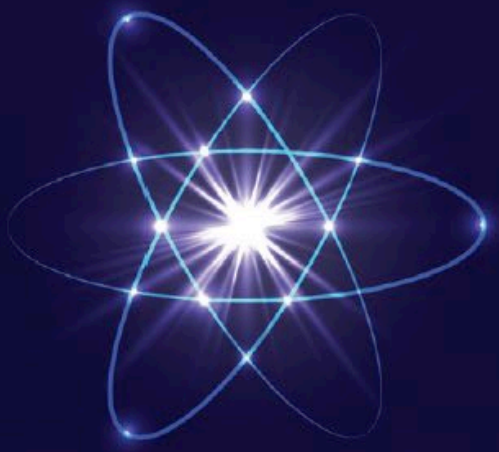
United States Department of Energy

Nuclear Criticality Safety Program (NCSP)

# 2–Week Hands-On NCS Training Course

## Student Information Booklet



NCERC · Oak Ridge National Laboratory · Sandia National Laboratories · Lawrence Livermore National Laboratory · Los Alamos National Laboratory · Y-12 National Security Complex

U.S. Department of Energy · National Nuclear Security Administration

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## Course Description

This Nuclear Criticality Safety Program's (NCSP) class is designed for new Nuclear Criticality Safety (NCS) professionals with a background in Nuclear Engineering, Physics, Mathematics, or other technical fields. The purpose of this course is to provide an experimental hands-on training experience addressing important characteristics of neutron-multiplying systems, which will include:

- Discussion of the theory and implications for safety of fissionable material operations
- Providing awareness and understanding of Department of Energy (DOE) mandates developed specifically for criticality safety professionals (CSPs) regarding the application of DOE Orders, Guides, Rules, and American Nuclear Society (ANS) standards in the performance of criticality safety evaluations that meet DOE standards and hazards analysis methods and about NCS control implementation and maintenance

The course is comprised of a week-long classroom training in Las Vegas, Nevada, at either the National Atomic Testing Museum (NATM) or the Nevada Field Office (NFO)/Nevada Support Facility (NSF), and then immediately followed by a second week of hands-on training at the National Critical Experiment Research Center (NCERC)/Device Assembly Facility (DAF) or Sandia National Laboratory (SNL/Sandia). Students must attend the courses during two consecutive weeks, i.e. attending the second week of hands-on training at a later offering is not allowed.

The first week is offered in Las Vegas, Nevada, at either the NATM or the NFO/NSF and focuses on the following:

- Characteristics of a neutron-multiplying system in terms of parameters important to criticality safety such as mass, moderation, interaction, reflection, geometry, etc.
- ANSI/ANS-8 series standards (primarily ANSI/ANS-8.1) as they relate to preparing nuclear criticality safety evaluations (NCSEs) that meet DOE standards.
- DOE Orders, DOE Rules, DOE Standards, and DOE Guides that are used in the development of NCSEs.
- Evaluation process with respect to roles and responsibilities, conducting effective walk-downs, defining normal and credible abnormal conditions, etc.
- Past process criticality accidents and understanding the root cause and lessons learned from them.
- The role human factors and equipment reliability play in operations with fissionable materials outside of reactors.
- Methods and techniques used to perform non-destructive analyses (NDA) and the significance of NDA regarding preparing accurate NCSEs.
- Selection criteria to identify applicable benchmarks for computational tool and data validation and determining bias and uncertainty to establish subcritical limits.
- Determining, implementing, and maintaining proper NCS controls for safe operations.

The second week of the course is offered at either the DAF/NCERC or at SNL and focuses on the following:

- Learning neutron detection equipment and techniques.
- Reviewing past critical experiment accidents and understanding the root cause and lessons learned from them.
- Identifying the regulations and safety rules governing the conduct of subcritical and critical experiments.
- Observing and/or participating in experimental demonstrations of many of the criticality safety parameters, such as mass, moderation, spacing, reflection, and strong neutron absorbers for subcritical and near critical neutron-multiplying systems, as well as time behavior of critical and delayed supercritical neutron multiplying systems.
- Calculating subcritical multiplication based on experimental data and interpretation of multiplication curves.

A diverse team of instructors, experimenters, and coordinators participate in the conduct of these courses. Individuals from Oak Ridge National Laboratory, Lawrence Livermore National Laboratory, Sandia National Laboratory, National Nuclear Security Administration, Los Alamos National Laboratory, and National Security Technologies, LLC, currently participate in the course planning and execution.

# Course Schedule

## Week 1 Classroom Training (NATM or NFO/NSF)

The first week of classroom training will be offered at either the NATM or the NFO/NSF. Course logistics will be provided via email from the course registration point-of-contact. The course will be taught Monday through Friday. Please see each day's schedule below to ensure you're on time.

- Monday, 8:30 am – 5:00 pm
- Tuesday – Thursday, 8:00 am – 5:00 pm
- Friday, 8:00 am – 1:00 pm

Please refer to the NATM or NSO/NSF Classroom Training Logistics section of this document for information about the classroom location, badge information, cell phones and laptops, prohibited articles and travel.

## Week 2 Hands-On Training

The second week of hands-on training with critical assemblies depends on your registration choice and clearance level. Uncleared, L- and Q-cleared students can attend the SNL Hands-on course located at Technical Area 5 (TA-V) at SNL. Q-cleared students can attend the Hands-on Training at the NCERC/DAF located at the Nevada Nuclear Security Site (NNSS).

### DAF/NCERC Course Schedule:

- Monday, 7:00 am – 5:00 pm – Meet at Mercury Badge Office to enroll in the DAF security system
- Tuesday – Thursday, 7:45 am – 5:00 pm - Meet at the DAF Entry Guard Station (EGS) to allow time for DAF entry with escorts.
- Friday, 8:00 am – 1 pm – Meet in Las Vegas at Nevada Support Facility (232 Energy Way) in the Sedan or Great Basin conference room.
- NOTE: Bring a lunch and snacks for breaks. No lunch is provided.
- NOTE: Your badge is needed each day of training.

Please refer to this document's DAF/NCERC Hands-on Training Logistics section for more information on location and badging.

### Sandia Course Schedule

- Monday, 8:00 am – 5:00 pm – Meet at the SRVE Sandia Badge Office
- Tuesday – Thursday, 8:00 am – 5:00 pm – Meet at TA-V, Building 6577, the entry building
- Friday – 7:45 am – 1:00 pm - Meet at TA-V, Building 6577, the entry building

Please refer to this document's Sandia Hands-on Training Logistics section for more information on location and badging.

