Background Paper 83-5

THE NEVADA TEST SITE

TABLE OF CONTENTS

THE NEVADA TEST SITE

I

INTRODUCTION

For most Nevadans, the Nevada Test Site means a restricted area, located somewhere between Las Vegas and Tonopah, that was formerly used to test atomic bombs. Other than that, most state residents probably do not know much else about the Test Site. The purpose of this background paper is to not only summarize the past history of the Test Site, but also examine current and projected uses of this area.

Description of Area

The Nevada Test Site is located in southern Nye County, approximately midway between Las Vegas and Tonopah. (See map 1 on page 18.) Mercury, the primary base camp on the Test Site, is located some 66 highway miles northwest of Las Vegas. The Test Site contains approximately 864,000 acres, representing just over 1 percent of Nevada's total land area. Maps 2 and 3 on pages 19 and 20 respectively, illustrate the topographic and man-made features of the Test Site.

The Nevada Test Site is bordered on its west, north and east sides by the larger Nellis Air Force Bombing and Gunnery Range. Together, the Test Site and the Nellis Range contain over 3.5 million acres, making this our Nation's largest contiguous area of land withdrawn for military and defense purposes.

History of Area

Prior to 1950, the year that the Nevada Test Site was established, this area was used mainly for mining, livestock grazing and hunting activities. Very few people ever lived in this area except for a brief period in 1928 and 1929. During that period, mining of high-grade silver-gold ore from the Horn Silver Mine resulted in a brief influx of approximately 1,500 people into the nearby camp of Wahmonie (located in present-day Area 26, shown on map 3). However, because of the limited ore body and lack of additional discoveries, the town was abandoned by the summer of 1929.

Background - Nevada Test Site

In the years immediately following World War II, nuclear weapons tests were conducted in the atmosphere or underwater. Before 1951, all of this work was done at remote Pacific island sites in order to minimize any damage to property or to man. Testing at those distant sites required an extensive logistic effort and an inordinate amount of time. When weapons development was accelerated in 1949 and 1950 in response to the national defense policy, it became increasingly clear that, if nuclear weapons could be tested safely within the continental boundaries, weapons development lead times would be reduced and considerably less expense incurred. This would be true particularly for the smaller nuclear weapons.

At that time, a number of sites throughout the continental United States, including Alaska, were considered on the basis of low population density, safety, favorable year-round weather conditions, security, available labor sources, reasonable accessibility including transportation routes, and favorable geology. Of all the factors, public safety was considered the most important. After review of known information about fallout, thermal, and blast effects, it was determined that under careful controls, an area within what is now the Nellis Air Force Range could be used for relatively low-yield nuclear detonations with full assurance of public safety.

Originally, 435,200 acres were withdrawn under Public Land Order 805 dated February 19, 1952, for nuclear testing purposes from an area used by the U.S. Air Force as a bombing and gunnery range. This resulted in the formation of approximately the eastern half of the present Nevada Test Site. The predominant features of this area are the closed drainage basins of Frenchman Flat and Yucca Flat where the early atmospheric tests were conducted. The main Control Point was located and remains on the crest of Yucca Pass between these two basins (area 6 on map 3). Additional land withdrawals in 1958, 1961, and 1964 added to the site, and with the use of Pahute Mesa area acquired by Memorandum of Agreement with the United States Department of Defense in 1967, provide its present size of approximately 864,000 acres.

Construction of the Nevada Test Site facilities began on January 1, 1951. Operation RANGER was the first series of tests for which the Nevada Test Site was utilized. The

first test was of a one-kiloton device which was airdropped and detonated on January 27, 1951, in Frenchman Flat.

The original and still primary purpose of the Nevada Test Site is to provide an on-continent site for testing nuclear weapons. From 1951 through 1958, 119 announced nuclear tests were conducted on the Test Site. Eighty-four of those tests were weapons-related or weapons effects tests that produced a nuclear explosion, primarily in the atmosphere. One of the 119 tests was detonated at the surface; one rocket; one air burst fired from a 280 mm cannon; two cratering experiments; five in tunnels; 19 dropped from aircraft; 23 suspended from balloons and 36 from the top of steel or wooden towers. Thirty-one of the 119 tests were safety experiments that produced very slight or no nuclear yield. Twelve safety experiments were conducted at the surface; six in tunnels; seven in uncased and unstemmed holes; five from the top of steel or wooden towers; and one suspended from a balloon.

