4.6 HAZARDS AND HAZARDOUS MATERIALS

During the course of daily operations, UCSD uses many materials classified as hazardous by federal or state law. Such hazardous materials include chemical reagents, solvents, fuels, paints, cleansers, and pesticides that are used in activities such as laboratory research, building and grounds maintenance, vehicle maintenance, and fine arts. In addition to these materials, radioactive isotopes and biohazardous materials are used in laboratory research. On-campus activities can also generate hazardous byproducts that must be disposed of as hazardous wastes.

Most activities related to hazardous materials occur inside buildings. Therefore, once hazardous materials are delivered to campus facilities, inadvertent sewer disposals, accidents in outdoor areas, and air emissions from the fume hood and other building vents would be the sources of potential releases for hazardous materials to the immediate outside environment. Hazardous materials could also be released to the environment during their delivery to or removal from campus facilities. The potential for such releases is considered in this section, with the exception of the potential impacts from toxic air emissions, which is considered in Section 4.2, Air Quality, and water quality issues associated with sewer disposal, which are discussed further in Section 4.7, Hydrology and Water Quality, and Section 4.14, Utilities, Service Systems, and Energy.

This section also considers the potential for impacts related to hazardous materials sites and the potential for physical hazards, such as proximity to airports and wildland fire hazards.

4.6.1 ENVIRONMENTAL SETTING

4.6.1.1 USE AND DISPOSAL OF HAZARDOUS MATERIALS AT UCSD

The term hazardous material is defined in different ways for different regulatory programs. This EIR uses the definition from California Health and Safety Code Section 25501(n) and (o), which defines hazardous material as:

Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous wastes, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

By convention, most hazardous materials are thought to be hazardous chemicals, but certain radioactive materials and biohazardous materials, as defined here, are also hazardous. This EIR considers hazardous materials to include hazardous chemicals, radioactive materials, and biohazardous materials that are used on campus.

The policy of the University of California is to maintain a safe environment for its students, academic appointees and visitors, and to conduct operations in compliance with applicable regulations and health and safety standards. The UCSD Environmental Health and Safety Office (EH&S) is dedicated to the reduction of risks within the campus community and to the promotion of health and safety to staff, faculty, and students by providing a variety of services including training, resources, and consultation for a variety of campus activities including arts and crafts, food services, healthcare, laboratories and research, renovation and construction, and shop operation and maintenance. EH&S has the primary responsibility for coordinating the management of hazardous materials on campus, which include a variety of biohazardous, chemical, and
radioactive waste, according to federal and state regulations. As part of this responsibility, EH&S has developed a hazardous waste management program which is operated out of the Environmental Management Facility (EMF). This program oversees the collection, storage, processing, and disposal of hazardous waste. A hazardous waste, for the purposes of this EIR, is any hazardous material that has been abandoned, discarded, or recycled.

Hazardous materials used on the campus fall within four general categories: general chemicals, radioactive materials, biohazardous materials, and hazardous materials associated with infrastructure. Each of these categories is described in more detail in the following sections. Table 4.6-1 summarizes the more specific types of hazardous materials present at UCSD and their associated hazards. These hazardous materials are related to a variety of campus activities such as teaching and research laboratories, academic and administrative users, physical plant, grounds services, and campus residences. Table 4.6-2 summarizes the quantities of hazardous wastes disposed of by UCSD during 2002-03.

Table 4.6-1. Hazardous Materials Used at UCSD

<table>
<thead>
<tr>
<th>Substance</th>
<th>Example(s)</th>
<th>Use(s)</th>
<th>Hazard(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvents</td>
<td>Alcohols, ether, ethers, toluenes, and hexanes</td>
<td>Lab chemicals, paint removers, degreasers, and pesticides</td>
<td>Flammable, some explosive; toxic; damage to skin and respiratory tract; systemic damage to liver, kidneys, nervous system, etc.</td>
</tr>
<tr>
<td>Oxidizers</td>
<td>Hydrogen peroxide, perchloric acid, nitric acid, silver nitrate, potassium dichlorate, and ammonium persulfate</td>
<td>Lab chemicals</td>
<td>Stimulates combustion of organic materials</td>
</tr>
<tr>
<td>Compressed gases</td>
<td>Methane, oxygen, and nitrogen</td>
<td>Labs, welding, and other campus shops</td>
<td>Flammable, some explosive (with potential for propellant effect, and some toxic</td>
</tr>
<tr>
<td>Corrosives</td>
<td>Hydrochloric nitric, sulfuric, acetic acid, sodium hydroxide, and ammonium hydroxide</td>
<td>Lab chemicals, cleaning agents, paints and paint thinners, freon refrigerants, pesticides, and herbicides</td>
<td>Damage to skin and respiratory tract; some react to produce fire, explosion, or toxic fumes</td>
</tr>
<tr>
<td>Reactives</td>
<td>Alkyl metals (sodium potassium), and hydrides</td>
<td>Lab chemicals</td>
<td>Explosive (with or without detonation); toxic fumes; and explodes with exposure to water</td>
</tr>
<tr>
<td>Toxics</td>
<td>Heavy metals, chlorinated hydrocarbons, arsenic, and cyanide compounds</td>
<td>Lab chemicals, pesticides, photographic chemicals, and paints or dyes</td>
<td>Capable of causing acute or chronic systemic damage or death, cancer, infertility, and birth defects</td>
</tr>
<tr>
<td>Biohazards</td>
<td>Bacteria and viruses</td>
<td>Health clinic waste, labs, and medical waste</td>
<td>Capable of producing diseases</td>
</tr>
<tr>
<td>Radioactivity</td>
<td>Radionuclides (radioisotopes)</td>
<td>Labs and medical school</td>
<td>Capable of causing acute or chronic systemic damage, cancer, infertility, and birth defects</td>
</tr>
<tr>
<td>Fuels</td>
<td>Gasoline, diesel, and waste oil</td>
<td>Campus maintenance (grounds and building) and vehicles</td>
<td>Flammable, some explosive; toxic; damage to skin and respiratory tract; and produces fire/explosions</td>
</tr>
</tbody>
</table>
Table 4.6-2. Hazardous Wastes Disposed of by UCSD in Fiscal Year 2002–03

<table>
<thead>
<tr>
<th>Hazardous Waste</th>
<th>Volume (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos</td>
<td>13,609</td>
</tr>
<tr>
<td>Automotive (includes oil and antifreeze)</td>
<td>39,634</td>
</tr>
<tr>
<td>Laboratory wastes (includes all labpacks, mercury, acids, bases, etc.)</td>
<td>77,911</td>
</tr>
<tr>
<td>Medical wastes</td>
<td>654</td>
</tr>
<tr>
<td>Mixed radioactive – biological or chemical</td>
<td>2,054</td>
</tr>
<tr>
<td>Recycled wastes (includes light bulbs, batteries of all types, latex paints, etc.)</td>
<td>50,943</td>
</tr>
<tr>
<td>Radioactive wastes</td>
<td>36,653</td>
</tr>
<tr>
<td>Solvent wastes</td>
<td>119,465</td>
</tr>
<tr>
<td>Water and sludge contaminated with motor oil</td>
<td>24,900</td>
</tr>
<tr>
<td><strong>Total Hazardous Waste</strong></td>
<td><strong>365,823</strong></td>
</tr>
</tbody>
</table>

Source: Environmental Health & Safety UCSD, November 2003.

**General Chemicals**

Many chemical materials, some hazardous, are used for instructional and research activities, as well as facilities maintenance, during the course of daily campus operations. Virtually all of the buildings on the UCSD campus contain commercial products, including janitorial and office supplies, that could be considered “hazardous materials” under regulatory definitions. Non-household type hazardous materials used in teaching and research laboratories include chemical reagents, solvents, radioisotopes, and biohazardous substances. UCSD Facilities Management units, including grounds, custodian services, pest management, and craft shops, use a wide variety of commercial products formulated with hazardous materials. These include fuels, cleaners, degreasers, solvents, paints, lubricants, pesticides and herbicides, adhesives, and sealers.

The campus is registered with the EPA as a large quantity generator of chemical hazardous waste. The UCSD campus does not dispose of these wastes on site. All chemical waste recycling or disposal is managed through the EH&S. In most cases, EH&S picks up waste from a collection location or generator site and manages the recycling or disposal process for that waste. Some special projects may require a department to contract directly with a waste disposal vendor. In these cases, any waste removal must first be approved by EH&S. UCSD uses only approved and audited contractors, transporters, and disposal sites. In addition, UCSD must file reports with the state detailing waste disposal and recycling activities in addition to paying annual hazardous waste taxes based on the volumes of waste disposed.

Hazardous materials collected by EH&S for disposal are packaged and labeled properly, which includes segregating incompatible materials, placing them in appropriate sealed containers, and identifying all components with approximate concentrations. Chemical wastes are further segregated by type, and consolidated, bulked, or compacted before a licensed hauler transports them from the campus to permitted off-campus facilities for incineration, treatment, recycling, or other disposal.

Chemical waste generated through campus activities that are collected by EH&S, are brought to a central materials handling facility called the Environmental Management Facility (EMF), evaluated and characterized as hazardous waste or recyclable materials, and packaged in accordance with federal and state requirements. Within 90 days, the waste is shipped off the campus by licensed transporters for recycling, treatment, and/or disposal at licensed treatment storage or disposal facilities in California and other states.
While municipal landfills were once the most common destination for hazardous waste, federal (1984 Amendments to the Resource Conservation and Recovery Act [RCRA]) and state (Hazardous Waste Control) law now bans their use for many of the most commonly generated hazardous wastes. Alternative treatment and disposal technologies, including incineration and recycling, are now more common methods of disposing of hazardous wastes, and the campus has developed hazardous waste minimization and recycling programs (see Table 4.6-3 for typical disposal methods). UCSD generated approximately 444,717 pounds of chemical waste in fiscal year 2001-02. Of the total amount of chemical waste generated, approximately 187,789 pounds (42 percent) was recycled, 13,840 pounds (3 percent) was lab packed, and 243,088 pounds (55 percent) was bulked. A lab pack is a regulated method of handling hazardous waste and is defined as a packed drum that holds smaller containers of hazardous waste. Bulking is the consolidation of various waste types into a single waste container for disposal.

<table>
<thead>
<tr>
<th>Means of Disposal</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycled</td>
<td>42</td>
</tr>
<tr>
<td>Labpacked</td>
<td>3</td>
</tr>
<tr>
<td>Bulked</td>
<td>55</td>
</tr>
<tr>
<td><strong>Total Disposed</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### Radioactive Materials

Radioactive substances contain atoms that spontaneously emit radiation from the transformation of unstable atomic nuclei, which result in chemically different substances that may or may not be radioactive. Radioactive atoms are called “radionuclides” or “radioisotopes.” Because radioactive materials emit ionizing radiation, their presence can be detected easily. Researchers and health care professionals take advantage of this easy detectability by using radioactive materials to study various biochemical functions in animals and humans. Radiopharmaceuticals (radioisotopes or drugs containing radioisotopes) are used in medicine and research. Limited types and quantities of radioisotopes are also used in research laboratories. All radioisotopes used on campus are done so in accordance to law, listed in the campus Broad Scope Radioactive Materials License issued by the state, and are stored in sealed containers designed to prevent release of radioactive materials to the environment.