# Course Content

## Week 1 Classroom Training (NATM or NFO/NSF)

- DOE Requirements and Guides and an overview of the Nuclear Criticality Safety Program
- Criticality accident lessons learned and overview of first and last process criticality accidents
- Nuclear criticality safety fundamentals
- ANSI/ANS series 8 standards
- NCS evaluation requirements overview and evaluation workshops
- Importance of human factors for NCS evaluation development and linkage to process accident discussion
- Importance of non-destructive assay (NDA) measurements for NCS evaluations and NDA methods overview
- Hand calculation methods
- Validation

## Week 2 Hands-On Training

### DAF/NCERC Course

- Experimental methodology introduction
- Training Assembly for Criticality Safety (TACS) experimental methodology
- TACS subcritical experiments (LLNL operates this assembly at DAF)
- Overview of reactor physics
- Planet subcritical hand-stacking experimental methodology
- Planet Hands-on operations and approach to critical and critical operations
- Advanced hands-on demonstration with the BeRP ball and the Np sphere
- Flattop critical operations
- Godiva IV critical assembly demonstration
- Review of experimental criticality accidents
- International Criticality Safety Benchmark Evaluation Project (ICSBEP) overview

### Sandia Course

- Review of NCS fundamentals and criticality parameter
- Experiment bases for NCS
- Discussion of experimental criticality accidents
- Subcritical multiplication
- Conduct of operations
- Nuclear instrumentation
- Reactor kinetics
- Nuclear criticality safety data and limits
- Overview of the ICSBEP
- ANSI/ANS-1 operations
- Light water reactor design and fuel paradigms
- Fuel depletion and burnup
- Design of the 7uPCX critical experiments
- Experiment 1-3 – Approach to critical on fuel loading, moderator height and fuel separation
- Experiment 4 – Interior fuel rod removal

## Completion Requirements

Attendees must complete examinations for both weeks of the course with a grade of 80% or better. Certificates for successful course completion (1 certificate for the entire two-week-long course) will be emailed to students after the course is completed. Participation is expected from all course attendees. **PLEASE DO NOT PLAN TO LEAVE EARLY, OR YOU WILL NOT RECEIVE A CERTIFICATE.**

Students can also provide feedback on all aspects of the course, including content, instructors, classroom characteristics, etc. Feedback is provided to the Course Coordinator who oversees student feedback resolution with the course points-of-contact.

## Course Points-of-Contact

Contact information for the 2-week course is listed in the table below. Pre-course questions should be directed to Doug Bowen. Questions during the course can also be directed to Doug or the course site points of contact.

| | | |
|---|---|---|
| Doug Bowen<br>Course Coordinator<br>Course Point-of-Contact (Monday & Friday) | (505) 500-7686 (cell) | bowendg@ornl.gov |
| **Sandia Course Points of Contact (POC)** | | |
| David Ames<br>Sandia National Laboratories Class POC | (505) 274-2164 | deames@sandia.gov |
| Elijah Lutz<br>Sandia National Laboratories | (505) 414-6179 | elutz@sandia.gov |
| Loretta Rankin<br>Sandia National Laboratories Registration POC | (505) 845-9287 | llranki@sandia.gov |
| Isabel Madrid-Roybal<br>Sandia National Laboratories Registration POC | (505) 284-0587 | imadrid@sandia.gov |
| **NCERC Course Points of Contact (POC)** | | |
| Catherine Percher<br>DAF/NCERC Class POC (Monday-Tuesday) | (925) 423-9345 | percher1@llnl.gov |
| Cole Kostelac<br>DAF/NCERC Class POC (Wednesday-Thursday) | (505) 667-7242 | kostelac@lanl.gov |
| Nancy Watts<br>Los Alamos National Laboratory Class POC | (505) 629-5104 (cell)<br>(702) 794-5330 (office) | nwatts@lanl.gov |

## Prerequisites

This class has been designed for new Nuclear Criticality Safety practitioners with a technical background in Nuclear Engineering, Physics, Mathematics, or some other technical field.

### Week 1 Classroom Training (NATM or NFO/NSF) Prerequisites

The student is expected to have reviewed the following information **prior** to coming to the classroom portion of the hands-on course.

**Review and be familiar with all NCSet modules**. They can be downloaded from the Training & Education tab on the NCSP website, https://ncsp.llnl.gov/training-education, under the "Nuclear Criticality Safety Engineer Training (NCET) modules" header.

These training materials have been developed for the criticality safety user community. Feedback from the users is important so that new modules can be designed and current modules improved to maximize their benefit to the largest possible audience.

- Module 1: Introductory Nuclear Criticality Physics
- Module 2: Neutron Interactions
- Module 3: The Fission Chain Reaction
- Module 4: Neutron Scattering and Moderation
- Module 5: Criticality Safety Limits
- Module6: Introduction to Diffusion Theory
- Module 7: Introduction to the Monte Carlo Method
- Module 8: Hand Calculation Methods – Part 1
- Multimedia Module: Buckling Conversion Method
- Multimedia Module: Surface Density Method
- Module 9: Hand Calculation Methods – Part 2
- Module10: Criticality Safety in Material Processing Operations – Part 1
- Module 11: Criticality Safety in Material Processing Operations – Part 2
- Module 12: Preparation of Nuclear Criticality Safety Evaluations
- Module13: Measurement and Development of Cross Section Sets
- Module14: A Review of Criticality Accidents by Thomas McLaughlin (video)
- Module15: Fundamentals of Criticality Safety for Non-material Handlers
- Module16: Burnup Credit for Criticality Safety Analysis of Commercial Spent Nuclear Fuel

**Become familiar with the following NCS handbooks**. The handbooks can be downloaded from the Information Preservation tab on the NCSP website, https://ncsp.llnl.gov/information-preservation, under the "NCSP Guide to Handbooks and Key References" header.

- ARH-600, Electronic Handbook (Hanford)
- LA-10860-MS, Critical Dimensions of Systems Containing $^{235}$U, $^{239}$Pu, and 2$^{33}$U, 1986 Revision
- LA-12808, Nuclear Safety Guide
- LA-13638, A Review of Criticality Accidents: 2000 Revision
- LA-14244-TM, Hand Calculation Methods for Criticality Safety – A Primer
- LA-11627-MS, Glossary of Nuclear Criticality Terms
- LA-3366, Criticality Control in Operations with Fissile Material

## Week 2 Prerequisites

### Sandia Hands-on Training Prerequisites

Prior to obtaining unescorted access to TA-V at Sandia National Laboratories, the students **must complete training modules prior to the course.** The Sandia Hands-on course point-of-contact will provide registered students with the training modules required to attend the course along with instructions to complete them.

## DAF/NCERC Hands-on Training Prerequisites

The DAF/NCERC hands-on training class requires students to handle significant quantities of fissionable material to participate in the hands-on portions of the class, e.g., Planet critical assembly uranium foil hand stacking, handling the plutonium BeRP ball, and Neptunium sphere. To come to the NNSS and handle fissile materials, **RadWorker II training (or equivalent training) is required**. For many people, this is the first time they have ever held significant quantities of uranium and plutonium. Thus, Rad Worker II training (or equivalent training) is required to attend the course. Currently, equivalency has been established for RadWorker II for the following sites: LLNL, LANL, SNL, Pantex, Savannah River, PNNL, Y-12, ORNL, NFS, AMWTP Idaho, and INL. You will be asked by the course planners to provide proof of your Rad Worker II certification to allow your credentials to be accepted at DAF/NCERC.

# Site Specific Information

## Week 1 Classroom Training Logistics

The classroom portion of the 2-week Hands-on Course is offered at either the NATM or the NFO/NSF depending upon availability. The NFO/NSF requires personnel security preparations, but the NATM does not.

## NATM Classroom Training Logistics

### *NATM Location*

The address of the NATM is 755 E. Flamingo Rd., Las Vegas, NV 89119. The phone number for the NATM is (702) 794-5151. Information about the NATM can be found at the following website address: http://nationalatomictestingmuseum.org/.

### *NATM Badge Information*

No additional paperwork is required for access to the NATM. You will not need your badge for the classroom portion at the NATM; however, it will be needed for the second week of the 2-week Hands-on Course at either the DAF/NCERC or SNL.

### *NATM Cell Phones and Laptops*

Cell phones, even those with cameras, are allowed.