Testing, suspended in 1958 when President Dwight Eisenhower declared a moratorium, was resumed in 1961 after the Soviet Union began a series of large tests. United States testing started in 1961 at the Nevada Test Site and in 1962 in the Pacific. All but five of the weapons tests conducted since 1961 at the Test Site have been deep underground. Two of the five were cratering tests and the other three were at or near the surface. Additionally, there were five Plowshare cratering tests, starting in 1962, to develop large-scale excavation techniques.

From 1951 through December 31, 1982, 601 nuclear tests were announced as having been conducted at the Nevada Test Site. These tests included 13 joint United States-United Kingdom tests and 23 Plowshare tests to develop peaceful uses of nuclear explosives. Nineteen nuclear tests were announced for the Test Site in 1982. As a matter of national policy, established by President John F. Kennedy and continued by succeeding presidents, not all tests are announced. The Limited Test Ban Treaty, signed in Moscow, Russia, on August 5, 1963, prohibits testing in outer space, underwater or in the atmosphere.

Tests today are limited to a maximum yield of 150 kilotons under the terms of the Threshold Test Ban Agreement signed by President Richard Nixon in Moscow, Russia, in 1974. Plowshare tests are limited to 150 kilotons per explosion but a number of simultaneous explosions are permitted. The

agreement applies to both the United States and the Soviet Union, but only the Soviets have an active Plowshare program.

From 1951 until early 1962, all nuclear tests at the Nevada Test Site were under the management of the Atomic Energy Commission's (AEC) Albuquerque Operations Office. Because of the significantly increased activities resulting from the resumption of weapons testing in the fall of 1961, the Nevada Operations Office was established in Las Vegas on March 6, 1962. That office was assigned the AEC's responsibilities for nuclear detonation programs at the Test Site, as well as all other United States test sites. The Nevada Operations Office is now a part of the United States Department of Energy.

Related Resolutions of the Nevada Legislature

Within the last 8 years, the Nevada legislature passed two resolutions, which were approved by the governor, expressing state policy concerning the Nevada Test Site. Additionally, the legislature's select committee on public lands enacted a resolution in 1982 opposing future high-level radioactive waste disposal at the Test Site.

The two resolutions of the full legislature are as follows:

Storage and Processing of Nuclear Material and Solar Energy Research

A.J.R. 15 - Nevada legislature (1975)

Research and Development of Solar Energy and Satellite Power System

S.J.R. 19 - Nevada legislature (1981)

Assembly Joint Resolution No. 15—Assemblymen Mann, Robinson, Price, Hickey, May, Getto, Jacobsen, Hayes, Moody, Chaney, Schofield, Benkovich, Dreyer, Howard, Heaney, Bennett, Christensen, Jeffrey, Vergiels, Sena and Brookman

FILE NUMBER 184

ASSEMBLY JOINT RESOLUTION—Urging the Energy Research and Development Administration to choose the Nevada Test Site for the storage and processing of nuclear material and for solar energy research under the Solar Energy Research, Development and Demonstration Act of 1974.

WHEREAS, The now supplanted Atomic Energy Commission has, over the years, demonstrated an outstanding concern for nuclear safety and has compiled, at the Nevada Test Site, an equally outstanding safety record; and

WHEREAS, The people of Southern Nevada have confidence in the safety record of the Nevada Test Site and in the ability of the staff of the site to maintain safety in the handling of nuclear materials; and

WHEREAS, The unemployment rate in Clark County, Nevada, is 20.7 percent higher than the disturbingly high national unemployment rate; and

WHEREAS, The people and the leaders in many states being considered as sites for the storage and processing of nuclear material have serious anxieties and doubts about providing storage and processing sites; and

WHEREAS, The existing facilities and the years of expertise in nuclear material handling at the Nevada Test Site are a tremendous existing resource; and

WHEREAS, Southern Nevada also offers an excellent environment in which to explore the potential of solar energy; and

WHEREAS, National energy independence and a clean environment are dependent upon tapping nonfossil fuel sources of energy for heating, cooling and electricity; and

WHEREAS, The existing facilities of the Nevada Test Site and its support infrastructure are available and well suited to scientific research in addition to nuclear projects; and

WHEREAS, The storage and processing of nuclear material, and solar energy research can both be carried out at the Nevada Test Site with minimal capital investment relative to other locations; now, therefore, be it

Resolved by the Assembly and the Senate of the State of Nevada, jointly, That the legislature of the State of Nevada strongly urges the Energy Research and Development Administration to choose the Nevada Test Site for the storage and processing of nuclear material provided that there is an acceptance by the Energy Research and Development Administration of the following conditions:

1. Air cooling is used at the storage facility;
2. Rail transportation avoiding the Las Vegas metropolitan area is established to the site;
3. Appropriate state agencies and local governments can cooperate in, and contribute to, the development of the Energy Research and Development Administration's site-specific environmental impact statement;