Exposure to ionizing radiation can result in adverse human health effects that range from short-term mild symptoms (such as sunburn) to serious illness or death, depending upon the amount and concentration of the radioactive source and the duration of the exposure. The extent to which exposure would result in any adverse effects depends on the radioisotope and the amount of duration of exposure.

After their use, radioisotopes become low-level radioactive waste (LLRW). Like chemical hazardous wastes, LLRW from campus teaching, research, and health science-related activities are collected and managed by EH&S. UCSD normally collects dry and liquid LLRW directly from its sources (researchers or clinical users). In accordance with strict regulatory guidelines and procedures, EH&S transports the waste to the EMF, which is designed to safely store and contain LLRW. EH&S also prepares and packages the waste for shipment and disposal, or for decay-in-storage within the EMF.
Dry LLRW with a half-life of less than 115 days is compacted and stored for decay (as part of the decay-in-storage program) in accordance with the Broad Scope Radioactive Materials License until its radiation levels are indistinguishable from background levels. The waste is then transported as non-radioactive waste to a solid waste landfill. Liquid LLRW, with a half-life of less than 115 days, is decayed and discharged to the sewer in accordance with the Broad Scope Radioactive Materials License.

For wastes that are longer-lived, the final disposal depends on the hazard class of the LLRW. The federal Nuclear Regulatory Commission regulations divide LLRW into Classes A, B, and C, depending on the concentration of isotopes and the half-life of the material. Class A is waste that consists of either short-lived radionuclides (i.e., half-lives below 30 years) or low concentrations of certain long-lived radionuclides; Class B is waste that must meet more rigorous requirements on waste form to ensure stability after disposal; and Class C is waste that must not only meet more rigorous requirements on waste form to ensure stability, but also requires additional measures at the disposal facility to protect against inadvertent intrusion (10 CFR171-173). Class A waste must be disposed of in a manner that will isolate it for at least 100 years, while Class B and C waste must be isolated for at least 300 and 500 years respectively. In addition, Class C waste disposal must include barriers that will prevent people from accidentally encountering the waste in the future. Currently, LLRW generators can ship waste to two out-of-state facilities: (1) the Barnwell, South Carolina LLRW disposal facility, and (2) the Envirocare of Utah, Inc. LLRW disposal facility.

All of the radioactive waste currently generated at UCSD is classified as Class A waste. The waste is either decayed on campus in solid or liquid form, or disposed of off campus. As shown in Table 4.6-4, UCSD generated approximately 44,542 pounds of radioactive waste in fiscal year 2001-02. Of the radioactive waste generated, approximately 8,196 pounds of solid waste was decayed on campus, approximately 25,284 pounds of liquid waste was decayed on campus, and the remaining 11,062 pounds of waste was disposed of at an off-campus location.

The UCSD Radiation Safety Manual (March 2003) describes the radiation safety program for the campus, which ensures that all sources of ionizing radiation are handled in accordance with the official policies and procedures of the campus and governmental agency requirements.

<table>
<thead>
<tr>
<th>Type of Radioactive Waste</th>
<th>Means of Disposal</th>
<th>Amount (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid Radioactive Waste</td>
<td>Decayed on campus</td>
<td>8,196</td>
</tr>
<tr>
<td>Liquid Radioactive Waste</td>
<td>Decayed on campus</td>
<td>25,284</td>
</tr>
<tr>
<td>All Types Radioactive Waste</td>
<td>Off-campus disposal</td>
<td>11,062</td>
</tr>
<tr>
<td><strong>Total Disposed</strong></td>
<td></td>
<td><strong>44,542</strong></td>
</tr>
</tbody>
</table>

**Biohazardous Materials**

A biohazardous material is a material that harbors a biological agent capable of causing diseases in humans, animals, or plants. Biohazardous materials include infectious agents, microbiological specimens, and cultures of microorganisms capable of causing disease; microbiological specimens or cultures included in National Institutes of Health (NIH)/Centers for Disease Control and Prevention (CDC) Risk Group 2, 3, or 4; recombinant organisms containing deoxyribonucleic acid (DNA) from infectious agents; human blood, body fluids, or unfixed tissue; laboratory waste contaminated with biohazards; animal parts, tissues or fluids suspected of containing an agent infectious to humans, whether deliberately introduced or naturally occurring; and discarded materials suspected of contamination with infectious agents.
Medical waste is a general term that includes both biohazardous and sharps waste (California Health and Safety Code Section 117690). Sharp waste includes devices capable of cutting or piercing, such as hypodermic needles, razor blades, and broken glass (California Health and Safety Code Section 117755). Medical waste mixed with hazardous chemical waste is also referred to as mixed waste. Medical waste includes pathology waste, recognizable human anatomical parts and fixed human surgery specimens and tissues, and chemotherapy waste, waste such as gloves, towels, empty bags, and intravenous tubing that contains or is contaminated with chemotherapeutic agents.

Pursuant to applicable regulations, UCSD has developed programs, practices, and procedures for monitoring, routine inspection, reporting, and waste management to reduce community and worker exposure to potential hazards associated with medical wastes and biological hazards. Activities that could create biohazardous aerosols are conducted in biosafety cabinets, which filter all released air to remove biohazardous materials. Biosafety cabinets and equipment with special filters to remove biological agents are used and tested regularly by outside contractors. Regulations specify that medical wastes are stored in refrigerated facilities for not more than 90 days and those wastes are properly packaged and labeled. Medical waste may also be rendered noninfectious through steam sterilization. In compliance with UCSD programs, which respond to state and federal regulations, laboratory and medical infectious/biohazardous waste must be disposed of in accordance with the following methods:

- Autoclave (as a minimum) and dispose of in accordance with requirements of medical solid waste disposal procedures. Any other substitute sterilization techniques may be used only with the approval of the UCSD Biosafety Officer. Autoclaving to render the waste noninfectious is the primary method used at UCSD to treat biohazardous waste before disposal.
- Discharge into approved sewer system (liquids and semi-liquids only) after disinfection. Chemicals may not be poured into the sewer.
- Disposal off-campus at a state-approved facility (typically an autoclave or incinerator).
- Recognizable human anatomical remains must be cremated or interred.
- Research animals containing infectious agents must be incinerated by a qualified contractor.

Hazardous Materials Associated with Infrastructure

Substances such as asbestos, lead, and mercury could be present in some buildings on campus. Underground utility tunnels may also contain asbestos. Any activity that involves cutting, grinding, or drilling during building renovation or demolition, or relocation of underground utilities, could release friable asbestos fibers unless proper precautions are taken. Lead, a naturally occurring metallic element, can be found in numerous uses and sources, such as paint, water pipes, and solder in plumbing systems. Lead-based paint on buildings and structures may contaminate surrounding soils. Elemental mercury, an insoluble liquid metal, is commonly used in laboratory and medical equipment, such as thermometers and manometers (used for measuring pressure), electrical equipment, and some water pumps. In addition, some equipment containing polychlorinated biphenyls (PCBs) may still be present in research labs and lighting ballasts containing PCBs may be present in buildings, but all low-voltage and high-voltage PCB transformers on campus have been removed.

UCSD has a comprehensive asbestos management plan in place to protect the health of the UCSD community. The UCSD Asbestos Management Plan, available on the EH&S website, outlines the responsibilities of the Asbestos Control Coordinator and project managers from UCSD departments which have the potential to disturb asbestos-containing materials. UCSD also has an Asbestos Action Plan for project managers, and a list of approved vendors for project managers seeking asbestos and lead abatement services. In accordance with Sections 25915 through 25916 of the California Health and Safety Code, EH&S
maintains an inventory of on-campus buildings that could contain asbestos and provides on-going campus-wide notification of these locations. In this notification, which is available on the EH&S website, buildings constructed after 1981 are identified as unlikely to contain asbestos (Denise Devall-Hall, personal communication, July 25, 2003). UCSD is in compliance with applicable OSHA regulations regarding general and construction industry standards for asbestos.

UCSD implements a Lead Poisoning Prevention Program, which is designed to identify, evaluate, and control lead hazards that may affect the UCSD community. In addition, all state and federally mandated procedures relating to hazardous materials that may be present in campus buildings or other infrastructure are implemented during renovation and demolition activities. Contractors who disturb or potentially disturb asbestos, lead, or other infrastructure-related hazardous materials are required to comply with all federal, state, and local regulations regarding hazardous materials.

4.6.1.2 TRANSPORTATION OF HAZARDOUS MATERIALS

The campus contracts with licensed hazardous waste transporters to ensure that all hazardous wastes generated by the campus are transported off campus for treatment or disposal at licensed hazardous waste facilities. Hazardous materials are routinely transported by truck or rail. The U.S. Department of Transportation (USDOT), Office of Hazardous Materials Safety, prescribes strict regulations for the safe transportation of hazardous materials, as outlined in Title 49 of the Code of Federal Regulations. In California, the California Highway Patrol (CHP) has the primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies. Specifically, Section 31303 of the California Vehicle Code requires that when hazardous materials are transported on state or interstate highways, the highway(s) that offer the shortest overall transit time possible shall be used. Transportation of hazardous materials in commerce along any city or state roadways within or near the campus is subject to all hazardous materials transportation regulations established by the California Highway Patrol and the County of San Diego Department of Environmental Health (DEH).

4.6.1.3 HAZARDOUS MATERIAL SITES

The potential exists for buildings or sites that would be affected by project development to have been contaminated by hazardous substances as a result of former uses of the sites, leaks from unidentified underground storage tanks (UST), or unidentified buried debris that could contain hazardous substances or hazardous by-products. In order to identify if this potential exists on the UCSD campus, a review of historic documents, records, hazardous materials sites databases, and other appropriate materials was conducted. The review covered sites adjacent to campus, as well as on campus, because depending on the site conditions, contamination from an adjacent site could potentially migrate onto the campus. The following sections discuss the review of materials to identify potential hazardous materials sites on or adjacent to the UCSD campus. Those that were identified as relevant to future development on the campus are mapped in Figure 4.6-1.

Historic Uses

As discussed in Section 4.4, Cultural Resources, notable known historical uses of the UCSD campus includes the two former military establishments of U.S. Marine Corps Camp Calvin B. Matthews and U.S. Army Camp Robert E. Callan (Camp Matthews and Camp Callan, respectively). Therefore, there is a possibility that hazardous materials may remain on the current UCSD campus from the military uses associated with these camps. The following discussion analyzes the potential for military related hazardous materials remaining on the campus and is based on a report by Phillips Research Services (1998).
The military camps used fuel and other hazardous materials as part of their every day training. Yet, the process used for the removal of the hazardous materials from Camp Callan and Camp Matthews is unknown and no records have been located that specify a set of procedures used in the removal of hazardous materials. Camp Callan and Camp Matthews were closed for operation years before environmental legislation required the removal and proper disposal of hazardous materials. Known facilities within Camp Callan that used hazardous materials include an unknown number of fuel tanks, a gas station, and two gas chambers. The fuel tanks existed to support the operation of Army motor vehicles. Also, there was a public gasoline station located at the southern entrance of the camp, on the intersection of La Jolla Boulevard and U.S. Highway 101. There is no record of whether the various fuel tanks and gas station tanks were removed when the camp was closed or when subsequent civilian construction occurred. Therefore, it is possible that some tanks may still be underground today.