Please bring your personal or work-issued laptop to the classroom. Before the class begins you will be sent PDFs of course material and process accidents to be used in the class.

### *NATM Prohibited Articles*

As with all DOE sites, illicit drugs, explosives, and firearms are prohibited.

### *Traveling to the NATM*

#### NATM Flight Information

The closest airport is Las Vegas Harry Reid International Airport (airport code LAS). You will need to fly in on Sunday (the day before the course starts) as the course will begin early on Monday morning. Do not plan to fly home until Friday evening or Saturday, since Friday's course could last until 2:00-3:00 pm.

#### NATM Rental Car Information

A rental car is a must for attendance at the class. Most hotels in Las Vegas provide free parking (some provide free valet).

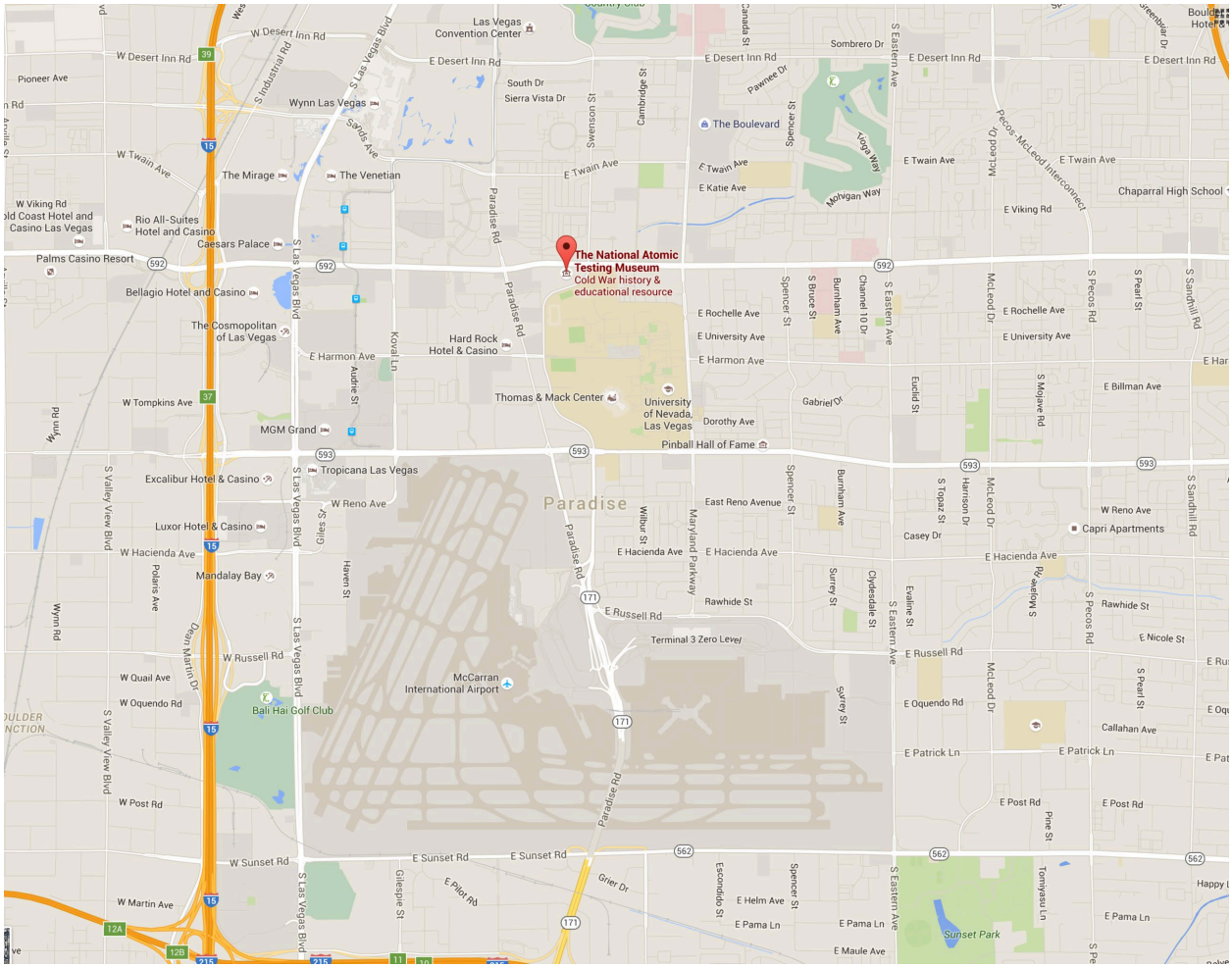
#### NATM Lodging Information

Las Vegas

Las Vegas is usually the lodging location of choice for visitors. There are a plethora of hotels, entertainment, and dining options to choose from in Las Vegas. Many of the hotels offer rates below per diem (currently for FY2016 at $99), although some do charge add-on "resort fees" (up to $25/day), which may or may not be reimbursable by your travel department if they cause your lodging to be over per diem. The website www.vegas.com will allow you to easily compare rates at hotels in Las Vegas. Note that these rates DO NOT include the resort fees.

The NATM located off the Las Vegas strip just north of the McCarran Airport – see the map below.

## Map Showing the Location of the NATM in Las Vegas, NV



# Week 2 Hands-on Training Logistics

## Sandia Hands-on Training Course Logistics

### *Sandia Badge Information*

Please meet at the SRVE Building (Sandia Badging Office) on the first day.

**SRVE Building**
**10700 Research Rd. SE**
**Albuquerque, NM 87123**

Sandia hands-on course organizers will be available at the SRVE Building to guide participants through the badging process. Upon arrival, please check in with a course organizer so we can ensure everyone in the group is accounted for. Instructions for entering Kirtland Airforce Base and directions to TA-V, where the course classroom is located, will be provided before the group leaves SRVE.

If you encounter any issues or have questions on the first day, please reach out to one of the Sandia Course POCs listed above in the Course Points-of-Contact.

**You will need to bring the following with you to the Badge Office on Monday morning:**

- HSPD-12 Badge (If you have one)
- Valid driver's License
- Foreign Nationals: passport, visa, I-94, or other documents required according to your status
- Current vehicle registration
- Proof of vehicle insurance or rental agreement/receipt

Additional information and recommendations for your visit:

- No open-toed shoes allowed. Business or relaxed casual attire is recommended – dress comfortably.
- The classroom may occasionally be cool, so please consider bringing a light sweater.
- A refrigerator and microwave will be available for use throughout the week. You are welcome to bring your own lunch or snacks. A handful of deli and lunch options are also available on base within reasonable driving distance.
- No portable electronic devices are allowed in TA-V. Restricted devices can be left in your car or in a storage box in the entrance building to TA-V.
- All materials needed for the course will be provided. However, if you prefer to bring your own writing utensils and notebook, you are welcome to do so.

### *Sandia Prohibited Items*

As described above, during the class, we will be in a Limited Area (LA). As at all U.S. Department of Energy facilities, each area has a long list of items that are not allowed with the LA being the most restricted. Examples of prohibited items are listed below. Please be aware that **upon entering or leaving Sandia premises, all personnel are subject to search of their persons, hand-carried items, and vehicles**.