4. It is satisfactorily demonstrated that adequate radiation safeguards for storage and transportation can be developed and will be implemented;

5. Public hearings are held in at least four counties in the state prior to choosing a specific site for the facility; and be it further

Resolved, That under the provisions of the Solar Energy Research, Development and Demonstration Act of 1974 the Energy Research and Development Administration utilize the extensive resources and facilities of the Nevada Test Site to explore the potential uses of solar energy; and be it further

Resolved, That copies of this resolution be prepared and transmitted by the legislative counsel to the administrator of the Energy Research and Development Administration, to the assistant administrators for nuclear energy and for solar, geothermal and advanced energy systems and to all members of Nevada's congressional delegation; and be it further

Resolved, That this act shall become effective upon passage and approval.

1975

Senate Joint Resolution No. 19—Senators Wagner, Raggio, Ford, Gibson, Wilson, Blakemore, Kosinski and Jacobsen

FILE NUMBER...84....

SENATE JOINT RESOLUTION—Urging the Congress of the United States to use the Nevada Test Site for the development of solar and other renewable sources of energy.

WHEREAS, The United States must promote the development of domestic sources of energy to decrease our dependence on foreign sources of energy; and

WHEREAS, Solar and other renewable sources of energy promise to provide for much of the nation's demand for energy with relative safety; and

WHEREAS, Without a strong program to research and test the best ways to use these resources, their promise will remain unfulfilled; and

WHEREAS, The amount of sunlight which Nevada, particularly southern Nevada, receives annually makes it an especially suitable area for the placement of solar laboratories, demonstration projects and test equipment; and

WHEREAS, The Nevada Test Site is a large expanse of land within this area and less than 10 percent of this acreage is used by the Department of Defense for testing the effects of nuclear weapons; now, therefore, be it

Resolved by the Senate and Assembly of the State of Nevada, jointly, That the Nevada legislature hereby urges the Congress of the United States to devote the Nevada Test Site for future uses to include research and development of solar and other forms of renewable energy; and be it further

Resolved, That Congress give particular consideration to the development of the satellite power system which uses solar energy, presently under evaluation by the Department of Energy, at this site; and be it further

Resolved, That Congress is urged to locate the receiving station for the satellite power system at the Nevada Test Site; and be it further

Resolved, That a copy of this resolution be immediately transmitted by the legislative counsel to the President of the United States, to the Vice President of the United States as the presiding officer of the Senate, to the Speaker of the House of Representatives, to all members of the Nevada congressional delegation and to the Department of Energy; and be it further

Resolved, That this resolution shall become effective upon passage and approval.

19 81

II

CURRENT OPERATIONS

Employment

According to the Nevada Operations Office of the U.S. Department of Energy (DOE), about 9 percent of the work force in southern Nevada is either directly or indirectly dependent on current activities at the Nevada Test Site. In March 1982, DOE provided the following employment figures:

Nevada Test Site Employment
March 1982

Federal Employees	Private Contractors	Support Jobs in Southern Nevada
240	7,100	11,300