Camp Callan's two small gas chambers were located on the Torrey Pines mesa southwest of the Torrey Pines Center, roughly on the Salk Institute site. They were used for training purposes as soldiers were taught to recognize and differentiate between cloracetophenone (tear gas), chlorpicrin, phosgene, and mustard gas according to their smell, appearance, and effects. This training exposed the troops to poison gas, lacrimator, irritant smokes, screening smokes, and incendiaries. It is unlikely that a thorough environmental clean-up was conducted of the gas chambers when the camp closed in 1945. However, the chance for contamination resulting from the use of the diverse gases is minimal because these gases and the estimated small dosages used would have dissipated over the past 50 years. The only exception to this would be if large quantities of chemical kits were buried on the site. A visual site inspection and study was conducted by U.S. Army Corps of Engineers in 1995 to explore the possibility of buried chemical kits in the former Camp Callan region and the Corps report gave the Camp Callan site a high priority ranking due to the chemicals utilized despite a minimal existing risk of actual chemical contamination. Army Corps of Engineers staff stated that it is very unlikely that any chemical kits were buried in the region because that material could have easily been transferred to other local military establishments (Phillips Research Services 1998).

Camp Matthews also had a number of hazardous materials within its boundaries. The camp had a variety of storage sheds that contained paints and other toxic maintenance supplies. The environmental history of Camp Matthews is not documented, therefore, no evidence could be located that cites the use or misuse of these and other hazardous materials. The camp also had a sewage disposal plant located near what is today the VA Medical Center. The sewage treatment plant included a screen channel and comminutor, a primary sedimentation tank, a scum sump, a trickling filter, a chlorination house, a pump house, a recirculation basin, a sludge digestion tank, a secondary sedimentation tank, a chlorine contact tank, a flame trap and gas burner, and sludge beds. The camp also included two septic tanks located in the eastern portion of the camp, in the former Rifle Range F. It is uncertain whether any contamination related to the sewage treatment plant occurred and, if so, was mitigated with the construction of the VA Medical Center.

Camp Matthews contained eight fuel tanks, two gasoline tanks, and one kerosene tank for supply purposes. Table 4.6-5 provides a summary of the tanks including their building number, size, and approximate current location. The camp also included a gasoline station located near the High Bay Physics building. The process of how these tanks were decommissioned once the land was transferred to UCSD is unknown. It is, however, known that a number of underground tanks from Camp Matthews have been found during different construction projects by UCSD. Based on conversations with UCSD EH&S, the removal of tanks from the former Camp Matthews area has occurred on an ad hoc basis in the sense that tanks have only been discovered and removed when their location coincided with the development of a new project. Removal and closure of tank sites have been conducted by EH&S in accordance with applicable regulations.
POTENTIAL HAZARDOUS MATERIAL SITES ON AND ADJACENT TO THE UCSD CAMPUS

FIGURE 4.6-1
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Table 4.6-5. Camp Matthews Tank Installations

<table>
<thead>
<tr>
<th>Ref No.</th>
<th>Tank Type</th>
<th>Size (gallons)</th>
<th>Approximate Current Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>514</td>
<td>Fuel</td>
<td>12,000</td>
<td>Parking Lot North of Center</td>
</tr>
<tr>
<td>515</td>
<td>Fuel</td>
<td>15,000</td>
<td>School of Medicine, North</td>
</tr>
<tr>
<td>516</td>
<td>Fuel</td>
<td>5,000</td>
<td>School of Medicine, East</td>
</tr>
<tr>
<td>517</td>
<td>Fuel</td>
<td>14000</td>
<td>School of Medicine, North</td>
</tr>
<tr>
<td>518</td>
<td>Gasoline</td>
<td>10,000</td>
<td>High Bay Physics Building</td>
</tr>
<tr>
<td>519</td>
<td>Gasoline</td>
<td>2,000</td>
<td>Parking Lot 406, West</td>
</tr>
<tr>
<td>520</td>
<td>Fuel</td>
<td>25,000</td>
<td>School of Medicine, East</td>
</tr>
<tr>
<td>521</td>
<td>Fuel</td>
<td>12,500</td>
<td>School of Medicine, East</td>
</tr>
<tr>
<td>522</td>
<td>Fuel</td>
<td>2,000</td>
<td>School of Medicine, East of Villa La Jolla Drive</td>
</tr>
<tr>
<td>523</td>
<td>Fuel</td>
<td>2,000</td>
<td>School of Medicine, East</td>
</tr>
<tr>
<td>524</td>
<td>Kerosene</td>
<td>550</td>
<td>Gilman Drive/Rupertus Drive</td>
</tr>
</tbody>
</table>


Due to the historic use of Camp Matthews there is also the possibility of remaining ammunition shells (classified by the military under ordnance) on UCSD property. The majority of Camp Matthews was reserved for the use of rifle and pistol training with 15 different ranges specialized to train marines in different aspects of shooting, a sizable amount of artillery was fired. As previously stated, it is unknown whether a thorough clean-up was conducted across the entire campus as no documentation was provided or established to indicate that Camp Matthews land had been absolutely inspected for remaining ammunition. According to a Camp Matthews veteran, the camp developed two strategies to minimize the soil retention of bullet casings and rounds. One strategy involved the marines recovering lost brass or steel bullet casings immediately after their firing session. These casings were melted and recycled for other uses, outside of the camp. The second strategy involved the yearly removal of lead rounds from the target retention walls or pits. Bulldozers were used in the process of removing the lead-filled soil and replacing it with soil from other areas of the camp. The new soil placed for retention walls and pits was mixed with sand to create a better bullet catching material. It is unknown where the lead-filled soil was shipped to, but apparently the lead bullets were sifted from the soil and recycled into other products.

It is believed that in the late 1960's, UCSD allowed a private company to sweep the vacant lands for lead by sifting through the soil to find lead pieces to melt and reuse for other purposes. It is unknown to what extent the sweep, if it happened, covered the former Camp Matthews area. However, in recent years, bullet particles have been found during excavations for development projects. Several of the sites on which the ranges existed still remain as open lands today. This includes the vacant lands west and east of the Interstate 5 such as Pepper Canyon, and canyons south and north of Mesa Housing. Consequently, the possibility of any presently existing shells is unknown. Camp Matthews also operated certain types of artillery during the portions of its existence. Range H operated as a mortar, flame thrower, hand grenade, and bazooka range. The year is unknown of when Camp Matthews ceased operating such artillery. However, it is known that by 1959 Camp Matthews' marines were being sent to Camp Pendleton for a few days of infantry training.

The issue of ammunition and artillery clean-up at Camp Callan is less complex because the camp only operated during World War II when soldiers used long range defensive and offensive weaponry, along with anti-aircraft guns, automatic weapons, and machine guns, as part of their training. However, there is less concern regarding artillery remnants at the Callan site because the practice ranges were generally out toward the ocean. A land mine, which may have belonged to Camp Callan, was discovered in 1987 or 1988 with the
development of the North Campus soccer fields. MCRD was notified and a demolition crew came and removed the mine. It is unclear whether the land mine was live or inactive at the time of its discovery. Also, the land mine was found east of the camps' boundaries so it could not be positively determined to be Camp Callan's. The possibility of finding buried artillery in the former Camp Callan lands is low since most of the area has been considerably developed since the late 1940's. The only area on campus that remains undeveloped is the open land on the Gliderport.

**Hazardous Materials Sites Records Search**

In order to determine if hazardous materials sites exist on or adjacent to the campus, a records search of federal and state hazardous materials sites databases was conducted. The databases were searched for any sites located within a given radius, based on industry record search standards, from the target site (Environmental First Search 2003). The address of the target site for the records search represents the southern boundary of the west campus to ensure that all campus properties included under the 2004 LRDP were captured in the search. The County of San Diego’s Site Assessment and Mitigation Program Case Listings and the DEH website were also reviewed for listings within the UCSD campus. The results of these investigations are summarized in Table 4.6-6 and those with positive results are described briefly below:

- **Resource Conservation and Recovery Information System Corrective Action Sites.** The Resource Conservation and Recovery Information System Corrective Action Sites (RCRA COR) database is the EPA’s database of Resource Conservation and Recovery Information System (RCRIS) sites with reported corrective action.

- **Resource Conservation and Recovery Information System Large and Small Quantity Generators.** The Resource Conservation and Recovery Information System Large and Small Quantity Generators (RCRA GEN) database is the EPA’s database of RCRIS sites that create more than 100 kilograms (kg) of hazardous waste per month or meet other RCRA requirements.

- **Resource Conservation and Recovery Information System Sites No Longer Regulated.** The Resource Conservation and Recovery Information System sites No Longer Regulated (RCRA NLR) database is the EPA’s database of RCRIS sites that create less than 100 kg of hazardous waste per month or do not meet other RCRA requirements.

- **Emergency Response Notification System.** The Emergency Response Notification System (ERNS) is the EPA’s database of emergency response actions maintained by the National Response Center.

- **State Sites.** The California EPA Department of Toxic Substances Control (DTSC) maintains a database of information on properties (or sites) in California, known as the Cortese List, where hazardous substances have been released, or where the potential for such release exists.

- **Spills-90.** The California Regional Water Quality Control Boards (RWQCB) maintain reports of sites that have records of spills, leaks, investigation, and cleanups.

