Sandia National Laboratories, California Site Report

SAND2018-5265R

IMOG MTS Spring Meeting 2018

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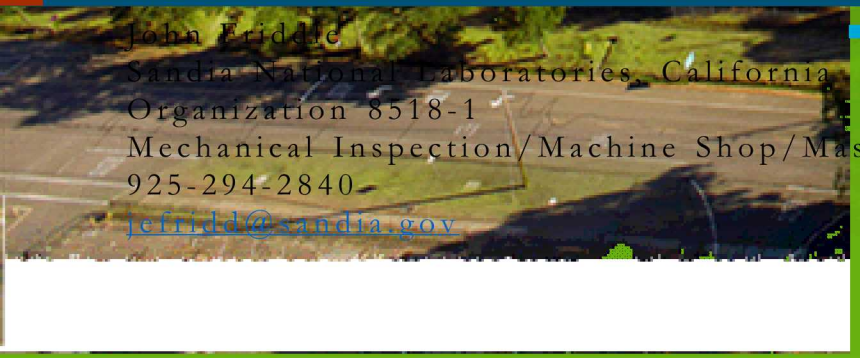

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Operated for the United States Department of Energy by National Technology and Engineering Solutions of Sandia, LLC

SANDIA NATIONAL LABORATORIES

Sandia/California:

Developing Advanced Technologies to Ensure Global Peace

OUR MISSION

As a microcosm of Sandia National Laboratories, Sandia's California Laboratory provides science-informed solutions for national and energy security, enabled by our agility, diversity, and innovation.

ABOUT THE CALIFORNIA LABORATORY

Created in 1956 to provide systems engineering support for Lawrence Livermore National Laboratory's (LLNL's) nuclear weapons mission, the California campus of Sandia National Laboratories delivers engineering and science expertise across the entire stockpile and has built on that foundation to address other national security challenges. Many of these challenges — like energy resources, transportation, critical-infrastructure protection, cybersecurity, and weapons of mass destruction defense — surfaced early in the state of California, providing Sandia/California with a special opportunity to participate in the first wave of solutions.

OUR CAMPUS

Sized for innovation and agility, Sandia's California Laboratory is an advantageously located national asset that develops end-to-end science and engineering solutions for the nation's most challenging problems by drawing upon deep expertise in nuclear weapons system engineering; cybersecurity; chemical, biological, radiological, and nuclear defense; and transportation energy.

Our Bay Area location serves as a collaboration portal, connecting world-class universities and Silicon Valley to the extraordinary technical depth available across all Sandia sites and enabling Sandia to continue its proud history of providing exceptional service as the nation's trusted technical leader in national security.

Sandia's California campus spans the spectrum of security postures — from special compartmentalized space for high-security operations to the Livermore Valley Open Campus (LVOC), a general access area designed to bring academia and businesses together with researchers from Sandia/California and LLNL to work on today's biggest science and engineering challenges.

Providing open to closed space in a matter of yards creates a preeminent global innovation hub that benefits Sandia's missions and customers. For example, the LVOC is home to the Combustion Research Facility (CRF), a Department of Energy Office of Science collaborative research facility. Each year, the CRF hosts more than 100 collaborators who work side by side with Sandia staff to develop research methods and solve combustion problems.

FACTS & FIGURES

- 1,487 staff at Sandia/California, with 70% in technical positions
- 76% of our technical staff have PhDs and/or master's degrees
- Total site budget of approx. $485 million in fiscal year 2018

KEY RESEARCH FACILITIES

Cybersecurity Technologies Research Laboratory (CTRL)

Building 928 (GAA + PPA)

At the new Cybersecurity Technologies Research Laboratory (CTRL), industry and national lab researchers can pool their expertise to advance understanding and development of cybersecurity technologies, practices, and policies.

Distributed Information Systems Laboratory (DISL)

Building 915 (PPA + LA)

Researchers with the Distributed Information Systems Laboratory (DISL) develop technologies to enable collaborative, high-performance computational work across the nuclear weapons complex.