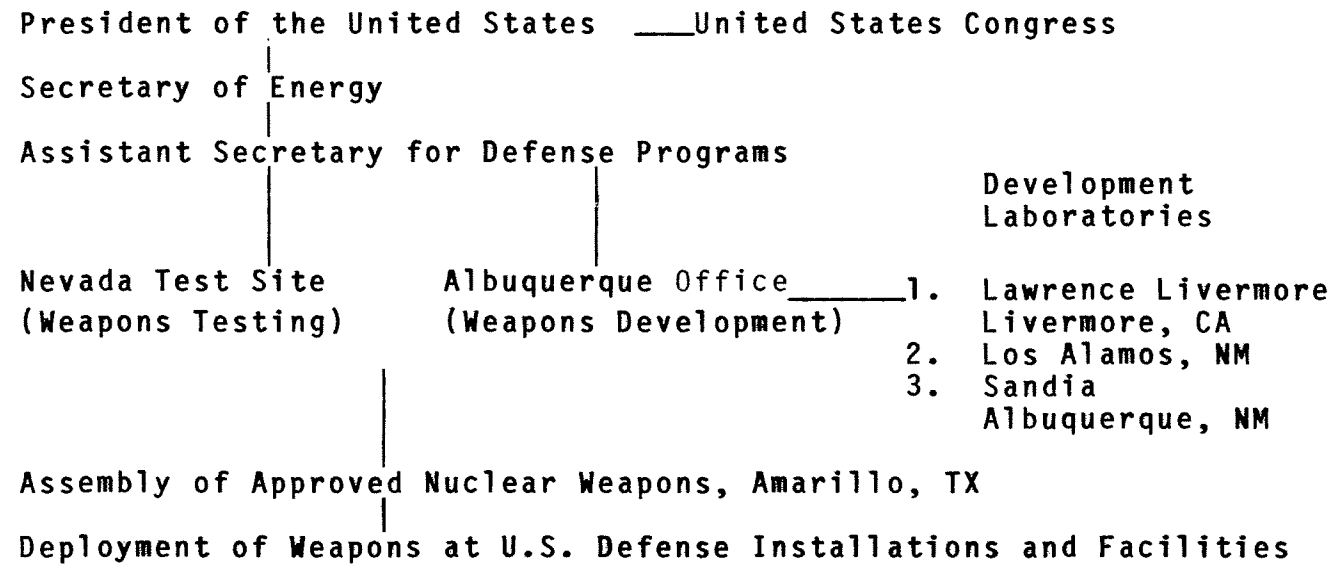
Total Jobs: 18,640

Additionally, the head of the Nevada Operations Office stated that activities at the Nevada Test Site provide one billion dollars annually to the economy of southern Nevada.

Underground Nuclear Weapons Testing

Although the Nevada Test Site was originally selected to meet criteria for atmospheric tests, it also has proved satisfactory for underground tests. The Test Site provides an established facility in a location remote from population centers. The geologic media at the explosion sites permit the placement of nuclear devices at sufficient depth for proper containment and control of radiation. The water table is relatively deep and water movement is very slow. Weather conditions permit a year-round testing program.

Close ties exist between the DOE and the U.S. Department of Defense (DOD) on the development, testing and deployment of nuclear weaponry. Currently, testing of nuclear weapons at the Nevada Test Site is a vital component of the Nation's defense program. A simplified "wiring" diagram follows to indicate the role of the Test Site.



In addition to DOE and DOD, three other federal agencies participate in weapons testing activities at the Nevada Test Site. These agencies are the U.S. Environmental Protection Agency (EPA), the U.S. Geological Survey (USGS) and the National Oceanic and Atmospheric Administration (NOAA).

In 1981, 17 announced underground tests were detonated at the Nevada Test Site, while 19 tests were announced in 1982. Each test must receive final approval by the President of the United States before detonation.

In addition to programs such as the Nuclear Emergency Search Team, the Test Treaty Verification Program, and radiation monitoring and safety programs, an off-site Radiation Exposure Review Program has also been established at the Nevada Test Site. This program reviews claims of cancer and health impairment from persons living in nearby parts of Nevada and Utah who may have been exposed to radiation during the period of atmospheric weapons testing. The DOE presently uses the advice and expertise of several noted scientists and physicians in the off-site radiation review program. These experts come from various scientific, medical and government institutions throughout the Nation, including Nevada's Desert Research Institute, Washoe Medical Center and the University of Nevada's School of Medical Sciences.

High-Level Radioactive Waste Disposal Investigations

Nuclear waste storage investigations at the Nevada Test Site were begun in 1977. The investigations will determine whether selected underground rock on or adjoining the Nevada Test Site are technically acceptable for a licensed, commercial spent reactor fuel or high-level nuclear waste repository. The studies also involve developing or improving technology for safely handling, storing, and disposing of highly radioactive nuclear waste.

The Test Site area has a variety of potentially acceptable geological media. However, current efforts are focused on welded tuffs (heat-fused volcanic ash) that exist in abundance on the Test Site. For nearly 3 years laboratory and field experiments have been conducted with welded tuffs to provide the information to evaluate the acceptability of selected geologic environments and to design a suitable repository for a specific underground rock unit.

A 1979 U.S. Geological Survey evaluation of the geologic, geophysical, and hydrologic data from preliminary investigations of several areas of the Test Site led to exploratory investigations on Yucca Mountain (see map 2). A block of tuffaceous rock, thought to be under a portion of Yucca Mountain, has been investigated extensively since October 1979. During 1980, a major stratigraphic drill hole was continuously cored, logged, and hydrologically tested down to 6,000 feet near the center of the block. A second major stratigraphic hole on Yucca Mountain was drilled and cored down to 6,000 feet in 1981. Drilling of a 1,500 foot shaft in Yucca Mountain, just west of the Test Site boundary, is expected to begin in October 1983. The U.S. Department of Energy has obtained an agreement from the U.S. Air Force to allow this drilling because this location is actually on the Nellis Gunnery Range and not the Test Site.

The Yucca Mountain site is one of six presently under consideration by the Federal Government to serve as a major repository of the Nation's high-level radioactive wastes. It is anticipated that the President will make a decision on the site(s) to be used in 1987, with actual storage of wastes to be underway by the late 1990's.