- **Solid Waste List (SWL).** The California Integrated Waste Management Board maintains a database on solid waste facilities, operations, and disposal sites throughout the state of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

- **Permits.** The County of San Diego’s HE17/58 database tracks establishments issued permits and the status of their permits in relation to compliance with federal, state and local regulations that the County oversees. It tracks if a site is a hazardous waste generator, TSD, gas station, has underground tanks, violations, or unauthorized releases.
Table 4.6-6. Summary of Hazardous Materials Permits and Sites

<table>
<thead>
<tr>
<th>Database</th>
<th>Search Radius</th>
<th>1/8 mile</th>
<th>1/4 mile</th>
<th>1/2 mile</th>
<th>&gt;1/2 mile</th>
<th>Zip Code</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Priority List (NPL)</td>
<td>1 mile</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS)</td>
<td>1/2 mile</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>--</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Comprehensive Environmental Response Compensation and Liability Information System Archived Sites (CERCLIS-NFRAP)</td>
<td>1/8 mile</td>
<td>0</td>
<td>0</td>
<td>--</td>
<td>--</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Resource Conservation and Recovery Information System Treatment, Storage, and Disposal Facilities (RCRA TSD)</td>
<td>1/2 mile</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>--</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Resource Conservation and Recovery Information System Corrective Action Sites (RCRA COR)</td>
<td>1 mile</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Resource Conservation and Recovery Information System Large and Small Quantity Generators (RCRA GEN)</td>
<td>1/4 mile</td>
<td>6</td>
<td>10</td>
<td>7</td>
<td>--</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>Resource Conservation and Recovery Information System Sites No Longer Regulated (RCRA NLR)</td>
<td>1/8 mile</td>
<td>3</td>
<td>1</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Emergency Response Notification System (ERNS)</td>
<td>1/8 mile</td>
<td>1</td>
<td>2</td>
<td>--</td>
<td>--</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>State Sites</td>
<td>1 mile</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>California Regional Water Quality Control Board, Spills-90</td>
<td>1/8 mile</td>
<td>0</td>
<td>0</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>California Integrated Waste Management Board (SWL)</td>
<td>1/2 mile</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>--</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Permits</td>
<td>1/8 mile</td>
<td>143</td>
<td>103</td>
<td>--</td>
<td>--</td>
<td>15</td>
<td>261</td>
</tr>
<tr>
<td>Other unique databases</td>
<td>1/8 mile</td>
<td>0</td>
<td>0</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Registered Underground Storage Tanks/Aboveground Storage Tanks</td>
<td>1/4 mile</td>
<td>7</td>
<td>6</td>
<td>8</td>
<td>--</td>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td>Leaking Underground Storage Tanks – County’s Hazardous Materials Division (HMD) Site Assessment and Mitigation (SAM) Program Case Listing</td>
<td>1/2 mile</td>
<td>16</td>
<td>10</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>46</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>176</strong></td>
<td><strong>132</strong></td>
<td><strong>22</strong></td>
<td><strong>7</strong></td>
<td><strong>2</strong></td>
<td><strong>33</strong></td>
<td><strong>372</strong></td>
</tr>
</tbody>
</table>

• **Registered Underground Storage Tanks/Aboveground Storage Tanks.** The records search results identified a total of 22 sites that contain registered USTs and aboveground storage tanks (ASTs). An additional record search was conducted with the DEH. The DEH regulates the construction, operation, repair, and removal of UST systems. The County’s HMD ensures that businesses and facilities with ongoing UST operations are properly permitted and meet the monitoring requirements applicable to their type of equipment. Each UST site is inspected annually as mandated by state law (County of San Diego DEH 2003). A minor discrepancy in numbers between the two record searches was observed, however, it is likely the result of combined sites or sites with multiple records.

• **Leaking Underground Storage Tanks.** The record search identified 46 leaking USTs cases. Leaking USTs cases are cases of current or historic USTs that have resulted in contamination. They can either be active or closed.

**Leaking Underground Storage Tanks Research**

Because the leaking USTs typically result in contamination that requires testing and possible remediation prior to construction of the site, additional research was conducted in order to determine the status of leaking UST cases on or adjacent to the UCSD campus. Ninyo & Moore (2003) conducted a file review of these cases at the County DEH in October 2003 and the resulting report is included in Appendix E of this EIR. A summary of the file review, updated with information from EH&S, is provided in Table 4.6-7.

As provided in Table 4.6-7, numerous files were available for leaking UST cases on and adjacent to the campus, however, most of the cases were closed or are otherwise determined not to present an environmental concern or to have a low likelihood to present an environmental concern. Those located on the campus that were considered a potential concern or required more information are listed below:

- H02535-009 and 011, UCSD East Campus Parking
- H21010-002, UCSD Building T-40 and 42 Scripps Oceanographic Institute

Those located adjacent to the campus that were considered a potential concern or required more information include the following:

- H21330-001, Fire Station #35
- H29208-002, Costa Verde Car Wash
- H14291-001, Scripps Memorial Hospital
- H01759-001, Northern Division Police Station
- H12902-002, Mobil Service Station
### Table 4.6-7. Summary of Leaking UST File Review

<table>
<thead>
<tr>
<th>DEH No.</th>
<th>Business Name</th>
<th>Address</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On Campus Sites</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H02535-007</td>
<td>UCSD Central Utility Plant</td>
<td>9500 Gilman Drive La Jolla, CA</td>
<td>Case closed. Based on this information, there is a low likelihood that this property presents an environmental concern at the present time.</td>
</tr>
<tr>
<td>H02535-009</td>
<td>UCSD East Campus Parking</td>
<td>Voigt Drive and Campus Point Drive</td>
<td>Based on activities performed to date, more information is needed to determine whether this release presents an environmental concern.</td>
</tr>
<tr>
<td>H02535-004</td>
<td>Materials Handling Facility, UCSD Main Campus</td>
<td>4150 Miramar Road La Jolla, CA</td>
<td>Case closed. Based on this information, there is a low likelihood that this property presents an environmental concern at the present time.</td>
</tr>
<tr>
<td>H02535-012</td>
<td>UCSD School of Medicine Research Facility</td>
<td>9500 Gilman Drive La Jolla, CA</td>
<td>Case closed. Based on this information, there is a low likelihood that this property presents an environmental concern at the present time.</td>
</tr>
<tr>
<td>H02535-001</td>
<td>UCSD</td>
<td>9500 Gilman Drive La Jolla, CA</td>
<td>Unauthorized release form dated August 8, 1986, indicating tanks failed precision test. Case closed. Based on this information, and the fact that no assessment was required by the DEH, there is a low likelihood that this property presents an environmental concern at the present time.</td>
</tr>
<tr>
<td>H02535-002</td>
<td>UCSD – Scripps Benthic Lab Building</td>
<td>8602 La Jolla Shores Drive La Jolla, CA</td>
<td>Case closed. Based on this information, there is a low likelihood that this facility presents an environmental concern at the present time.</td>
</tr>
<tr>
<td>H02535-010</td>
<td>UCSD – Central Garage</td>
<td>9500 Gilman Drive La Jolla, CA</td>
<td>Case closed. Based on this information, there is a low likelihood that this facility presents an environmental concern at the present time.</td>
</tr>
<tr>
<td>H02535-008</td>
<td>UCSD – Central Utility Plant</td>
<td>9500 Gilman Drive La Jolla, CA</td>
<td>Case closed. Based on this information, there is a low likelihood that this facility presents an environmental concern at the present time.</td>
</tr>
<tr>
<td>H02535-006</td>
<td>UCSD – Scripps Benthic Lab Building</td>
<td>8602 La Jolla Shores Drive La Jolla, CA</td>
<td>Case closed. Based on this information, there is a low likelihood that this facility presents an environmental concern at the present time.</td>
</tr>
<tr>
<td>H02535-003</td>
<td>UCSD – Mayer Hall</td>
<td>9500 Gilman Drive La Jolla, CA</td>
<td>Case closed. Based on this information, there is a low likelihood that this facility presents an environmental concern at the present time.</td>
</tr>
<tr>
<td>H21010-002</td>
<td>UCSD Building T-40 and 42 Scripps Oceanographic Institute</td>
<td>8602 La Shores Drive La Jolla, CA</td>
<td>Following an April 1994 UST removal, remedial excavation was performed which removed most, but not all, petroleum hydrocarbon-impacted soil. There are two separate areas of contamination referred to as T-40 UST and T-42 UST sites. Residual gasoline and MTBE-petroleum hydrocarbon-impacted soil estimated at 900 cubic yards. Semiannual groundwater monitoring and sampling indicates the dissolved hydrocarbon plume beneath the site has been defined adequately; the plume appears to be stable; and there is a decreasing trend in constituent concentrations. Groundwater monitoring and sampling will continue to verify decreasing trends. There is a potential for environmental issues during future construction activities.</td>
</tr>
<tr>
<td><strong>Off Campus Sites</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H29208-001</td>
<td>Costa Verde Car Wash</td>
<td>8505 Costa Verde Blvd. San Diego, CA</td>
<td>Case Closed. Based on this information, there is a low likelihood that this property presents an environmental concern at the present time.</td>
</tr>
<tr>
<td>H29208-002</td>
<td>Costa Verde Car Wash</td>
<td>8505 Costa Verde Blvd. San Diego, CA</td>
<td>Based on activities performed to date, more information is needed to determine whether this release presents an environmental concern.</td>
</tr>
<tr>
<td>41 Case Numbers</td>
<td>Multiple</td>
<td>9834 Genesee Avenue La Jolla, CA</td>
<td>The 41 files for the referenced street address primarily pertain to medical and/or biohazardous wastes associated with site inspections. Based on this information, this property does not present an environmental concern.</td>
</tr>
</tbody>
</table>
Table 4.6-7. (continued)

<table>
<thead>
<tr>
<th>DEH No.</th>
<th>Business Name</th>
<th>Address</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>H14291-001</td>
<td>Scripps Memorial Hospital</td>
<td>9888 Genesee Avenue La Jolla, CA</td>
<td>Information contained in the analytical report associated with soil samples collected at the facility indicated that the contamination at the property may be from a different source than the identified UST. More information is needed to determine whether this release presents an environmental concern.</td>
</tr>
<tr>
<td>H21330-001</td>
<td>Fire Station #35</td>
<td>4285 Eastgate Mall Road La Jolla, CA</td>
<td>No site assessment work plan was in the file. More information is needed to determine whether this release presents an environmental concern.</td>
</tr>
<tr>
<td>H101759-001</td>
<td>Northern Division Police Station</td>
<td>4725 Eastgate Mall Road La Jolla, CA</td>
<td>Based on activities performed to date, more information is needed to determine whether this release presents an environmental concern.</td>
</tr>
<tr>
<td>H101759</td>
<td>Northern Police Station</td>
<td>4275 Eastgate Mall Road La Jolla, CA</td>
<td>No documentation regarding releases on file with DEH. Based on this information, there is a low likelihood that this facility presents an environmental concern at the present time.</td>
</tr>
<tr>
<td>H12902</td>
<td>Mobil Service Station</td>
<td>3233 La Jolla Village Drive La Jolla, CA</td>
<td>Case closed. Based on this information, there is a low likelihood that this property presents an environmental concern at the present time.</td>
</tr>
<tr>
<td>H12902-002</td>
<td>Mobil Service Station</td>
<td>3233 La Jolla Village Drive La Jolla, CA</td>
<td>Based on activities performed to date, more information is needed to determine whether this release presents an environmental concern.</td>
</tr>
<tr>
<td>H02699-001</td>
<td>Calbiochem Facility</td>
<td>10933 N. Torrey Pines Road La Jolla, CA</td>
<td>Case closed. According to 1993 DEH letter, two chemical compounds, chloroform and 2, 4'-DDD remained on the site below ground surface in the immediate vicinity of the wastewater sump/vault installation. Based on this information, there is a low likelihood that this property presents an environmental concern at the present time.</td>
</tr>
</tbody>
</table>


Historic Burn Ash Site

In December 1999, the City of San Diego Solid Waste Local Enforcement Agency (LEA) contacted UCSD concerning a former burn ash site located on the campus. The site is located to the west of the intersection of Torrey Pines Road and La Jolla Village Drive. Historically, this five-acre site was known as “City Farm” and was used as a dump for the City and the public. From 1923 to 1938, the City Farm accepted all types of rubbish which was burned regularly. Currently, the site is vacant.