Items that are ALWAYS prohibited at SNL:

- Firearms
- Explosives, pyrotechnics, propellants
- Illegal drugs & paraphernalia, intoxicants
- Other items prohibited by law

Examples of items prohibited in the Limited Area (e.g. during our operations at the critical experiments):

- Personally owned electronic equipment
- Radio frequency transmitting equipment including Bluetooth devices, Wi-Fi devices, and pagers with transmitters
    - *NOTE: If you have personal medical electronic devices such as Bluetooth hearing aids, Bluetooth glucose monitors, Bluetooth insulin pumps, etc. please notify ncspteam@ornl.gov and the person coordinating access to the site.*
- Recording equipment (audio, video, data)
- Computers and peripherals
- Removable computer media
- Cell phones or other cellular network devices
- Portable electronics including hand-held computing devices
- Non-SNL owned devices

There is a lock box just inside the front door of Building 6577 that you can use.

## *Lodging and Dining in Albuquerque*

SNL is located on Kirkland Air Force Base a few miles from the Albuquerque International Airport. A wide variety of hotels are available very close to the laboratory.
See https://www.visitalbuquerque.org/ for Albuquerque lodging/dining options.

## *Sandia Maps/Directions*

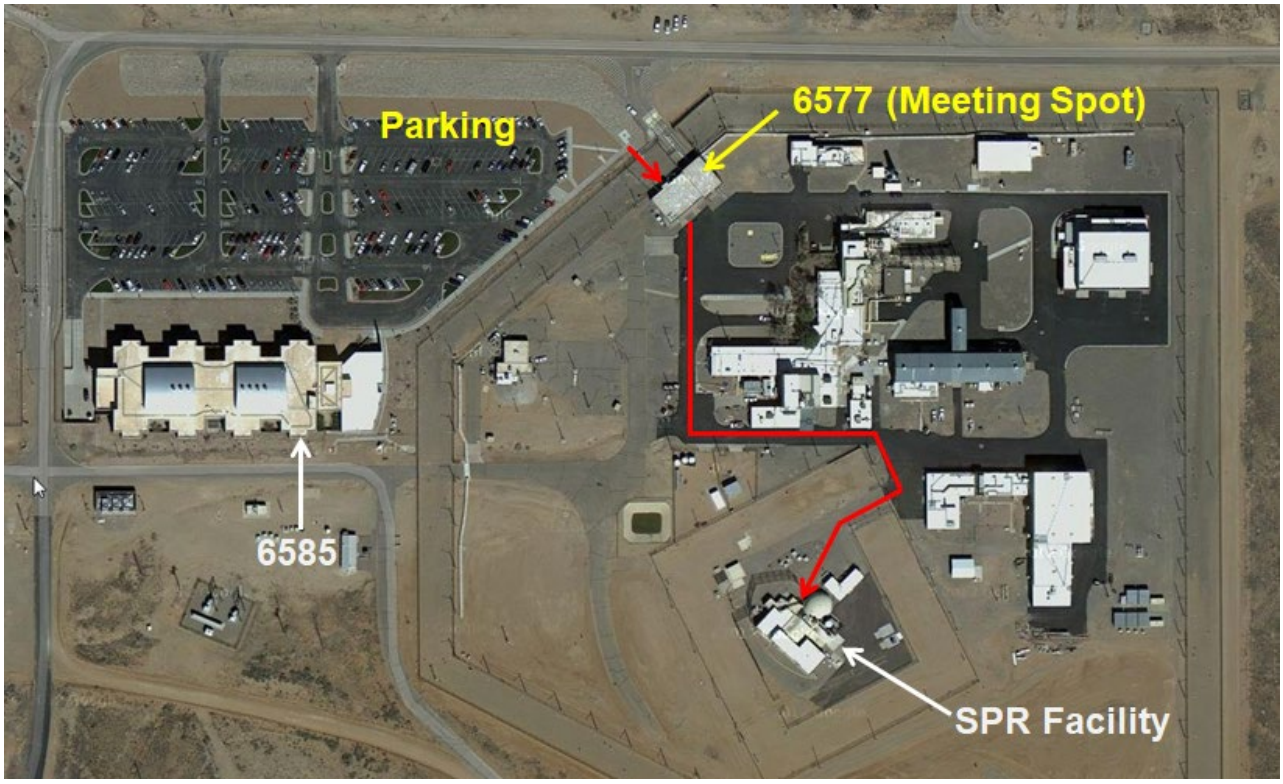
### Directions to the SRVE Building from the Airport

From the Airport, take I-25 north to I-40 east to the Eubank exit. Turn right [south] to the end of Eubank – where Eubank makes a bend to the right [west] just before the base gate. Turn left on Innovation Pkwy, the light just before the gate and proceed just beyond Research Rd (see map below). Look for the sign for the Sandia Badge Office.

### Directions from the SRVE Building to TA-V

- Upon exiting SRVE – Turn Right onto Innovation Pkwy.
- Turn Right at stop sign (only direction you can go), immediately get into left lane.
- Turn at first left (light) to access gate. Turn Left.
- Once past the gate, stay to your left and make left at light. (**20th St**)
- Follow **20th St.** Bear right as it turns into **Hardin Dr. SE**
- **Turn Left – Wyoming Blvd SE**
- **Turn Left – Pennsylvania Ave SE**
- You will pass the KAFB Golf Course (on left) and come upon the RV Park.
- **Turn Right – Airbase Way** (directly across from RV Park) There will be a large blue sign "TA-V Sandia National Laboratories"
- Follow Airbase Way (bearing to your right). **TA-V will be on your left (6582 is in the fenced area.**) A Sandia POC will meet you at **6577**, the entry building.

**Google Maps: Search "Sandia National Laboratories Tech Area V" for GPS directions. See figure below for parking and meeting location at Tech Area V.**




**Parking and Meeting Location at Tech Area V**

[Map of the Sandia Badge Office]