In addition to the Yucca Mountain volcanic tuff formation, other sites under review include: a basalt rock formation on the Hanford Atomic Energy Reservation in southeastern

Washington state, a salt dome site near Moab, Utah, and underground salt formations in the Texas Panhandle, Louisiana and Mississippi.

About 8,000 tons of spent nuclear reactor fuel rods lie in temporary storage in pools of water on the grounds of America's 70-odd nuclear power plants. As more and more of the pools reach their capacity, these high-level radioactive materials will increase to nearly 80,000 tons by the time the national repository is scheduled to open.

Other nuclear waste storage investigations at the Nevada Test Site include methods to handle, encapsulate, move, and emplace spent reactor fuel safely in passive dry storage. These activities include tests now being conducted on and slightly below the earth's surface and deep underground.

Westinghouse Electric Corporation is conducting temporary storage tests in shallow dry wells, a surface silo, and in the lag storage pit at the E-MAD facility on the Nevada Test Site (Area 25 on map 3). Developmental work is continuing on the safe handling, encapsulation, and passive dry storage of spent reactor fuel assemblies. The spent fuel assemblies, experimental canisters, and test environments will be analyzed at the end of the tests and the results will be documented. Currently at the E-MAD facility, four spent fuel canisters are stored in dry wells, one canister is stored in the above ground silo (sealed storage cask), and one is temporarily stored in the lag storage pit.

The Lawrence Livermore National Laboratory began spent fuel storage tests in 1980 using a deep underground granite site. During April and May of that year, 11 spent fuel canisters were encapsulated at the E-MAD facility and then transported in a special transport cask to a surface access hole at the Climax Mine site (Area 15 on map 3). The canisters were then lowered 1,400 feet into the underground test facility. A remotely controlled vehicle received the 11 canisters one by one and emplaced them in predesignated granite storage holes to begin the test. In addition, an in situ test facility for studying radionuclide migration in granite has been developed in an adjacent drift.

The Climax granite site is located near the weapons testing area, and has been ruled out as a commercial nuclear waste repository location. Although granite sites are not included in the list of "finalists" for a national nuclear

waste repository, the transport and storage tests at the Climax site will be of considerable value when such a repository is selected.

Low-Level Radioactive Waste Disposal

Good housekeeping practices at United States nuclear weapons production, manufacturing, and testing facilities require the removal and disposal of materials contaminated with low-levels of radioactivity. This disposal prevents a buildup of radionuclides that could become hazardous and lessens the possibility of exposure to radiation by personnel using the facilities. Contaminated materials include soil, tools, filters, rubber gloves, rags, test tubes, machine cuttings--anything that becomes contaminated and which would cost more to decontaminate than to replace.

These materials are isolated from man's environment in a manner that will insure their containment for a long period of time. The Nevada Test Site is used to store or permanently dispose of low-level radioactive waste materials resulting from the Nation's defense programs, including weapons testing. The annual cost of the low-level waste handling program at the Test Site is about $1.2 million.

The two principal waste disposal areas at the Test Site are located in closed valleys (Yucca Flat and Frenchman Flat - see map 2) where surface runoff from the scant desert precipitation flows inward toward dry lake beds where most of it evaporates. Moisture seldom penetrates more than a few inches of the dry desert alluvial soil and in most areas there is no water for percolation from the surface to the water table many hundreds of feet below. Low-level wastes are buried in the higher elevations of the two valleys, away from the dry lake beds. The area is considered geologically stable.

In Yucca Flat, a crater formed by the collapse of a cavity created by an underground nuclear detonation is used to bury large or bulky contaminated items, such as tower debris and military vehicles, that were subjected to nuclear weapons tests. These contaminated materials are from nuclear weapons tests conducted in the atmosphere at the Nevada Test Site in the 1950's and are a part of a general cleanup of the site. Contaminated debris is placed in the crater and covered with earth. The crater initially was 600 feet wide and 50 feet deep.

The Radioactive Waste Management Site in Frenchman Flat provides for both surface storage and burial in man-made trenches. The contaminated materials handled at this site come from the Nation's nuclear weapons laboratories and production facilities and are shipped to the Test Site on government vehicles or commercial carriers in U.S. Department of Transportation approved containers.

The levels of radioactivity are generally so low that no radiation shielding is required to protect the workers handling the shipments other than that provided by the containers, usually plywood boxes and steel drums. Where practical, all materials are compacted, oxidized, dehydrated, incinerated, or otherwise concentrated for the maximum possible volume reduction. Nonradioactive wastes, such as hazardous chemicals, are not accepted for storage or disposal.