Soil samples taken at the site in 1999 were analyzed for concentrations of copper, lead, and zinc. The results indicated that soil samples contained lead and zinc, but copper was not detected. A visual inspection of the site was also conducted during that time and no evidence of burn ash was found at the site. The exact location and size of the actual burn area could not be determined. In addition, the surface samples that were collected in 1999 do not necessarily reflect the actual levels of copper, lead, and zinc that may occur at different locations or greater depths. Therefore, prior to any future development on the site, further testing must occur so as to characterize the site and determine the extent of potential contamination. The outcome of such a study would determine whether site remediation is necessary.

4.6.1.4 WILDLAND FIRE HAZARDS

Wildland fires are prevalent during the dry summer months in the northern and eastern portions of the County of San Diego. UCSD is located in a developed coastal area and is not substantially prone to the spread of wildland fires from other areas of the County. However, the campus contains large areas of vegetation including eucalyptus groves, canyons, hillsides, and bluff areas, which have the potential to catch fire during...
the dry summer months. UCSD Park areas contain sensitive biological resources and development and maintenance activities, including brush clearing, are limited in these areas (Richard Benton, personal communication, July 28, 2003). In the event of a campus wildland fire, the San Diego Fire Department is responsible for responding to the situation. Fire protection at UCSD is discussed in greater detail in Section 4.11, Public Services, of this EIR.

4.6.1.5 AIRCRAFT ACCIDENT HAZARDS

Marine Corps Air Station (MCAS) Miramar is located approximately 13 miles from downtown San Diego near the northern edge of the City, approximately four miles from the Pacific Ocean, and approximately three miles east of UCSD. The Department of Defense (DOD) has established Accident Potential Zones (APZs) which define the areas that would be more likely to be affected if an aircraft-related accident were to occur (Figure 4.6-2). In order of decreasing hazard, the three different APZs for MCAS Miramar are the Clear Zone (CZ), APZ-1, and APZ-II. The CZ, which extends 3,000 feet from the end of the runway, has the highest probability of being impacted by accidents. The potential for accidents decreases for APZ-1, which normally extends 5,000 feet beyond the CZ, and APZ-II, which normally extends 7,000 feet beyond APZ-I areas. Accident history at the base supports the land use guidelines at MCAS Miramar. Of the 33 aircraft accidents which occurred within a 10-mile radius of the air station between 1972 and 1991, 71 percent (22 accidents) occurred within the CZ and APZ-I (Department of the Navy 1996). As shown in Figure 4.6-2, UCSD is not located within an APZ-I or -II. An APZ-II area is located to the north of the UCSD campus and includes portions of Carmel Valley and Torrey Pines State Reserve.

UCSD’s Gliderport property, north of Torrey Pines Scenic Road, supports intermittent short-term fixed wing gliding activities and is known as the Torrey Pines Gliderport. The fixed wing gliders lease the western portion of the property from the campus each spring for several months when weather conditions are optimal. The gliders are anchored on UCSD property when not in use. The gliders do not fly over campus, but rather glide up and down the coast along the bluffs where updrafts are best with the take offs and approaches occurring to the west. Caltrans Aeronautics regulates the glider activities with an annual permit. Accidents related to glider activity occur mainly due to pilot error rather than equipment failure. The majority of accidents occur because pilots fly in weather conditions that are too extreme or from performing maneuvers too close to the ground. Pilot safety is incorporated in the training at the Torrey Pines Gliderport which includes, but is not limited to, education on judging meteorological conditions, physical terrain dangers, and weather changes. This intermittent short-term use is not a safety hazard to the campus and surrounding area.

4.6.1.6 UCSD SAFETY PLANS AND PROGRAMS

Hazardous Materials Business Plan

Pursuant to the California Hazardous Materials Release Response Plan and Inventory Law, UCSD has prepared a Hazardous Materials Business Plan containing information about the location of, and emergency procedures for, campus buildings in which hazardous materials are handled, as well as employee training. The County of San Diego administers the Response Plan and Inventory Law requirements for UCSD and other private and public entities subject to the law. UCSD’s business plan requires that all personnel working with hazardous materials receive annual training in safe handling of hazardous materials, hazardous waste and basic emergency spill response.

Emergency Management Plan

In addition to the Business Plan, UCSD has prepared an Emergency Management Plan that addresses the campus community’s planned response to various levels of man-made or natural emergency situations including fires, hazardous spills, earthquakes, flooding, explosion, and civil disorders. The purpose of the
Plan is to provide information that will save lives during extraordinary emergency events and hasten the resumption of normal campus operations during the recovery process. An effective organizational emergency response depends on an informed campus community containing members who are familiar with campus procedures and understand their personal responsibility for emergency preparedness and response.

The organizational approach used in the Emergency Management Plan is one of decentralization with all areas of the campus subdivided into small emergency response regions, each with its own Regional Operations Center (ROC). Each region is provided necessary supplies and trained personnel to be self-sufficient immediately after an event. Response team personnel in each region will assess damages and injuries, and communicate their findings to the main Emergency Operations Center (EOC). Executive level personnel will then make decisions necessary to direct the campus through its recovery process.

The plan identifies three levels of emergencies. A Level 1 emergency is a small scale, localized problem confined to a single space such as a laboratory, loading dock, etc. This type of emergency is easily contained utilizing existing campus resources. A Level 2 emergency is larger in scope and size than a Level 1 emergency, and could be a more serious event affecting many people by involving an entire floor or building. A Level 2 emergency may involve large-scale evacuation and include the need to access off-campus emergency response resources, such as the City fire department, to effectively control the situation. A Level 3 emergency is a campus-wide emergency event causing widespread damage and injuries that overwhelms available resources and personnel (such as a strong earthquake). Such emergencies pose a major threat to life and property and can impact the well being of large numbers of people. In the event of a Level 3 emergency, outside emergency response resources from both the governmental and private sector would be used in addition to full activation of all procedures contained within the plan.

**UCSD Health and Safety Policy (PPM 516)**

This policy outlines UCSD’s commitment to providing a healthy and safe workplace and to eliminating conditions that could result in personal injury and ill health. Campus operations are required to comply with applicable regulations, and with accepted health, safety, and environmental protection standards. The campus is required provide a safe and healthy environment for its visitors and members of the public who come onto UCSD premises or are affected by UCSD’s actions.

**Departmental Safety Coordinator Blink Web Page**

The purpose of this web page is to help Departmental Safety Coordinators meet their departmental safety needs and facilitate the flow of health and safety information from EH&S into the workplace.

**UCSD’s Safety Committees**

UCSD maintains eight safety committees (some of which are mandated by law), which are represented by a mix of faculty members, community members, representatives from the larger academic departments, graduate student representatives, the Chemical Officer, and the Departmental Safety Coordinator. Each committee is described below.

- **Health and Safety Coordinating Council (HSCC)** – The HSCC advises the Chancellor through the Vice Chancellor of Business Affairs on policies relating to health, safety, and environmental protection at UCSD. In addition, the Council monitors the effectiveness of the campus’s health and safety program, and reviews compliance activities that require response to local, state, and federal agency regulations.

MCAS MIRAMAR ACCIDENT POTENTIAL ZONES

FIGURE 4.6-2
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• Chemical Safety and Surveillance Committee (CSSC) – The CSSC is advisory to the Chancellor through the Vice Chancellor of Business Affairs on all matters relating to the safe use of hazardous chemicals. The primary charge to the Committee is to reduce risks associated with hazardous chemicals. The CSSC establishes policies and procedures which meet or exceed applicable norms, monitors new regulations, and implements adopted policies and procedures for use of hazardous materials.

• Radiation Safety and Surveillance Committee (RSSC) – The RSSC provides surveillance and oversight to all uses of ionizing radiation at UCSD. The committee consists of at least six faculty members, three laboratory managers, representation from the Medical Center, and the Radiation Safety Officer. Three subcommittees of the RSSC include the Radioactive Drug Research Committee (RDRC), the Human Exposure Review Committee (HERC), and the Medical Center Radiation Safety Committee (MCRSC).

• Laser Safety Committee (LSC) – This committee is advisory to the Vice Chancellor-Business Affairs on all matters relating to laser safety, for reviewing and approving all proposed uses of class 3B and 4 lasers, and for advice and guidance in carrying out the UCSD Laser Safety Program. The committee consists of at least five members, including the Laser Safety Officer (LSO).

• Institutional Biosafety Committee (IBC) – The IBC provides surveillance and oversight to all uses of biological materials, including but not limited to recombinant DNA, hazardous etiological agents, and oncogenic viruses at UCSD.

• Safety Program Management Committee (SPMC) – The SMPC is the overall safety committee for the UCSD Healthcare Enterprise and includes representatives from all components of the Medical Center Administration, Nurse Management, Risk Management, Facilities Engineering, Clinical Engineering, and Security.

• Institutional Animal Care and Use Committee (IACUC or Animal Subjects Committee) – This committee is required under the Animal Welfare Act and reviews all usage and protocols for use of animals in research and teaching throughout the campus. The Animal Subjects Committee consists of at least six faculty members, the campus veterinarian, and a member of the EH&S staff.

• Diving Control Board – This Board is responsible for maintaining a safe research diving program at UCSD. The purpose of the diving program is to train scientists and technicians to safely use diving equipment to accomplish work under water.

Laboratory Safety Plan
This plan is intended to help researchers recognize, evaluate, and control hazards in their laboratory. It includes federal and state health and safety standards and published practices, standards, and guidelines of nationally recognized health and safety groups. The UCSD Laboratory Safety Plan serves as a companion document to the Biosafety, Radiation, and Laser Safety Manuals.

Biosafety Handbook
This handbook specifies the practices, procedures, and requirements for safe handling and use of biohazardous materials for research, clinical, and teaching activities at UCSD. It is the policy of UCSD that all research and teaching involving biohazardous materials be conducted in a safe manner in order to protect the greater community at large, as well as the academic community.
Radiation Safety Manual

UCSD uses radioactive materials under a Broad Scope Radioactive Material License issued by the State of California. This manual represents the radiation safety program for all locations on that license, including the campus, Medical Center, and Scripps Institution of Oceanography. The radiation safety program ensures that all sources of ionizing radiation are handled in accordance with the official policies and procedures of the campus and governmental agency requirements.

Laser Safety Manual

This manual describes UCSD’s laser safety program and provides guidance for the safe use of lasers and laser systems. The safe use of lasers is readily achieved by following nationally recognized standards, provided in the American National Standard for the Safe Use of Lasers.

Radiation Safety Training

Individuals must receive radiation safety training prior to unsupervised work with radioactive material. The following courses are available through UCSD.

- *Radiation P-32 Safety Seminar* – Required for researchers using P-32 > 10m Ci per experiment.
- *Radiation S-35 Safety Seminar* – Required for researchers using S-35 > 10m Ci per experiment.

4.6.2 REGULATORY FRAMEWORK

Applicable federal and state laws and regulations governing the generation, handling, transportation, and disposal of hazardous materials are described in the following sections. Federal agencies that regulate hazardous materials include the EPA and the Occupational Safety and Health Administration (Fed/OSHA). At the state level, agencies such as DTSC, California Occupational Safety and Health Administration (Cal/OSHA), and the Office of Emergency Services govern the use of hazardous materials.