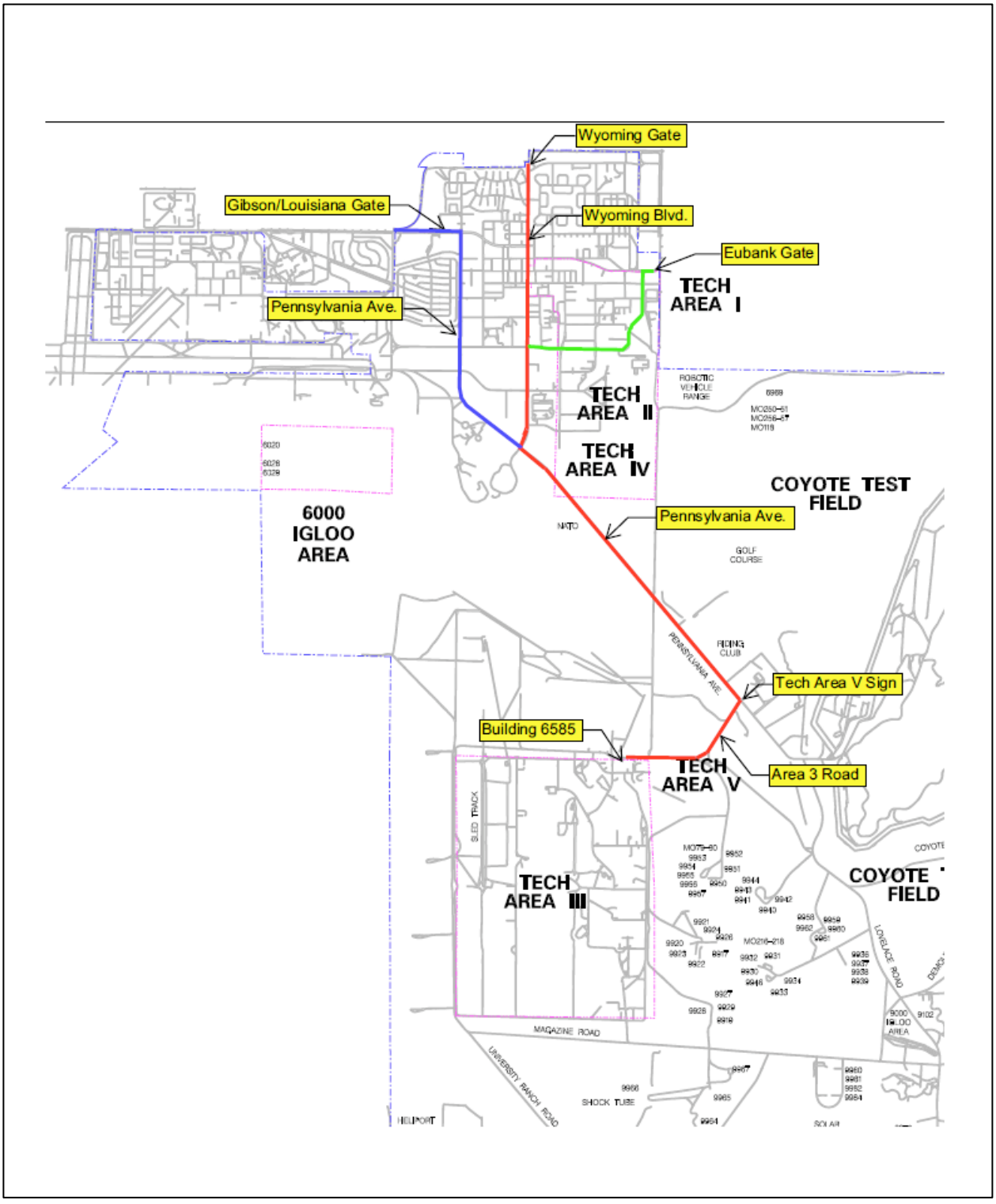
**New SNL Badge office**

March 2026

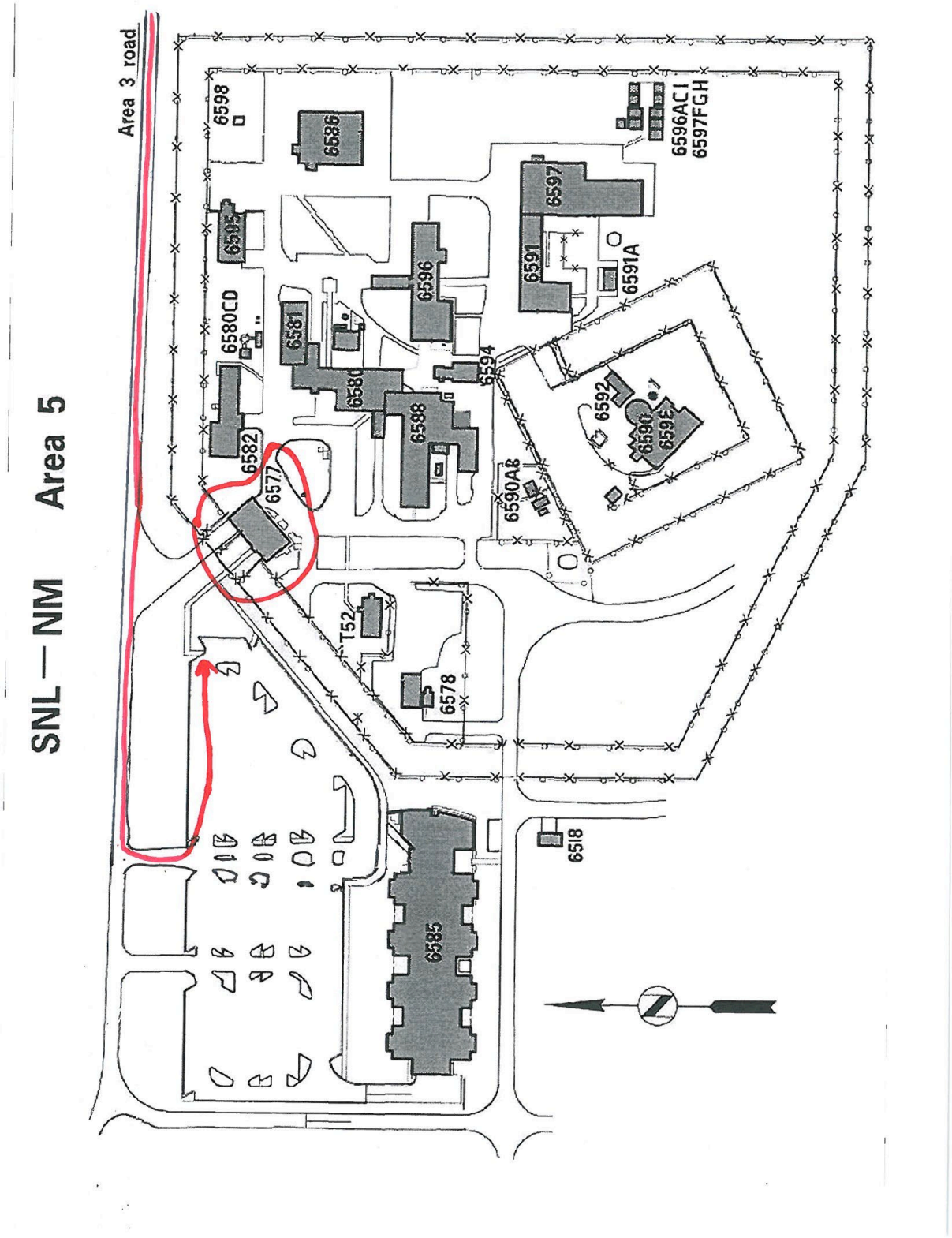
Red indicates path to SRVE

Blue line indicates path from SRVE to the Eubank gate.

## Getting to Tech Area V (TA-V) from all Kirtland AFB Gates



[Sandia Technical Area 5 (TA-V) Map]



# DAF/NCERC Hands-on Training Course Logistics

## *General Information*

The NCERC is a U.S. Government-owned research center located at the Nevada National Security Site (NNSS). It is operated by Los Alamos National Laboratory (LANL) for the National Nuclear Security Administration's (NNSA) Nuclear Criticality Safety Program (NCSP).

There is no cafeteria at the DAF, so it is recommended that you bring your own lunch and snacks. Refrigerators and microwaves are available in the NCERC control room along with coffee makers and water stations.

## *Badging*

**Students need to meet Monday morning at 7:00 am sharp at the Mercury Badge Office to allow for enrollment in the DAF security system.**

The Mercury badge office (NNSS) is located on Mercury highway (take the Mercury exit from US-95 N). The badge office will be on your right, just before the guard station. An escort will meet you at the badge office to assist with badging and answer any questions. Please tell the badge office that you will be going to the DAF and require a PIN number and biometrics setup. Upon completion at the badge office, the escort must call DAF Operations Control and tell them the names of the people that are coming to the DAF.

You will need to bring your HSPD-12 badge (see example figure below) with a working magnetic strip (on the back) and gold chip (on the front). Contact your badge office if you have any questions about the functionality of your badge. Your point-of-contact will let you know if any additional documentation is required.