Environmental monitoring for radioactivity directly associated with the low-level waste storage and disposal programs includes extensive air sampling for particulates or gases, plus soil samples, vegetation samples, and standing water sampling at the Frenchman Flat site whenever there is rain.

In addition to the environmental monitoring for radioactive waste management, the nuclear weapon testing program maintains 35 air samplers within 30 miles of the waste sites with the samples analyzed weekly; 55 samples are taken on a weekly or monthly basis from all wells, potable water, reservoirs, and springs within 50 miles of the waste sites; and 110 radiation monitoring instruments within 50 miles of the site are evaluated quarterly.

The potential radiation exposure level in the crater burial area, assuming a person lived there full-time, 24-hours a day for 365 days a year, would be the equivalent of receiving about eight chest Xrays a year. The potential exposure in the trench areas is about the same as background radiation in Las Vegas--about the equivalent of three chest Xrays annually.

III

POSSIBLE FUTURE ACTIVITIES

High-Level Radioactive Waste Disposal

As previously discussed, there are presently 17 high-level spent fuel assemblies stored at the Nevada Test Site as part of experimental investigations. Six locations in the United States are currently under final study for selection as a national repository for much of our Nation's high-level radioactive wastes.

The Nevada Test Site has several favorable aspects that have already been identified. Geology and seismic factors appear positive, and potential risks from the contamination of ground water appear minimal. Also, the Nevada Test Site is removed from large population centers and presently contains excellent provisions to guarantee the security of the area. Although a final decision is not expected from the President until 1987, indications of the favorability of each the six sites will be reported before that date. These considerations will be both technical and political in nature. For Nevada, these considerations will involve the significant positive economic benefits of such a repository versus the real or perceived health risks to residents of this part of the state.

Deployment of Strategic Defense Weapons

Another possible future use of the Nevada Test Site involves the deployment of strategic surface weapons. Over the past several years the Test Site has been suggested by some persons as a possible site for the controversial MX missile system.

The Test Site was suggested by some as an alternative to public domain lands in Nevada and Utah for deployment of the MX under the multiple protective shelter or "grid" basing mode. After President Reagan decided against that basing mode in October 1981, the so-called "dense pack" basing mode for MX became the preferred alternative by the Administration. Although a location in Wyoming was tentatively selected for a "dense pack" MX system, the Nevada Test Site was rumored to have been under serious consideration also.

The "bottom line" on MX and other forms of strategic defensive weaponry is that improved technology will continually result in newer and better ways of maintaining a land-based component of our Nation's defense "triad" (air, water and land systems). As such, the large land area, existing security provisions and relative isolation of the Nevada Test Site will most likely cause it to remain a possible alternative for the basing of future land-based defensive weapons systems. However, Test Site officials are concerned that any weapons deployment would seriously conflict with and jeopardize the on-going weapons testing program.

Other Uses

In addition to underground weapons testing and current operations, there are several other possible uses of the Nevada Test Site in the future.

One example of these potential uses involves the testing of volatile chemicals. A news article from May 1982 indicated that private contractors were developing a plan to use the Nevada Test Site for the testing of volatile chemicals, primarily liquid natural gas. Nevada's attorney general at that time protested such tests without the opportunity for the citizens and elected officials of this state to be informed and make recommendations on this matter. The U.S. Department of Energy has not yet approved tests of this type on the Nevada Test Site.

Although the future uses of the Test Site are not all known at this time, it is valuable to again point out the economic importance of the activities at the Nevada Test Site to Nevada. While the state seeks to develop alternative programs for economic diversification, the future potential of the Nevada Test Site must not be overlooked.

IV

SELECTED REFERENCES

1. Final Environmental Impact Statement, Nevada Test Site, Nye County, Nevada, Energy Research and Development Administration, Washington, D.C., September 1977.

2. DOE's Nevada Operations Office - What it Does and Why, United States Department of Energy, Nevada Operations Office, Las Vegas, Nevada, 1981 Newsletter.