4.6.2.1 FEDERAL


Federal hazardous waste laws are generally promulgated under the Resource Conservation and Recovery Act (RCRA). These laws provide for the “cradle to grave” regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed.

The EPA has the primary responsibility for implementing RCRA; however, individual states are encouraged to seek authorization to implement some or all of RCRA provisions. California received authority to implement the RCRA program in August 1992. The California DTSC is responsible for implementing the RCRA program as well as California’s own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law. Under the Certified Unified Program Agency (CUPA) program, DTSC has in turn delegated enforcement authority to the County of San Diego, which has direct oversight of hazardous waste generation, transportation, treatment, storage, and disposal at UCSD.
4.6-23

Hazardous Materials Transportation Act

The U.S. Department of Transportation regulates hazardous materials transportation under Title 49 CFR. State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation. These agencies also govern permitting for hazardous materials transportation.

Title 29 CFR, Occupational Safety and Health Act

The federal Occupational Safety and Health Act is intended to ensure that employers provide their workers with a work environment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, or unsanitary conditions. Operation of this program is delegated to the state and operated by Cal/OSHA. These regulations apply to all UCSD employees, including student employees and research assistants. Standards are created by the National Institute for Occupational Safety and Health (NIOSH) as the research institution for Fed/OSHA. These standards are adopted at the state and local level and are enforced on the campus by Cal/OSHA and other agencies.

Title 40 CFR Part 112, Oil Pollution Prevention

A Spill Prevention Control and Countermeasure (SPCC) plan is required by Title 40, CFR Part 112. In California, owners and operators of ASTs must comply with federal regulations pertaining to oil spill prevention and aboveground petroleum storage. The SPCC plan provides an analysis of the potential for release from ASTs and the measures that could be put into place to reduce the potential of release. Facilities subject to these regulations must complete an SPCC plan if they contain tanks with a capacity of 660 gallons or more, or if the total facility capacity exceeds 1,320 gallons. Because the capacity of ASTs on campus exceeds these thresholds, UCSD has prepared an SPCC plan.

Title 42 CFR Select Agent Regulation

In addition to Title 29 of the CFR, which regulates worker safety in laboratories, federal laws relative to biological safety are contained in Title 42 of the CFR. Title 42 CFR Part 73, published in December 2002, implements provisions of the Public Health Security and Bioterrorism Preparedness Response Act, which requires the Secretary of Health and Human Services to regulate the possession of certain biological agents ("select agents") harmful to humans. The regulation controls the access, use, and transfer of select agents to ensure that these are shipped only to institutions or individuals equipped to handle them appropriately and only to those who have legitimate reasons to use them. The CDC is responsible for implementing this regulation; a facility must register with the CDC if it possesses a select agent or agents. Some of the select agents and toxins subject to regulation by the CDC are also regulated by the U.S. Department of Agriculture (USDA) under 9 CFR part 121. A few laboratories on campus use select agents and are therefore registered with the CDC.

Atomic Energy Act

In the United States, the use of radioactive materials is in general regulated by the Nuclear Regulatory Commission (NRC) under the Atomic Energy Act.

Animal Welfare Act of 1966

The Animal Welfare Act of 1966 (and its subsequent amendments) is the primary federal law that governs the use of animals in research, testing, and teaching in the United States. This Act is implemented and enforced by the USDA. It provides the basis for the regulatory authority given to the USDA to ensure the welfare of animal species that are covered by the Act and used in regulated activities. The Act includes all warm-blooded vertebrates but specifically exempts all farm animals used in food and fiber research or production.
(the treatment of which is addressed in the Federation of Animal Science Societies’ *Guide for the Care and Use of Agricultural Animals in Research and Teaching* [1999]). The Act also exempts laboratory rats and mice used in research.

Compliance with the regulations is ensured at each institution by an Institutional Animal Care Use and Committee (IACUC). The primary functions of an IACUC are reviewing and inspecting all aspects of an institution’s animal care and use program, including all animal facilities, study areas and animal care records; reviewing animal use protocols; reviewing and investigating complaints about animal use; and making recommendations to the institutional official. The UCSD IACUC is called “UCSD Animal Subjects Committee.”

**U.S. Public Health Service Policy on the “Humane Care and Use of Laboratory Animals”**

The U.S. Public Health Service (PHS) Policy on the “Humane Care and Use of Laboratory Animals” requires institutions to establish and maintain proper measures to ensure the appropriate care and use of all animals involved in research, research training, and biological testing conducted or supported by the PHS. The PHS Policy is intended to implement and supplement the U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training.

**National Animal Welfare Guidelines and Accreditation**

The Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC International) is a private nonprofit organization that promotes the humane treatment of animals in science through a voluntary accreditation program. UCSD submits to this voluntary accreditation program in addition to complying with local, state, and federal laws that regulate animal research. By undergoing the voluntary accreditation process, the research programs demonstrate that they not only meet the minimum regulatory requirements but actually exceed them to achieve excellence in animal care and use. AAALAC International relies on the *Guide for the Care and Use of Laboratory Animals* (published by the National Research Council) as its primary standard for evaluation of laboratory animal care and use programs. In this guide, “laboratory animals” refer to any vertebrate animals, including traditional laboratory animals, farm animals, wildlife, and aquatic animals. As a condition of accreditation, AAALAC International requires correction of any deficiencies in programs or physical facilities that they observe during site visits.

**Health Research Extension Act**

The Health Research Extension Act of 1985 is implemented and supported by the U.S. Public Health Service Policy on the Humane Care and Use of Laboratory Animals and provides for the establishment of guidelines for the proper care and treatment of animals used in biomedical and behavioral research, by the Director of the NIH. The guidelines require animal care committees at each entity that conducts biomedical and behavioral research with funding from the NIH to ensure compliance with the guidelines. The UCSD Animal Subjects Committee meets this requirement for research on the campus.

**Federal Plant Pest Act**

The federal agencies primarily responsible for regulating transgenic materials in the United States are the USDA, the EPA, and the Food and Drug Administration (FDA). Transgenic materials include microorganisms, plants, and animals that have been genetically engineered or modified and generally do not meet the standard criteria for hazardous materials. Recombinant DNA techniques create new genetic combinations by changing, adding, or subtracting DNA genes, but this methodology does not necessarily mean that new organisms are created. Much research is performed using tissue cultures or benign bacteria grown under laboratory-controlled conditions. With the exception of transgenic bacteria that could be
infectious (considered biohazardous waste), transgenic materials generally do not pose a threat to public health or the environment. Under the authority of the federal Plant Pest Act, USDA Animal and Plant Health Inspection Service regulates importation, interstate movement, and environmental release of transgenic plants and organisms. The service licenses, through permits, the field testing of food crops before commercial release. At UCSD, testing of transgenic plants is only conducted within a greenhouse. Therefore, permits issued by the USDA are not required.

**Federal Insecticide, Fungicide, and Rodenticide Act**

The federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), provided the EPA with authority of pesticide labeling and establishing standards for certification of restricted pesticide application. The EPA also has the authority to delegate pesticide enforcement authority to states by entering into cooperative agreements with state pesticide programs. Since 1975, California has had primary authority over pesticide enforcement within the state.

The EPA uses its authority under FIFRA to regulate the distribution, sale, use, and testing of plants and microbes producing pesticidal substances. FIFRA regulations apply to UCSD research projects involving these substances. FIFRA also governs campus pest control operations.

**Food, Drug, and Cosmetic Act**

The FDA, under the authority provided by the federal Food, Drug, and Cosmetic Act, regulates food and feed derived from new plant varieties and sets tolerance limits for substances used as pesticides on and in food and feed and for residues of herbicides used on certain crops.

**Agricultural Bioterrorism Protection Act**

This law requires that entities that possess, use, or transfer agents or toxins deemed a severe threat to animal or plant health or products must notify and register with the Secretary of the USDA. USDA’s Animal and Plant Health Inspection Service (APHIS) has been designated by the Secretary as the agency for implementing the provisions of the law for USDA. UCSD researchers using these agents are required to register with the USDA.

**Centers for Disease Control and National Institutes of Health Guidelines**

The CDC and NIH have issued federal guidelines that address biological safety. Because research at UC campuses often involves federal funding, compliance with these guidelines becomes mandatory for most research. The CDC and the NIH have developed containment and handling guidelines for use in microbiological and biomedical laboratories. UCSD has adopted these guidelines as standard practice and instituted biosafety levels in its laboratories.

**Biosafety Levels.** Various biologically hazardous substances are used for research on campus. This biological research often involves the use of recombinant DNA molecules, infectious agents, parasites, and other biological agents including bloodborne pathogens. UCSD has adopted the most current guidelines set forth in the U.S. Department of Health and Human Services publications *Biosafety in Microbiological and Biomedical Laboratories (1999)* and *Guidelines for Research Involving Recombinant DNA (2002)* to classify biohazardous agents and to determine the level of safety precautions that must be used. Four biosafety levels apply to biohazardous materials operations, depending on the risk group of the agent used. Biosafety Level 1 is for the least hazardous biological agents and Biosafety Level 4 is for the most hazardous biological agents. The UCSD campus contains BSL-1, BSL-2, and BSL-3 facilities. There are currently 234 BSL-1 facilities, 411 BSL-2 facilities, and seven BSL-3 facilities on campus. No Biosafety Level 4 agents or laboratories
currently exist on campus. The Department of Health and Human Services guidelines describe Biosafety Levels 1, 2, 3, and 4 as follows:

- **Biosafety Level 1 (BSL-1)** - Defined and characterized strains of viable microorganisms not known to cause disease in healthy humans. Many agents not ordinarily associated with disease processes in humans are, however, opportunistic pathogens and may cause infection in the young, the aged, and immunodeficient or immunosuppressed individuals.

- **Biosafety Level 2 (BSL-2)** - Moderate-risk agents present in the community and associated with human disease of varying severity. With good microbiological techniques, these agents can be used safely in activities conducted on the open bench, provided the potential for producing splashes or aerosols is low. Primary hazards to personnel working with these agents relate to accidental precutaneous or mucous membrane exposure, or ingestion of infectious materials. Procedures with aerosol or high splash potential that may increase the risk of such personnel exposure must be conducted in primary containment equipment or devices.

- **Biosafety Level 3 (BSL-3)** - Indigenous or exotic agents with a potential for respiratory transmission, and which may cause serious and potentially lethal infection. Primary hazards to personnel working with these agents relate to autoinoculation, ingestion, and exposure to infectious aerosols.

- **Biosafety Level 4 (BSL-4)** - Dangerous and exotic agents that pose a high individual risk of life-threatening disease, which may be transmitted via the aerosol route and for which there is no available vaccine or therapy. The primary hazards to personnel working with Biosafety Level 4 agents are respiratory exposure to infectious aerosols, mucous membrane or broken skin exposure to infectious droplets, and autoinoculation. All manipulations of potentially infectious diagnostic materials, isolates, and naturally or experimentally infected animals, pose a high risk of exposure and infection to laboratory personnel, the community, and the environment.

