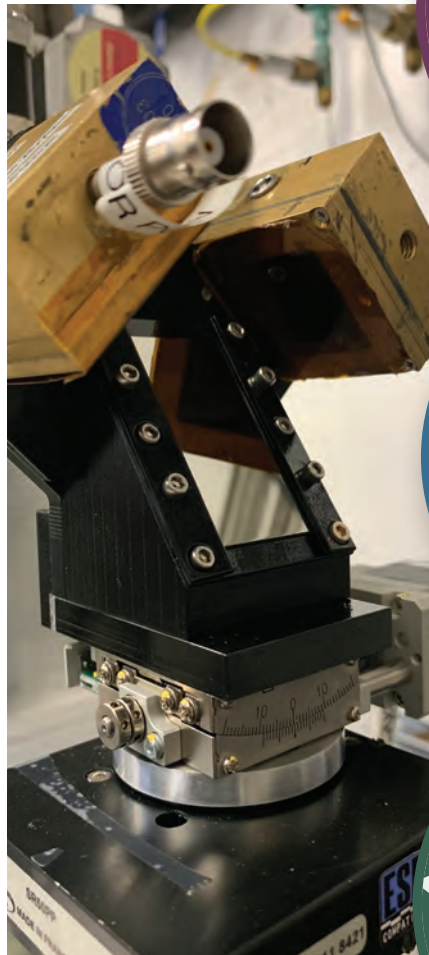
SITE-DIRECTED RESEARCH AND DEVELOPMENT (SDRD)

Started in 2002 by Congressional authorization, the Site-Directed Research and Development (SDRD) Program is an essential element of the NNSS' technical enterprise. The SDRD program is the NNSS' premier science and technology venue and primary source for discovery and innovation for NNSS national security missions. Similar to the laboratory-directed research and development (LDRD) programs at the NNSA National Laboratories and production plants, SDRD enhances the technical vitality of the NNSS by addressing the following core areas:

- ▶ Developing and demonstrating innovative ideas and technologies to advance new solutions to national and global security needs
- ▶ Enhancing core competencies required for current and emerging technical missions
- ▶ Retaining and recruiting individuals with critical skills

Proposals are solicited every year, and about two dozen projects are funded annually and are tied to principal thrust areas. An annual report is released every April for the previous year's projects.

Learn more about the [SDRD program](#).



NNSS HONORED AS R&D 100 WINNER AND FINALIST

The NNSS' X-ray Polarizing Beam Splitter (XRPBS) was named a winner of the 2020 R&D 100 Awards. The Aerial Reconnoiter Using Unmanned Systems (ICARUS) was a finalist.

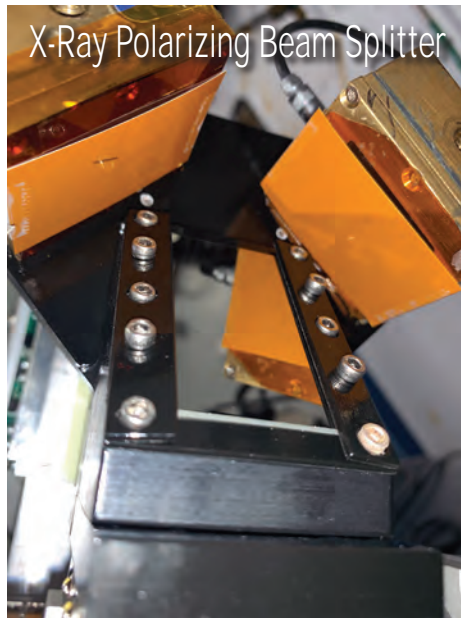
The award-winning innovation recognized, the XRPBS, has the ability to separate an X-ray beam in two in order to measure each polarized beam simultaneously, which will be used for diagnostics within the NNSA enterprise. Developed in partnership with Sandia National Laboratories, Argonne National Laboratory and EcoPulse, it is the first X-ray polarizing beam splitter in existence.

"I see it as a diagnostic that will be involved with many different types of experiments and scientific research facilities," said NNSS Distinguished Scientist

Howard Bender. "There is a continual advancement of these high-synchrotron resources."