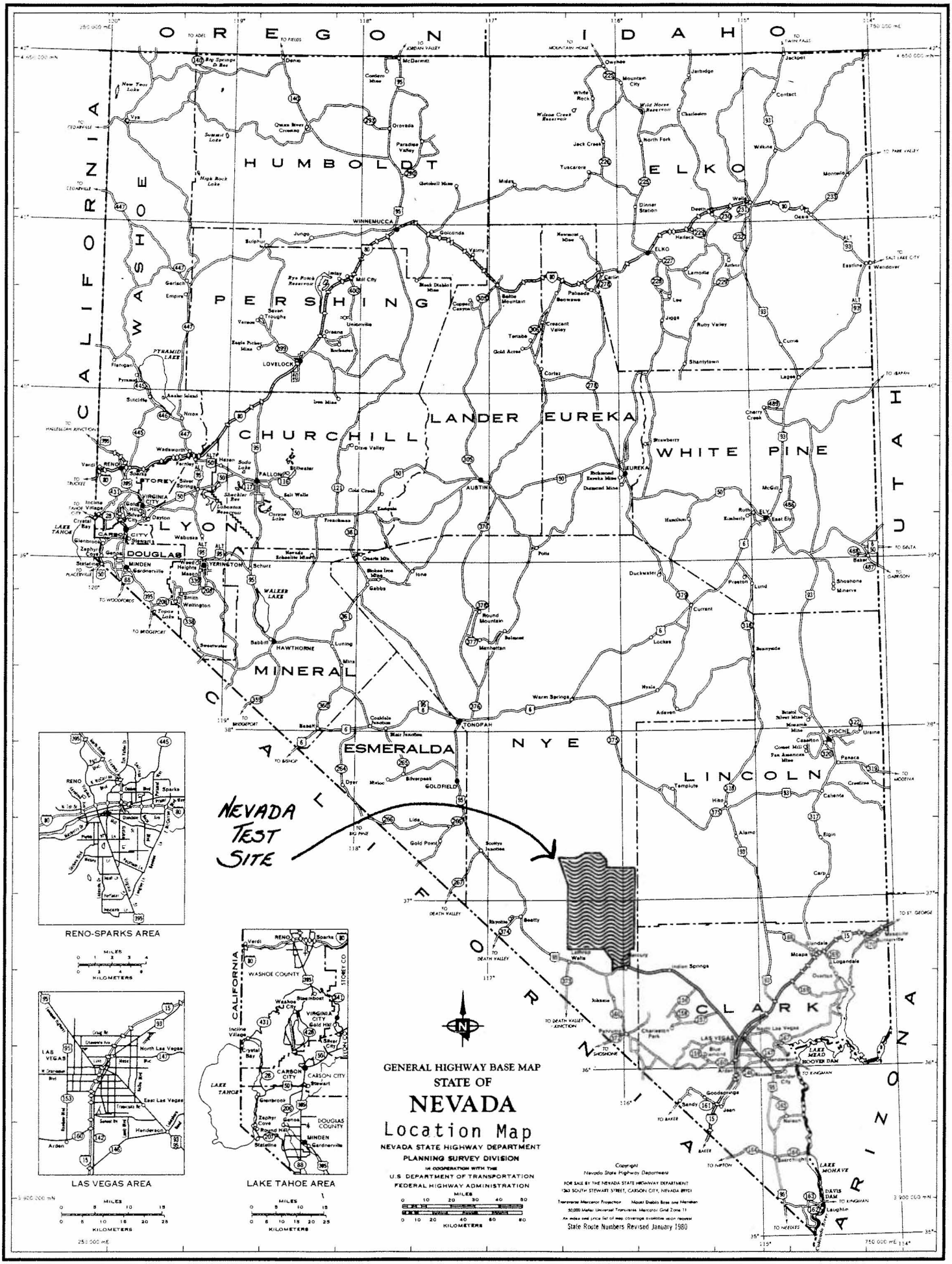
3. DOE News: Fact Sheet, "Off-Site Radiation Exposure Review Project Synopsis," United States Department of Energy, Nevada Operations Office, Las Vegas, Nevada, October 29, 1980.

4. DOE News: Fact Sheet, "Nevada Nuclear Waste Storage Investigations (NNWSI)," United States Department of Energy, Nevada Operations Office, Las Vegas, Nevada, May 7, 1981.