**Biological Safety Cabinets.** Aerosol control of infectious agents or other biologically derived molecules is usually achieved by using a biological safety cabinet. There are currently three primary classes of biological safety cabinets, which are distinguished by their respective design, containment, and cleanliness capabilities.

- Class I cabinets are similar to conventional laboratory hoods with an open-face and negative pressure design, but Class I cabinets exhaust through a high-efficiency particulate air (HEPA) filter.

- Class II cabinets, also referred to as laminar-flow biological safety cabinets, are effective in protecting operators from research materials as well as protecting research materials from external contamination. These cabinets are designed with an inward airflow to protect personnel, HEPA-filtered downward vertical laminar flow for product protection, and HEPA-filtered exhaust air for environmental protection.

- Class III cabinets are totally enclosed, ventilated cabinets of gas-tight construction. Operations in the cabinet are conducted through attached protective gloves.

**Research Involving Recombinant DNA.** The NIH Guidelines for Research Involving Recombinant DNA Molecules (2002) specifies practices for constructing and handling recombinant DNA molecules and organisms and viruses containing recombinant DNA molecules. These guidelines are applicable to all recombinant DNA research conducted in the United States. In addition to Biosafety Levels for biohazardous materials, the guidelines identify containment at four Biosafety Levels for recombinant DNA research involving plants (BL1-P through BL4-P) and small laboratory animals (BL1-N through BL4-N), and containment practices for plants, microorganisms, and animals. Recombinant DNA experiments at Biosafety Level 1 pose no significant hazard, Biosafety Level 2 experiments pose minimal hazard, and Biosafety Levels
3 and 4 involve more hazardous agents. There are currently 44 BSL-1, 156 BSL-2, and 7 BSL-3 biohazardous use authorizations for recombinant DNA at UCSD.

4.6.2.2 STATE

Hazardous Materials Release Response Plans and Inventory Act

Chapter 6.95 of the California Health and Safety Code requires facilities that use, produce, store, or generate hazardous substances or have a change in business inventory to have a Hazardous Materials Management Plan (HMP) or Business Plan. The plan must disclose the type, quantity, and storage location of materials. The law also requires a site-specific emergency response plan, employee training, and designation of emergency contact personnel.

As a state agency and large-quantity user of hazardous materials, UCSD is required to submit an HMP to the local administering agency, the County DEH. The HMP describes hazardous materials storage and handling practices and contains procedures for monitoring storage, performing regular inspections, detecting releases, and testing the detection systems on a regular basis. Compliance with the hazardous materials programs at UCSD is verified through annual self-audits, with periodic random follow-up audits by the County DEH.

Title 23 CCR, Underground Storage Tank Act

The UST monitoring and response program is required under Chapter 6.7 of the California Health and Safety Code and Title 23 of the CCR. The program was developed to ensure that the facilities meet regulatory requirements for monitoring, maintenance, and emergency response in operating USTs. The County DEH is the local administering agency for this program. UCSD operates 10 USTs that are subject to this program.

Aboveground Petroleum Storage Act

The Aboveground Petroleum Storage Act requires registration and spill prevention programs for ASTs that store petroleum. In some cases, ASTs for petroleum may be subject to groundwater monitoring programs that are implemented by the Regional Water Quality Control Boards and the State Water Resources Control Board. UCSD operates a number of registered ASTs containing diesel, oil, or gas, which are subject to this regulation.

SB 1889, Accidental Release Prevention Law/California Accidental Release Prevention Program

SB 1889 required California to implement a new federally mandated program governing the accidental airborne release of chemicals promulgated under Section 112 of the Clean Air Act. Effective January 1, 1997, the California Accidental Release Prevention Program (CalARP) replaced the previous California Risk Management and Prevention Program (RMPP) and incorporated the mandatory federal requirements. CalARP addresses facilities that contain specified hazardous materials, known as “regulated substances” that, if involved in an accidental release, could result in adverse off-site consequences. CalARP defines regulated substances as chemicals that pose a threat to public health and safety or the environment because they are highly toxic, flammable, or explosive. UCSD does not have regulated substances in quantities requiring risk management plans.

Title 22, California Hazardous Waste Control Law

As previously discussed, the DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the RCRA and the California Hazardous Waste Control Law. Both laws impose
“cradle to grave” regulatory systems for handling hazardous waste in a manner that protects human health and the environment. The DTSC has delegated some of its authority under the Hazardous Waste Control Law to county health departments and other CUPAs, including the San Diego County DEH.

**Title 8 CCR, California Occupational Safety and Health Act**

Cal/OSHA regulations apply to all UCSD employees, including student employees and research assistants.

**Worker Safety.** In California, under the California Occupational Safety and Health Act, Cal/OSHA enforces federal OSHA requirements as well as more stringent state regulations. Cal/OSHA hazardous materials regulations include requirements for safety training, availability of safety equipment, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations, which include identifying and labeling hazardous substances, providing employees with Material Safety Data Sheets, and describing employee training programs. These regulations also require the campus to prepare emergency action plans, including escape and evacuation procedures. Title 8 also establishes general industry safety orders for bloodborne pathogens, sharps injury prevention, and disposal of infectious wastes. All laboratories that involve the handling of biohazardous materials must comply with Cal/OSHA standards.

**Asbestos and Lead Programs.** The removal and handling of asbestos-containing materials is governed primarily by EPA regulations under Title 40 of the CFR but is implemented by the San Diego Air Pollution Control District (SDAPCD). This program is described further in Section 4.2, Air Quality. Fed/OSHA also has a survey requirement under Title 29 CFR, which is implemented by Cal/OSHA under Title 8 CCR. These regulations require facilities to take all necessary precautions to protect employees and the public from exposure to asbestos.

The Cal/OSHA lead standard for construction activities is implemented under Title 8 of the CCR. The standard applies to any construction activity that may release lead dust or fumes, including, but not limited to, manual scraping, manual sanding, heat gun applications, power tool cleaning, rivet busting, abrasive blasting, welding, cutting, or torch burning of lead-based coatings. Unless otherwise determined by approved testing methods, all paints and other surface coatings are assumed to contain lead at prescribed concentrations, depending on the application date of the paint or coating.

**Emergency Response to Hazardous Materials Incidents**

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local government, and private agencies. The plan is administered by the Office of Emergency Services and includes response to hazardous materials incidents. The Office of Emergency Services coordinates the response of other agencies, including the Cal/EPA, the California Highway Patrol, the California Department of Fish and Game, the Regional Water Quality Control Board, the San Diego Air Pollution Control District, and the City of San Diego Fire Department.

**Medical Waste Management Act of 1990**

In 1990 the California legislature adopted the Medical Waste Management Act, which provides for the regulation of medical waste generators, transporters, and treatment facilities. The California Department of Health Services (DHS) has adopted statewide regulations covering medical waste treatment permits and shares regulatory authority with local programs that choose to enforce the requirements.
California Radiation Law

California is an “agreement state” with respect to federal radiation law. The agreement is that the state will administer the NRC federal regulations found in Title 10 of the CFR. The DHS is the agency responsible for administering the agreement. Under the agreement, the rules for California must be adequate to protect public health and safety and compatible with those of the NRC. The California rules are codified under Title 17 of the CCR and Division 20 of the Health and Safety Code. Under the California Radiation Control Law, the Radiological Health Branch of the DHS administers these rules. The state’s rules govern the receipt, storage, use, transportation, and disposal of sources of ionizing radiation and provide for the protection of users of these materials and the general public from radiation hazards. The DHS controls the use of radioactive materials in California by issuing Radioactive Material Licenses to California users of radioactive materials and radiation-producing machines. Several types of licenses exist; UCSD has a Broad Scope Radioactive Materials License granted by the DHS.

Title 3 CCR, Food and Agriculture Code

Under Divisions 6 and 7 of the Food and Agriculture Code, Title 3 CCR, the California Department of Pesticide Regulation is vested with primary responsibility to enforce pesticide laws in California. The County Agricultural Commissioners grant site-specific permits for use of restricted pesticides and conduct periodic on-site observations of application sites and field worker safety. UCSD personnel engaged in official duties relating to agricultural use of pesticides are exempt from the need to obtain an agricultural pest control advisor license, but campus personnel handling or applying restricted pesticides or the supervising applicator must obtain a State Qualified Applicator Certificate.

4.6.3 PROJECT IMPACTS AND MITIGATION

4.6.3.1 ISSUE 1 – TRANSPORT, USE, AND DISPOSAL OF HAZARDOUS MATERIALS

<table>
<thead>
<tr>
<th>Hazards and Hazardous Materials Issue 1 Summary</th>
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<tr>
<td>Would implementation of the 2004 LRDP result in a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?</td>
</tr>
<tr>
<td>Impact: The 2004 LRDP would result in increased transport, use, and disposal of hazardous materials that could pose a hazard to the public and environment but these activities are comprehensively managed by UCSD pursuant to state and federal law.</td>
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<tr>
<td>Mitigation: No mitigation is required.</td>
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<td>Significance Before Mitigation: Less than significant.</td>
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<td>Significance After Mitigation: Less than significant.</td>
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Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2004 LRDP may have a significant adverse impact if it would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Impact Analysis

Campus operations under the 2004 LRDP would involve the continued transport, use, and disposal of hazardous materials (chemical, radiological, biohazardous, and hazardous materials associated with
infrastructure). In addition, implementation of the 2004 LRDP would result in increased land uses and activities that these hazardous materials are associated with, such as laboratories, medical/research facilities, academic activities, general maintenance, landscaping, and construction on the UCSD campus. Therefore, UCSD’s transport, use, and disposal of hazardous materials is expected to increase in general proportion to the growth of the campus. While the amount and type of hazardous materials may vary over time with changes in disposal, products, research, and additions to hazardous materials lists, the general range and type of hazardous materials used on campus is not expected to substantially change through the duration of the 2004 LRDP implementation. Impacts associated with the four general categories of hazardous materials (chemical, radiological, biohazardous, and hazardous materials associated with infrastructure) used at UCSD are discussed in the following sections.

General Chemicals Use

Implementation of the 2004 LRDP would lead to an increase in the number of laboratories and the expansion of other facilities such as building and vehicle maintenance that involve the use of hazardous materials. Various chemicals that may be used may pose different levels of hazards in their use. Some substances, such as acetone, are flammable, while others, like cyanide and mercuric chloride, are toxic. Some nonradioactive chemicals have the potential for causing cancer or acute and chronic illnesses. The properties and health effects of chemical substances are unique to the individual materials, although they often can be grouped by chemical types. No classifications exist to rate the level of hazard posed by all substances under all circumstances. While some substances may present little hazard, others may be capable, in certain situations, of causing severe health effects.

Workers might be exposed to hazardous chemicals through inhalation, skin absorption (contact), ingestion, and injection (cuts). UCSD policies and procedures address the procurement, handling, and disposal of carcinogenic, controlled, volatile, flammable, and explosive substances. EH&S is charged with implementing measures, directly and through campus departments, designed to ensure compliance with applicable laws and regulations.