What an HSPD-12 Badge looks like

## *Dosimeters and Radiation Doses*

We will issue you a dosimeter on Monday morning. You must wear the dosimeter whenever you are in DAF. It should be worn above the waist with the window facing outwards. You will leave the dosimeters at DAF each night. We will collect the dosimeters on Thursday afternoon at the site. You will not need a dosimeter on Friday.

Radiation doses for the class are expected to be low. All critical experiments will be conducted in a shielded part of the facility to protect you from excessive doses. However, you will be handling fissile material, so you will receive some radiation dose. You will not receive more than 10 mrem during the entire week of the class, and your actual dose is likely to be much lower. At the end of the year, you will get a report of your dose from the NNSS contractor based on your dosimeter readings.

## *Prohibited Articles*

You will be asked daily if you have any prohibited articles by the guards at the first guard station. The following items are **prohibited** on the NNSS:

- Illicit drugs
- Firearms
- Explosives
- Stand-alone cameras
- Binoculars
- Spotting scopes
- Telescopes

The following items are prohibited in the DAF:

- Weapons of any kind (includes knives)
- Key Fobs
- Cell phones (personal **and** government)
- Smart watches and fitness trackers
- Spark producing devices (Lighters)
- Personal computer equipment (including USB drives)
- Radiation Generating Device keys (XRS, Betatron, Neutron Generator)

As a best practice, minimize what you bring into the DAF. Double check your bags and pockets for prohibited items before attempting to come through the Entry Guard Station (EGS). The accidental introduction of a prohibited item can significantly impact your visit. It is also the best practice to minimize the amount of metal you wear into the DAF. If you have items that are prohibited in the DAF, you can leave them in your vehicle or in one of the lock boxes outside the DAF EGS.

## *Information on Things to Bring*

- Your badge! If you forget your badge, you might miss out on a day or more of the class.
- Composite safety shoes and safety glasses if you have them (not required)
- A lunch for our experimental days (Monday, Tuesday, Wednesday, and Thursday)
- A calculator or laptop with spreadsheet software for homework. If you bring them onsite, please leave them in your car.

## *Dress Code*

We will be in the lab Monday through Thursday. You need to wear long pants and sturdy, close-toed shoes (tennis shoes, boots, or leather shoes) and safety glasses with side shields. Safety shoes are required in the DAF. You are welcome to bring your own safety shoes, or NCERC can provide safety shoe covers. Keep in mind that steel-toed safety shoes must be removed when passing through the DAF EGS. You can also bring your own safety glasses, or NCERC can provide a pair if you prefer.

Buildings inside the DAF can have large variations in temperatures. Anywhere between 55$^{o}$F and 80$^{o}$F is possible. It is recommended that you dress in layers for your comfort. Also keep in mind that the temperature outside at the NNSS can be extreme.

## *Travel Onsite at NNSS*

The last section of this guide includes maps of the NNSS, Mercury, Las Vegas (to locate the Nevada Support Facility), and of the Nevada Support Facility. Most digital maps will not provide directions from Las Vegas to Mercury, NV. You can look for directions to Indian Springs, NV, and continue on US-95 N through Indian Springs

for ~19 miles to the Mercury highway exit. Take this exit, and you should see signs notifying you that you are entering the NNSS. Travel Onsite at NNSS

After the badge office, drive through the guard station on Mercury highway. Continue driving through Mercury Base Camp toward the forward areas. The DAF is a large white building that is ~25 mi (25 – 30 min) past Mercury that will be on your left. Unfortunately, the DAF access road is not well marked, so keep an eye out. If you are heading to another NCERC facility, please follow your escort or the directions provided by your point-of-contact.

The NNSS has many interesting sites scattered throughout the desert, but as a visitor, you are not allowed to drive around sightseeing. Please only drive to and from the NCERC facility you are visiting. Do not attempt to drive off-road, and do not pick up anything on the site to take for a souvenir.

Obey all posted speed limits on the NNSS. The highways on the NNSS are patrolled by the Nye County Sheriff. They are authorized to issue citations for speeding.

There is also a lot of wildlife on the NNSS. Do not disrupt or feed any of the wildlife. If you happen to see a desert tortoise in the road, wait for it to cross (picking them up can cause them to urinate and dehydrate themselves).

## DAF/NCERC Travel Logistics

### *Travel Information to Las Vegas*

The closest airport is Las Vegas Harry Reid International Airport (airport code LAS). You will need to fly in on Sunday (the day before the course starts) as the course will begin early on Monday morning. The course will conclude around 1:00 pm on Friday.

### *Travel Information to the NNSS (DAF/NCERC) from Las Vegas*

Travel to and from the NNSS and NCERC are not provided. A personal or rental vehicle is required. Visitors may carpool if they wish.

The commute between Las Vegas and NNSS is quite long and has spotty cellular coverage, so plan accordingly. Monitor your fuel level during your commute, as no fuel is available after you leave Indian Springs. The best practice is never let your fuel level go below 1/3 of a tank of fuel available.

Indian Springs is a small town between Las Vegas and NNSS (across from Creech Air Force Base) and the speed limit drops from 70 to 45 mph. Many people visiting the NNSS have been pulled over for speeding through this town, so keep an eye on your speed.

### *Rental Car Information*

The rental car facility is offsite from Harry Reid International Airport, so you will need to take a free shuttle. The shuttle picks up outside the doors of baggage claim, there are signs leading to the pick-up location.

### *Lodging Information*

Las Vegas is usually the lodging location of choice for visitors to the NNSS. There are a plethora of hotels, entertainment, and dining options to choose from in Las Vegas. Many of the hotels offer rates below per diem although some do charge add-on “resort fees” which may or may not be reimbursable by your travel department The travel time from your hotel to the DAF varies depending on where in Las Vegas you stay. Below are some commute estimates, this is for the early morning when there is little to no traffic. Expect the times to be longer on the trip back to Las Vegas, especially if you decide to stay on the Strip.