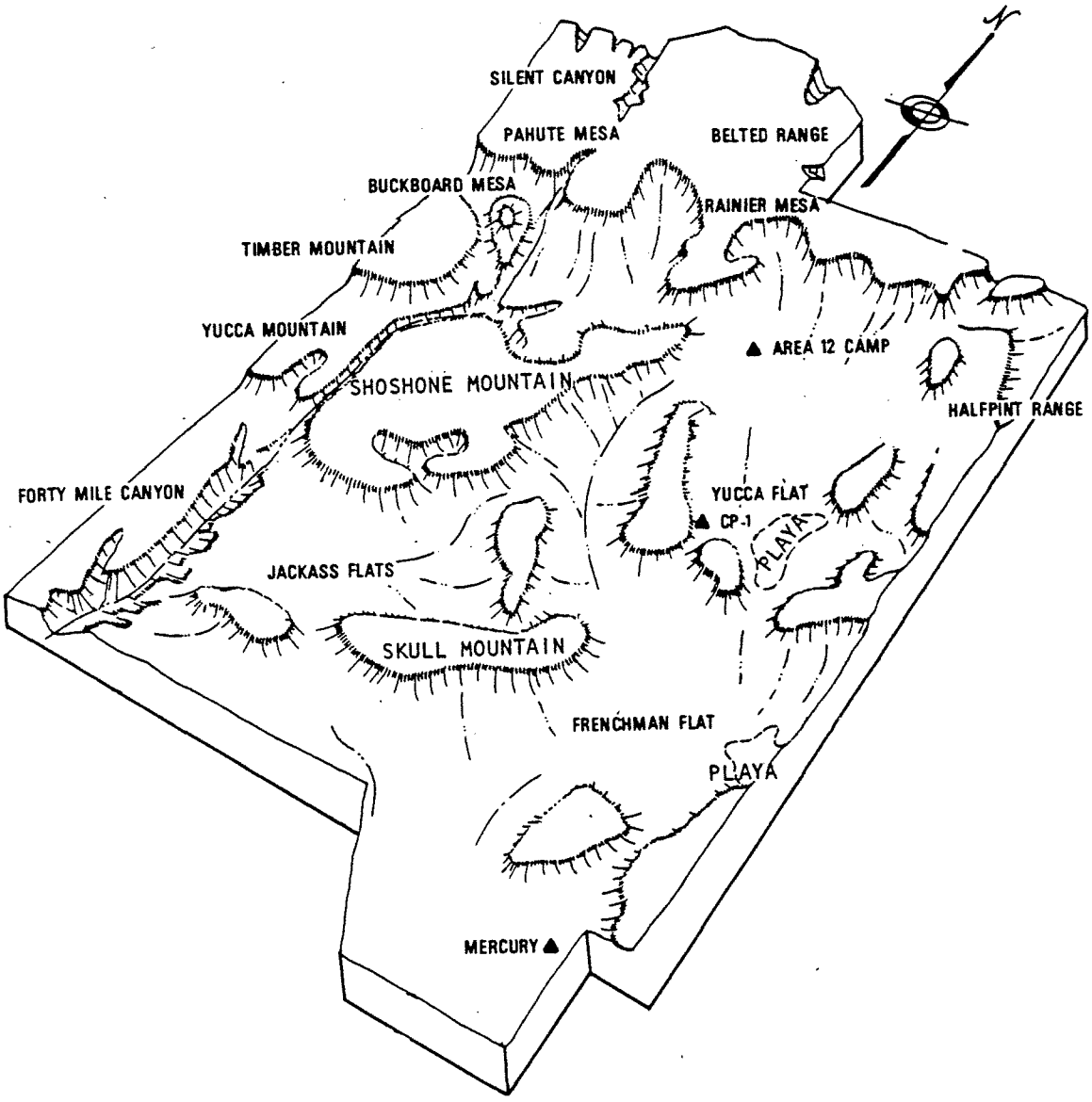
5. DOE News: Fact Sheet, "Nevada Test Site Low Level Waste Management," United States Department of Energy, Nevada Operations Office, Las Vegas, Nevada, August 1, 1980.

V

MAPS


OREGON
IDAHO
CALIFORNIA
ARIZONA
HUMBOLDT
ELKO
PERSHING
LANDER
EUREKA
WHITE PINE
CHURCHILL
LYON
STOREY
DOUGLAS
MINERAL
ESMERALDA
NYE
LINCOLN
CLARK
WASHOE
NEVADA TEST SITE
RENO-SPARKS AREA
LAS VEGAS AREA
LAKE TAHOE AREA
GENERAL HIGHWAY BASE MAP
STATE OF
NEVADA
Location Map
NEVADA STATE HIGHWAY DEPARTMENT
PLANNING SURVEY DIVISION
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Copyright
Nevada State Highway Department
FOR SALE BY THE NEVADA STATE HIGHWAY DEPARTMENT
1263 SOUTH STEWART STREET, CARSON CITY, NEVADA 89701
State Route Numbers Revised January 1980

MAP 2

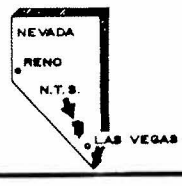


Topography Map - Nevada Test Site

UNITED STATES DEPARTMENT OF ENERGY
NEVADA TEST SITE
ROAD & FACILITY MAP

PREPARED BY:
HOLMES & NARVER, INC.

ENERGY SUPPORT DIVISION



UPDATED: AUGUST-1981

MAP 3

20