ICARUS equips unmanned aircraft systems with a payload of radiation, chemical, optical, LIDAR, and photographic detectors. The technology, developed by the NNSS in partnership with Unmanned Systems, Inc., H3D, Inc., and Virginia Tech, can be viewed in this [VIDEO](#).

"ICARUS is an intelligent unmanned aerial autonomous system," said Bender. "It provides an unmanned capability to do some of the dull, dirty, dangerous, and sometimes deep work where you don't want to send any type of human system – for example, a serious incident involving hazardous materials."



Both ICARUS and XRPBS were developed through the Site-Directed Research and Development (SDRD) Program, the NNSS' premier science and technology venue and primary source for discovery and innovation for national security missions.

[The R&D 100 Awards](#) is recognized among the most prestigious innovation awards programs in the science and technology fields. When considering submissions each year, the NNSS looks at unique innovative technologies that are commercially viable.

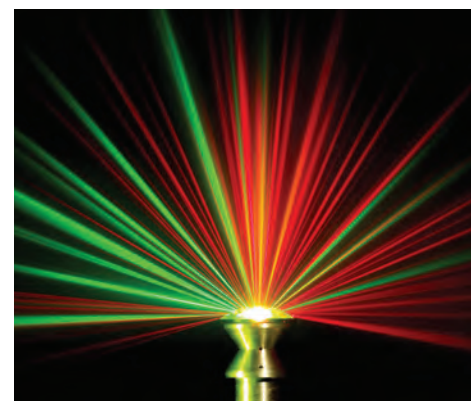
"We always look for a hook that we can communicate for what makes us say 'wow,'" said SDRD Project Manager Leslie Esquibel.

The recognition serves as a way for the NNSS to raise awareness of its research and development initiatives.

"It's recognition," said Bender. "It's prestige amongst our peers in terms of innovation capability to drive new solutions for technical challenges. It provides name recognition, publicizing our capabilities so other entities know who we are and what we do."

The NNSS has won six R&D 100 awards in previous years: Silicon Strip Cosmic Muon Detector (2018); 2017 Geometrically Enhanced Photocathodes; 2013 KiloPower with LANL; 2012 Multiplexed Photonic Doppler Velocimeter; 2010 Movies of eXtreme Imaging Experiments (MOXIE) with LANL; and 2009 High-Resolution Holography Lens. The NNSS was also recognized as a finalist for its Falcon Plasma Focus in 2019 and Argus Fisheye Probe in 2015.

For more information about the NNSS' SDRD Program, visit <https://www.nnss.gov/pages/programs/SDRD.html>.



DEPARTMENT OF ENERGY AWARDS NNSS EMPLOYEES WITH HIGHEST INTERNAL HONORS

More than 100 Nevada National Security Site (NNSS) employees have been selected to receive a Secretary's Honor Award, one of the highest honors an employee can receive within the Department of Energy (DOE).

DOE-wide, a total of 32 Honor Awards—which include the Secretary of Energy Achievement Award (24 teams), the Secretary of Energy Excellence Award (six individuals) and the James R. Schlesinger Award (two individuals)—are being given based on accomplishments from 2019.

Additionally this year, DOE added a category of Honor Awards focused on the accomplishments of DOE employees in response to the COVID-19 pandemic. There are 10 Honor Awards related to the COVID-19 response during the first half of 2020, which include the Secretary of Energy Achievement Award (nine teams) and the Secretary of Energy Excellence Award (one individual).

All NNSS recipients are being recognized as part of teams receiving a Secretary of Energy Achievement Award and fall within the following categories, respectively: NNSA Nuclear Security Enterprise Recruitment Team; Packaging and Shipping of Radiological Waste Assessment Team; Source Physics Experiment, Phase II, Dry Alluvium Geology Team; Seattle Response and Recovery and Cs-137 Joint Investigation Teams; and COVID-19 Facilities and People Response Team.

These teams led the success of exceeding recruiting goals and hiring over 9,300 new employees; strengthening the management of radioactive waste packaging and shipping

operations; advancing the science of nuclear explosion monitoring, concluding 10 years of testing experiments and producing historical data sets; responding to and remedying a radiological emergency; and transitioning the enterprise to maximum telework to reduce the transmission of COVID-19.