Combustion Research Facility (CRF)

Visit the CRF website

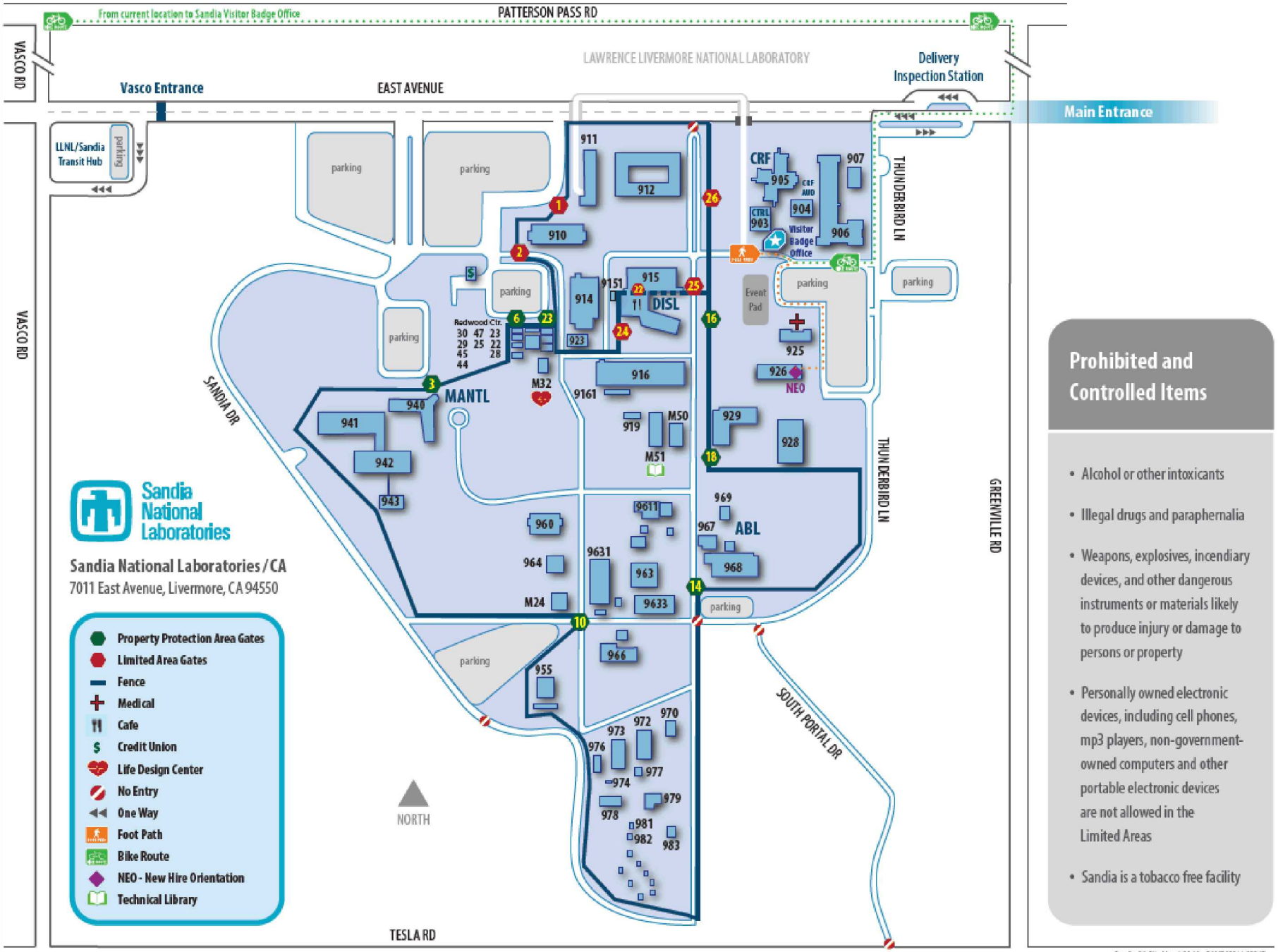
Buildings 903, 904, 905, 906, 907 (GAA)

The Combustion Research Facility (CRF), has been sharpening understanding of combustion processes for more than 30 years, providing industry with the basic knowledge needed to create cleaner, more efficient vehicles and engines.