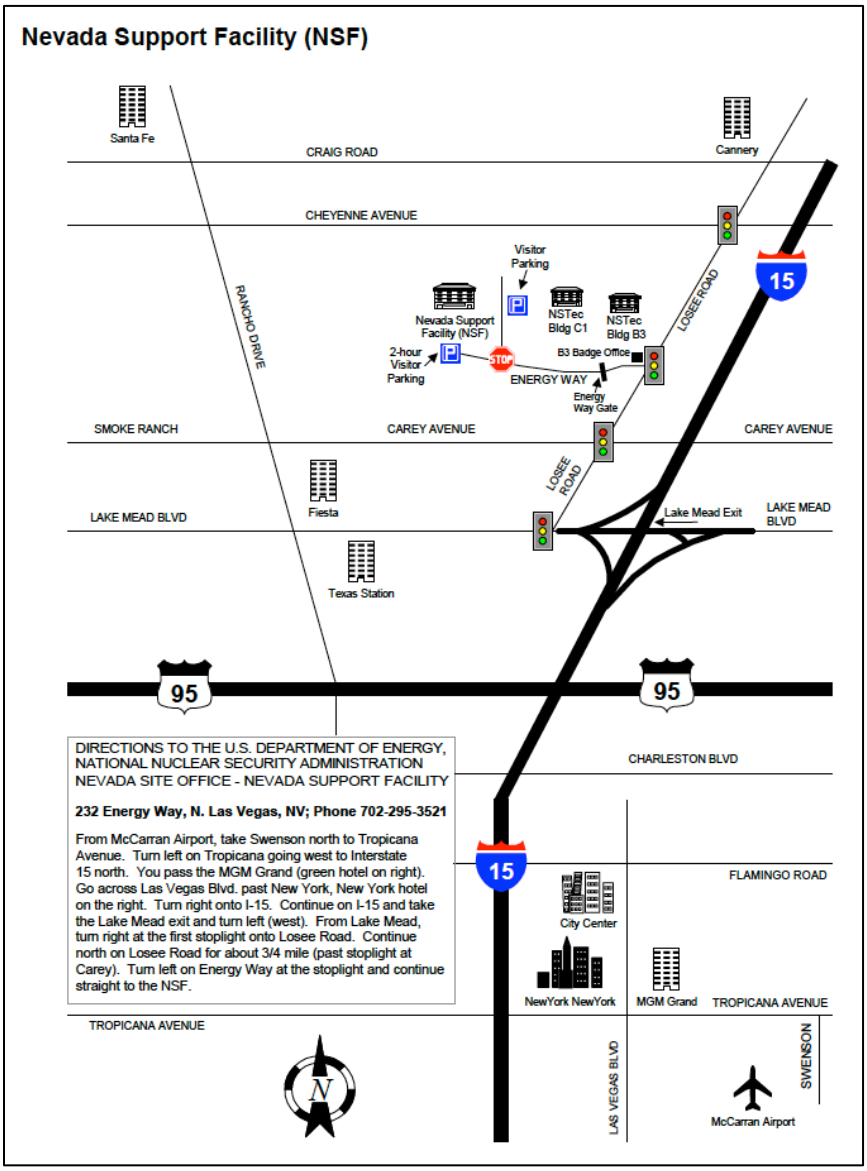
- Las Vegas Strip (Las Vegas Blvd.): Travel time to Mercury is ~75 min and to the DAF is ~100 min.
- North Las Vegas: Travel time to Mercury is ~65 min and to the DAF is ~90 min

The NNSS does have dorm rooms available in Mercury. The rooms are standard motel-type rooms with internet access and cable TV. The Mercury cafeteria is the only option for onsite dining (cafeteria hours are listed below). With your badge, you can freely leave the site 24 hours a day and emergency medical services are available. Rooms are $40 per night. Email nnsshousing@nv.doe.gov if you wish to book a room at the dorms.

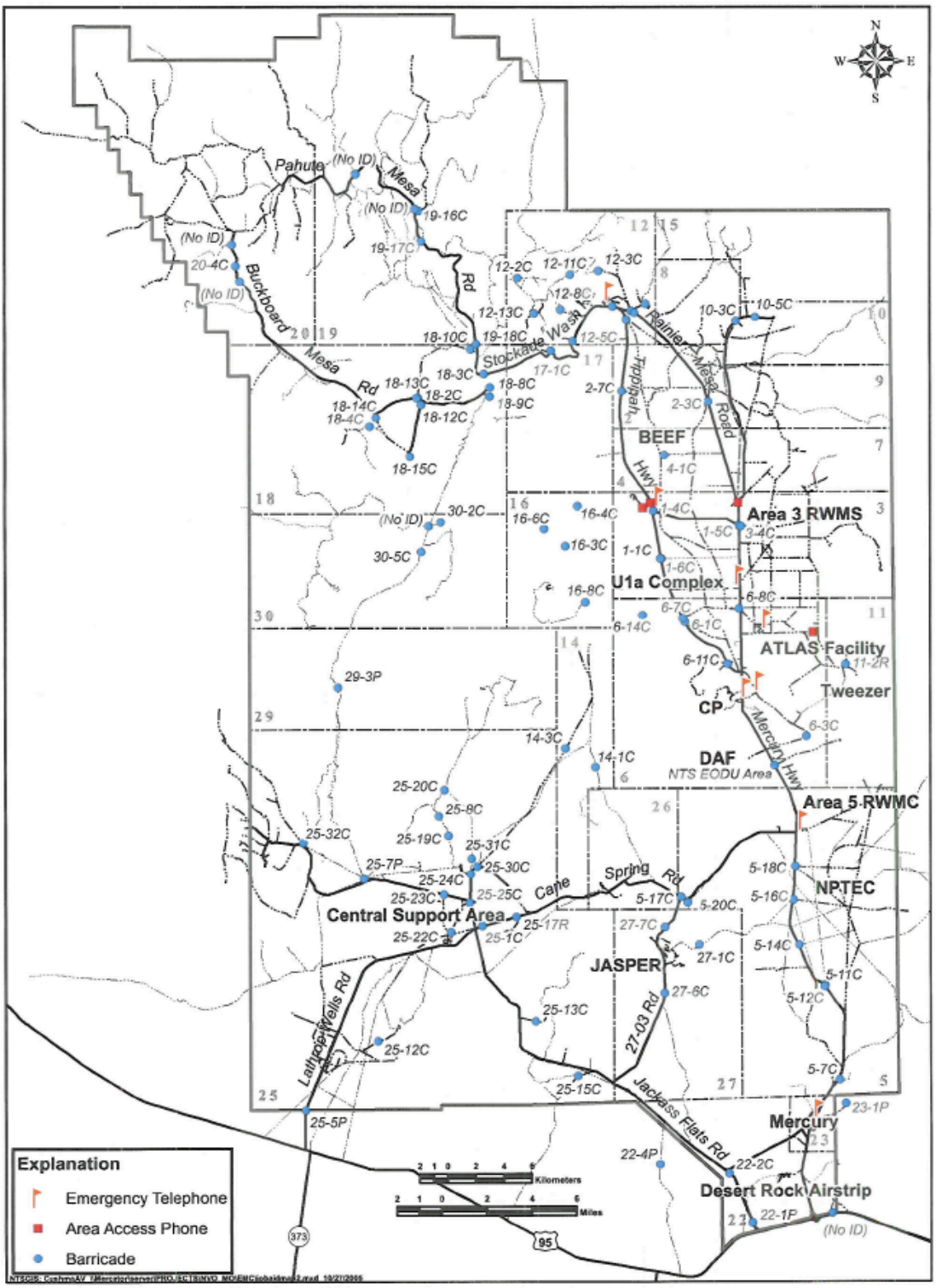
- Breakfast (M-Th): 0530 – 0730
- Lunch (M-Th): 1045 – 1300
- Snack (M-Th): 1330 – 1530
- Dinner (M-W): 1645 – 1900