To honor these individuals for their exceptional work, there is normally an award ceremony where the DOE Secretary of Energy would present the awards. In order to adhere to COVID-19 guidelines, there is currently not an award ceremony scheduled at this time.



COVID-19

COMMUNITY OUTREACH

The NNSS supports a number of STEM (science, technology, engineering and math) programs and initiatives, and many employees volunteer for nonprofits throughout Southern Nevada.

Some of the NNSS' community involvement includes:

- ▶ Partnering with at-risk schools
- ▶ Funding scholarship programs
- ▶ Funding programs such as First Robotics, which encourages engineering, programming, and teamwork among participants
- ▶ Volunteering at Three Square Food Bank

The NNSS also hosts the annual regional Nevada Science Bowl. Nevada Science Bowl features a fast-paced, nine-round format where students "buzz in" and answer tough questions covering

biology, chemistry, physics, mathematics, astronomy and more. Teams of high school students compete for first place, with the top 12 teams receiving cash prizes for their school's math/science department and the first-place team traveling to Washington, D.C. to compete in the [DOE's National Science Bowl](#).

Learn more about the [Nevada Science Bowl](#).





TOUR PROGRAM

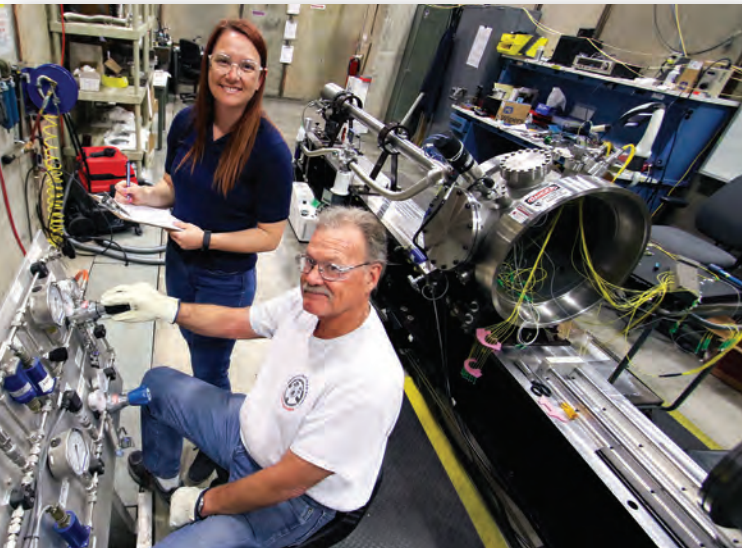
[Free, general-interest tours](#) of the Site are provided to the public on a monthly basis. Groups, civic or technical organizations, and private clubs may request specially arranged tours (for a minimum of 25 people) by sending an email to NNSSTours@nv.doe.gov.

Members of the media seeking a tour of the NNSS should contact the Office of Public Affairs at 702-295-3521.

NEVADA ECONOMIC IMPACT

- ▶ The Nevada National Security Site is the largest high-tech employer in Southern Nevada, employing approximately 3,100 people, about 2,800 of whom work in Nevada.
- ▶ Annually, NNSS represents a nearly \$1 billion economic impact in Nevada.
- ▶ \$3.55 billion – total replacement value of infrastructure (road and building) at the NNSS.
- ▶ Since 2000, more than \$14 million to support emergency response capabilities.

Find out more about the NNSS' economic impact [here](#).



RESOURCES

- ▶ [Fact sheets](#)
- ▶ [Current news](#)
- ▶ [Press releases](#)
- ▶ [Nuclear Testing Archive](#)
- ▶ [Significant dates in nuclear history -- timeline](#)

Also find us on:

- ▶ [Flickr](#)
- ▶ [YouTube](#)
- ▶ [Facebook](#)
- ▶ [Twitter](#)
- ▶ [Instagram](#)
- ▶ [DOE's Lab Partnering Service](#)

MEDIA INQUIRIES

News media contact:

Tyler Patterson

Phone: 702-302-1317

Email: PatterTK@nv.doe.gov

You may also contact:

Phone: 702-295-3521

Email: mediarelations@nv.doe.gov

Emergency Public Information

In the event of an emergency, information will be provided as it becomes available.

For additional information on contacting the NNSS during an emergency situation, click [here](#).