Applied Biosciences Laboratory (ABL)

Building 968 (PPA)

Focused on biofuels and emerging biological threats, research at the Applied Biosciences Laboratory (ABL) covers a range of areas, from increasing understanding of biological phenomena to creating point-of-care medical diagnostic devices. ABL supports the development, fabrication, and testing of chemical and biological detection systems, including recombinant DNA work and development of sensors that detect trace amounts of toxins, viruses, and biological species. Rated as a Biosafety Level 2 laboratory, the facility meets all the requirements of the Centers for Disease Control and Prevention (CDC).



Prohibited and Controlled Items

- Alcohol or other intoxicants
- Illegal drugs and paraphernalia
- Weapons, explosives, incendiary devices, and other dangerous instruments or materials likely to produce injury or damage to persons or property
- Personally owned electronic devices, including cell phones, mp3 players, non-government-owned computers and other portable electronic devices are not allowed in the Limited Areas
- Sandia is a tobacco free facility

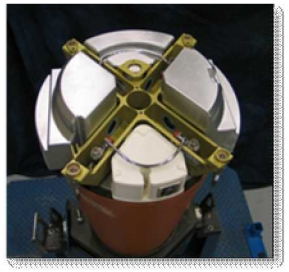
Sandia CA Site Map 1.29.18 - SAND#2014-0234P

SNL/CA Nuclear Weapons Mission

W87 Nuclear Warhead

W80 Nuclear Warhead

Surety Systems



Joint Test Telemetry Instrumentation

Gas Transfer Systems

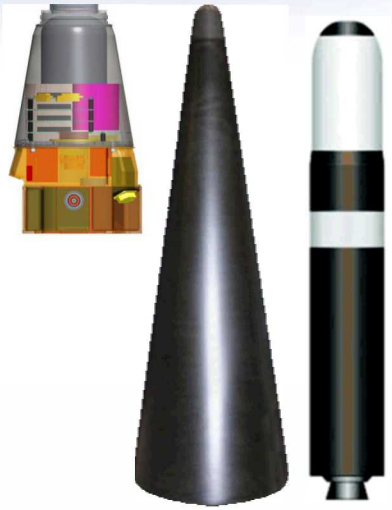
B83 Nuclear Bomb

We assure the safety, security, and reliability of the nation's nuclear assets.

Modernizing an Aging Stockpile

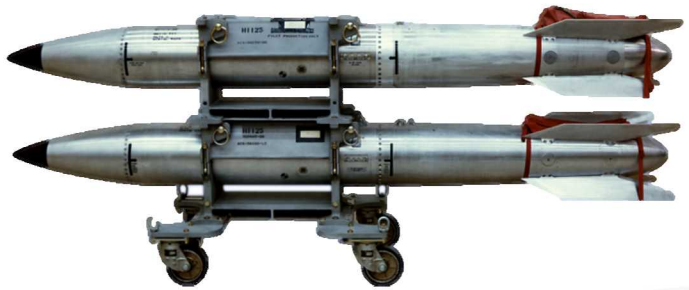
Mk21 Fuze
FPU: 2022

LRSO/W80-4
FPU: 2025



W88 ALT 370
FPU: 2019

B61-12 LEP
FPU: 2019



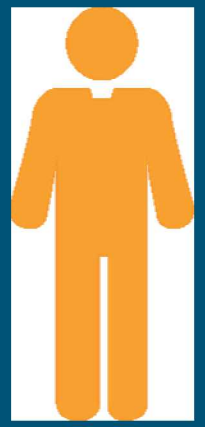
W78-1
Restart in
2020

N W MISSION AT AN ALL-TIME HIGH

Current Programs Include:

- ***W87/W78 FUZE***
- ***W80-4 SYSTEMS***
- ***W80-4 COMP***
- ***W87 SYSTEMS***
- ***W80 STOCKPILE***
- ***B83 STOCKPILE SUPPORT***

Total Division 8000
(California Site)
ND Managed Funding
$400M



500 TLEs
within 8000 supporting
NW programs

Who we are in Division 8518-1

John R. Garcia, Senior Manager
8510 | ES&H, Facilities & Security

View 8510 management

Lawrence R. Carrillo, Manager
8518 | Engineering Services

A long time Sandia employee who has worked at SNLA, SNLL, Tonopah, NTS, and WIPP. I am passionate about Sandia, NW, and career growth.

Brian P. Cass, Team Lead
85181 | Machine Shop

Patrick J. Simmons

Mechanical Inspection Technologist (CA)
Manufacturing Production Ops

85181 | Machine Shop
pjsimmo@sandia.gov

John E. Friddle

Mechanical Inspection Technologist (CA)
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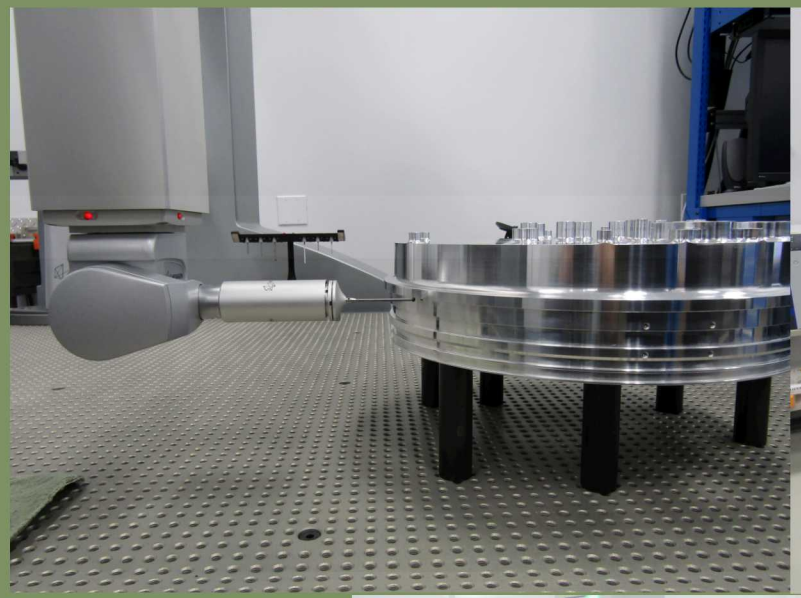
Mechanical Inspection Laboratory
Machine Shop Org. 8518-1



Inspectors:

John Friddle

Patrick Simmons

Pat Connelly

Equipment:

Hexagon EVO 12-15-10 CMM

B & S Global 7-10-7 CMM

Hexagon Optiv 443 Duel Z Multi Sensor CMM

CCP(OGP) CC-20 Optical Comparator

Fowler - Trimos Mestra-Touch (Height Gage)

Wilson-Rockwell 2000 Hardness Tester

Mitutoyo LSM-503S Laser Micrometer

Taylor-Hobson Taly-Surf Series 2

Starrett 48” x 72” AA Pink Granite Plate

Dynamic Aerospace Lab/Mass Properties Environmental Test Org. 8518

Support all site programs -

Personnel:
John Friddle
Luis Bernardez
Mike Jew
Woody Green

Provide Mass Properties Data such as

- Mass/Weight
- Static Center of Gravity
- Moment of Inertia
- Dynamic Center of Gravity
- Products of Inertia
- Mass Correction Data

Special Thanks to Jenny Brewer
Org 8151, California Site Mission Partners