## Maps of the NSF/NSO, NNSS, DAF/NCERC and Mercury

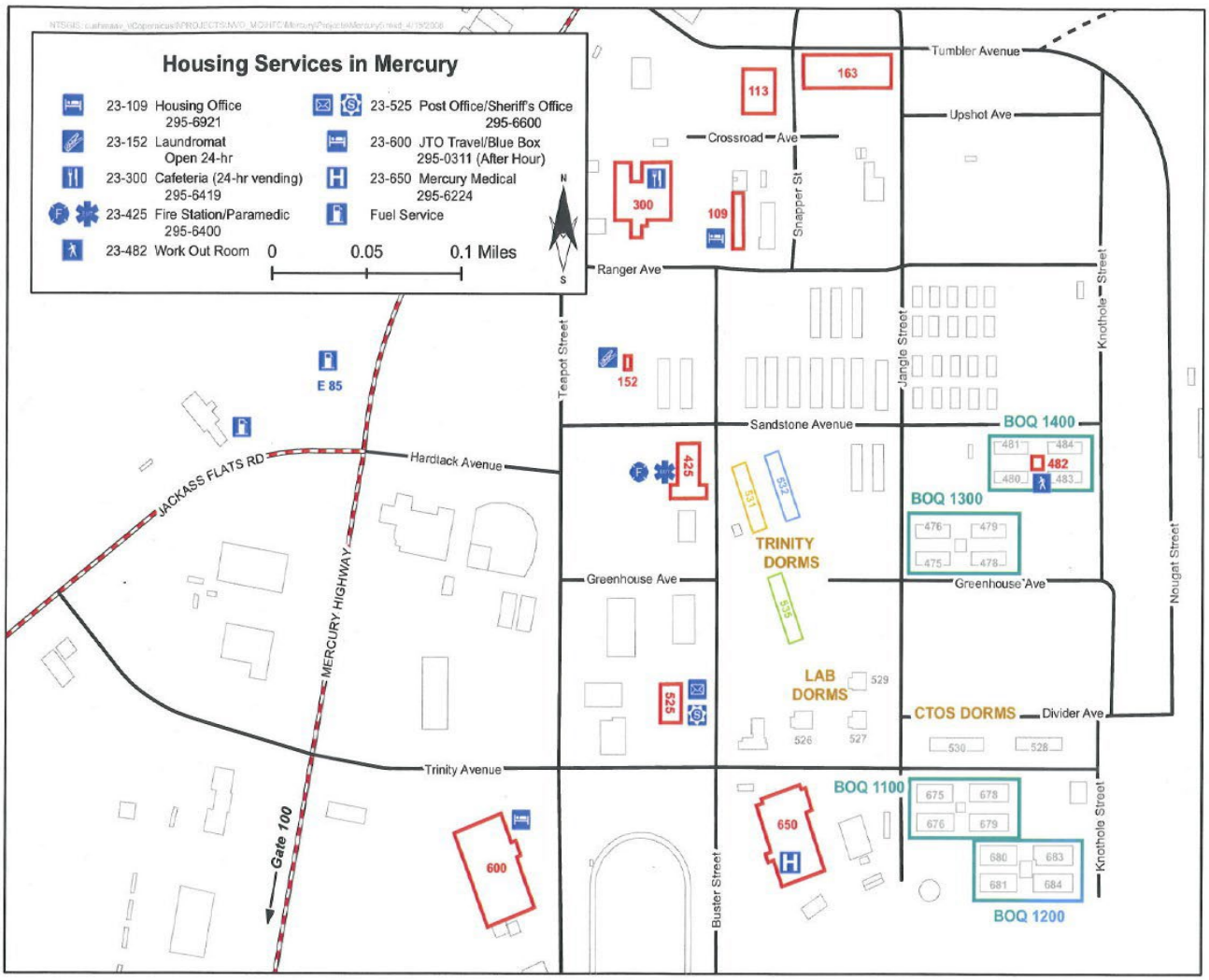
### Las Vegas (shows Nevada Support Facility (NSF))



Nevada National Security Site (NNSS) Map (Mercury and the DAF).



## Mercury


Housing Services in Mercury
23-109 Housing Office 295-6921
23-152 Laundromat Open 24-hr
23-300 Cafeteria (24-hr vending) 295-6419
23-425 Fire Station/Paramedic 295-6400
23-482 Work Out Room
23-525 Post Office/Sheriff's Office 295-6600
23-600 JTO Travel/Blue Box 295-0311 (After Hour)
23-650 Mercury Medical 295-6224
Fuel Service
0 0.05 0.1 Miles
N
S
Tumbler Avenue
Upshot Ave
Crossroad Ave
Ranger Ave
Snapper St
Teapot Street
Jangle Street
Knothole Street
Nougat Street
Sandstone Avenue
Hardtack Avenue
JACKASS FLATS RD
MERCURY HIGHWAY
Greenhouse Ave
Trinity Avenue
Gate 100
Buster Street
Divider Ave
BOQ 1400
BOQ 1300
BOQ 1100
BOQ 1200
TRINITY DORMS
LAB DORMS
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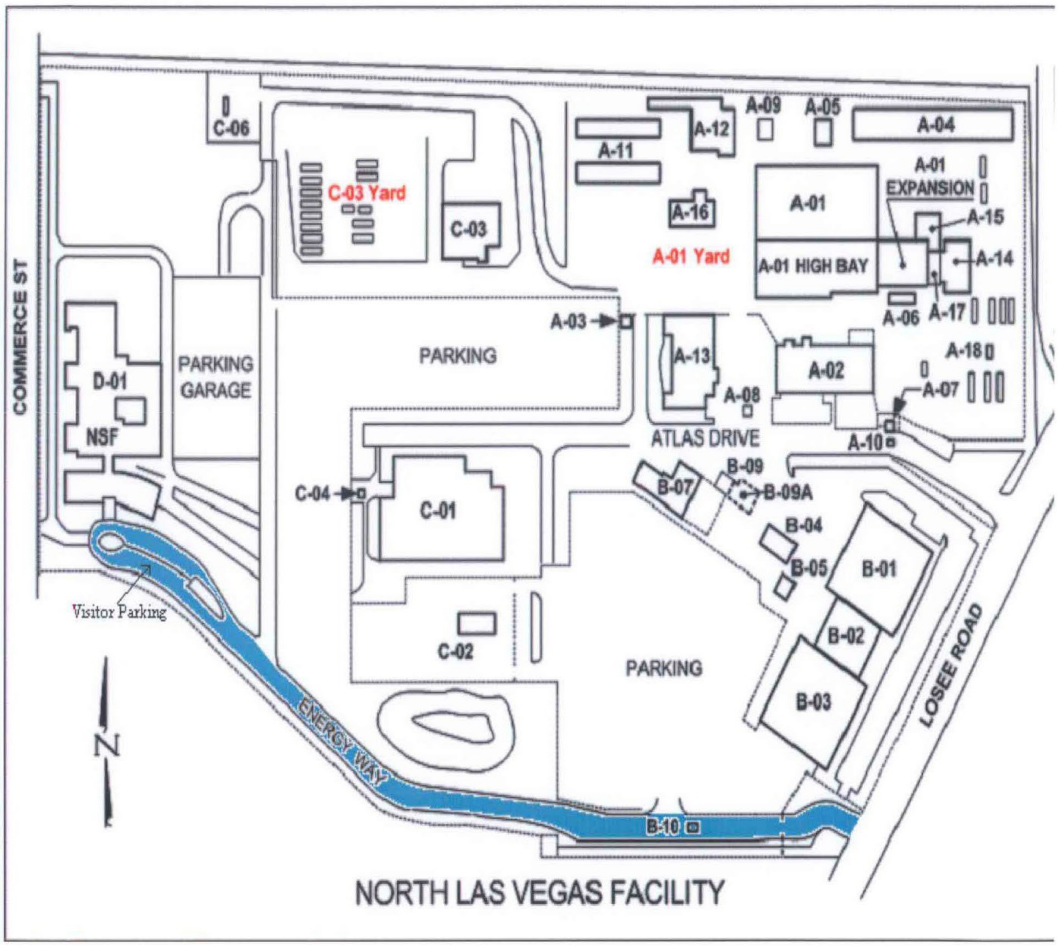
425
525
600
650
482

## Nevada Support Facility (NSF)