Laboratories and other facilities constructed under the 2004 LRDP would continue to comply with all hazardous materials standards for UCSD. To minimize exposure to chemicals in the air, researchers and other workers would continue to take standard procedural precautions, such as working under fume hoods, when using chemicals likely to present exposure hazards. Fume hoods and other engineering controls would be required to meet Cal/OSHA requirements and fume hood ventilation rates are checked annually by EH&S. Proper use of the fume hoods and other engineering controls would keep indoor laboratory air toxics concentrations below the suggested guidelines of the American Conference of Governmental Industrial Hygienist Threshold Limit Values and the legal limits of the OSHA Permissible Exposure Levels.

To prevent exposure through skin contact, campus policies and procedures require that protective clothing, such as laboratory coats, gloves, and safety glasses, be worn while handling hazardous materials and wastes. Proper washing after handling chemicals is also required. Also, in accordance with state laws and campus policy, eating, drinking, applying cosmetics, and chewing gum or tobacco are not allowed in laboratories except in designated clean areas. These restrictions are imposed to prevent the potential ingestion of chemicals.

Campus departments are primarily responsible for ensuring that safe work practices are followed; EH&S supports departments with this responsibility. EH&S also reviews proposed laboratory designs for nonstructural seismic safety concerns and compliance with Cal/OSHA requirements to provide appropriate protection for the workers.
Exposure to the public, including nearby homes and schools, from hazardous materials used on campus is limited, because most hazardous materials use and storage on campus takes place indoors. Therefore, the only potential pathway for public exposure would be air emissions. Particulate-borne air emissions (i.e., bacteria, viruses, radioisotopes) would be controlled by HEPA filtration at a very high degree of efficiency. Potential evaporative chemical emissions from laboratory fume hoods are analyzed in Section 4.2, Air Quality.

Environmental and health and safety laws and regulations are dynamic and have been revised and added to in recent years. The various federal, state, and local agencies that monitor campus regulatory compliance require time to receive, interpret, and transmit changes to the regulated community. In turn, regulated entities such as UCSD require some time to receive proper notice, to understand changed laws and regulations, to acquire proper equipment, to inform campus workers, and to train or hire new staff to comply with the changes. Hence, compliance is an evolutionary and perpetual process. UCSD is committed to providing a safe environment for the campus and the local community by implementing the increasingly complex laws and regulations regarding the use of hazardous materials.

Through implementation of these and other programs, as discussed in Section 4.6.1, the laboratories on campus have achieved a high level of compliance with regulatory standards and campus policies. The campus would continue to implement all of these programs under the 2004 LRDP as mandated by state and federal laws and regulations; therefore, the impact of increased hazardous chemical materials use on campus by UCSD laboratories and departments and from maintenance and support operations would be less than significant.

General Chemicals Disposal

Hazardous chemical wastes are generated whenever hazardous chemicals are used. General types of hazardous chemical wastes include spent solvents from laboratories and the physical plant, discarded laboratory reagents and reaction products, unused paints and oils, and contaminated materials such as gloves and containers. Implementation of the 2004 LRDP would increase the number of research laboratories on campus and therefore may result in an increase in hazardous chemical waste generation. However, in the past years the UCSD campus has experienced a significant decrease in the amount of radioactive materials disposed as waste due to changes in lab practice.

The extent of student and worker exposure to hazardous wastes is related to the training they receive, how conscientiously they follow safety procedures, how well engineering controls are maintained and operated, and the extent to which compliance is supervised and enforced. The campus has prepared guidelines for proper disposal of hazardous wastes based on regulations established by the U.S. Environmental Protection Agency and the California Department of Toxic Substances Control. To facilitate safe management, hazardous wastes are subcategorized into groups with similar or closely related properties. Before EH&S picks up materials, they must be packaged and labeled properly, which includes placing them in appropriate sealed containers, segregating incompatible materials, and identifying all components with approximate concentrations. Hazardous materials transported to the central materials handling facility are separated into subcategories based on the handling methods employed, storage locations at the facility, and the ultimate destination of the materials. Flammable wastes (mostly solvents), corrosives (acids and bases), certain oils, poisons, heavy metals, and oxidizers are shipped off site for recycling, treatment, or disposal. Chemical wastes, once packed for disposal, are further categorized according to their off-campus disposal methods.

A small portion of the waste disposed of off site is neutralized or rendered nonhazardous by off campus treatment facilities (for example acid neutralization and metals recovery) before disposal. The majority of the hazardous waste disposed of off campus is land-banned (cannot be disposed of in a landfill), and most of this is shipped out-of-state for incineration. Because most of the hazardous waste hauled off site by vendors
cannot be disposed of in a landfill, and only a small amount of waste can be neutralized and landfilled, the
increase in hazardous waste generated by projects constructed under the 2004 LRDP would not affect the
capacity of regional landfills. The campus has implemented programs and controls to detect inadvertent
release of hazardous material to the sanitary sewer or landfill. Pouring hazardous wastes down drains and
disposing of hazardous materials with ordinary solid waste are prohibited by law.

Implementation of the 2004 LRDP may result in an increase in hazardous chemical waste generation at
UCSD. Compliance with hazardous waste storage and transportation regulations, and continuation of the
programs and controls currently in place to manage hazardous wastes and to detect inadvertent releases of
hazardous materials to the sanitary sewer and/or landfill, as mandated by state and federal laws, would
minimize the hazards to workers, the public, and the environment. Treatment, storage, and disposal facilities
are currently available with the capacity to accept and safely manage UCSD chemical waste. Therefore,
implementation of the 2004 LRDP is anticipated to result in a less than significant impact related to the
disposal of hazardous chemical waste.

Radioactive Materials Use

Average background radiation exposure in the United States is about 360 millirem per year (National Safety
Council 2003). Typical average doses to workers at campus facilities are less than 120 millirem per year, a
level below naturally occurring or background radiation and below applicable standards. Implementation of
the 2004 LRDP would not be anticipated to change the typical dose level.

Radiation poses a health risk to those who are exposed, but exposure can be prevented with proper protective
equipment and procedures. Radioactive materials at UCSD are monitored closely. In accordance with the
UCSD Broadscope Radioactive Materials License, prior to obtaining radioactive materials, each principal
investigator must apply for a RUA from the RSSC. The RUA specifies the particular radioisotopes to be used
and maximum limits on the quantities possessed. The UCSD radiation safety program, which is required by
the Radiation Control Law and documented in the Radiation Safety Manual, is designed to provide adequate
protective measures against exposure for visitors, students, faculty, staff, and the community at large.

These existing measures are designed to reduce the risk of illness and accidents. Continued implementation
of these measures as mandated by state and federal law would occur under the 2004 LRDP. The additional
research programs that would be implemented under the 2004 LRDP may increase the use of radioactive
substances over current amounts. However, given that adequate safety controls, plans, and procedures are
mandated and in place to limit exposure to radiation from radioisotopes and radiation-producing machines,
the potential of the 2004 LRDP to expose campus occupants to significant health or safety risks is low.
Therefore, the impact would be less than significant.

Radioactive Materials Disposal

Existing campus research laboratories generate small amounts of solid and liquid low-level radioactive waste.
With the additional research facilities that would be constructed under the 2004 LRDP, the amounts of
radioactive waste at UCSD may increase. Radioactive waste is segregated, sealed, and labeled by the
generating researcher, who calls EH&S for pickup. EH&S removes radioactive materials from laboratories
and takes them to the EMF to prepare them for eventual disposal by one of two methods. The material is
(1) held for decay, then disposed of as nonradioactive, or (2) transported off campus for decay and disposal.

Radioactive waste generation, if not adequately managed, can pose health or safety threats analogous to those
mentioned for radioactive materials use. The programs, controls, and procedures currently implemented on
campus provide safe handling, treatment, and disposal of radioactive waste. Because these measures will
continue to be implemented as mandated with the implementation of the 2004 LRDP, the associated impact
would be less than significant.
Biohazardous Materials Use

Implementation of the 2004 LRDP would increase the use of biohazardous materials on campus. UCSD has particular strengths in the biosciences, and the 2004 LRDP would increase land designated for research which could be used for biomedical purposes. A scientific research facility cannot predict in advance every possible biological agent or research application it might conceivably wish to use in the future. The types of biological agents used in the future would likely remain largely the same, although new research could create a need for new and different biological agents. Most of the agents currently used on campus require laboratories operating at Biosafety Levels (BSL)-1 and BSL-2, with a few operating at BSL-3. Under the 2004 LRDP, laboratories operating at these levels may increase, however, no BSL-4 laboratories are anticipated. If a BSL-4 laboratory were required on campus, a capital improvement project would be required and that project would require appropriate review under CEQA and other applicable regulations.

Biohazardous materials can potentially affect humans through air (inhalation of aerosols), water (release to the sewer), waste disposal, and accidents. The type of potential illness is dependent on the type and amount of biohazardous material to which a person is exposed. Improper handling techniques can increase the risk of exposure of building occupants to biohazardous materials. Most biohazardous materials, due to their limited viability in the environment, pose no significant hazard to workers or to the community; others could pose a potential hazard if accidentally released. Most biological agents are thought to have a limited ability to survive outside the body. Information on this subject is limited, but research continues on the actual survival parameters of these agents under varying conditions. For example, survival of viruses in the environment is dependent on a complex interaction of factors such as ambient temperature, relative humidity, texture and composition of surfaces, exposure to light, presence of other organic material, and for aquatic environments, the chemical and physical properties of the water. To provide a greater margin of safety, control measures are based on conservative estimates of maximum periods that viruses can remain infectious (i.e., a worst-case basis).

Protection from biological agents is provided to campus employees, the campus community and the public, including nearby residents and school children, through a variety of engineering and administrative controls. Each type of control is aimed at minimizing a potential route of entry by the agent to the worker. Some of these controls also work to minimize potential routes of exposure for the public at large. Exposure to biohazardous agents can occur through (1) inhalation, (2) ingestion, (3) absorption through skin or mucous membranes, and (4) penetration through broken skin. In a survey of nearly 4,000 cases of laboratory-associated infections in the United States, inhalation of infectious aerosols was considered a plausible, yet unconfirmed source of infection in over 80 percent of the cases where a worker was exposed to a biological agent.

To minimize workers’ exposure to hazards, the campus has established a Biosafety Program. In accordance with applicable regulations and UCSD policy, protective measures are used and protective clothing is worn when working with biohazardous material to prevent exposure by skin contact. The potential for ingestion of hazardous biological agents is minimized by following the UCSD policy banning eating in laboratories and requiring proper washing. Also in accordance with campus policy aimed at reducing the chance of ingestive exposure, mouth pipetting is not allowed.

Engineering controls provide a degree of containment of biological agents and minimize personal contact with these agents. These safety features are built into facility and equipment design and operation. The most significant engineering control that can be implemented is observation of the correct BSL criteria of laboratory and equipment design. The campus currently utilizes BSL-1 and BSL-2 for most of its laboratory applications. Access to campus laboratories operated at BSL-3 is limited to trained workers, and special air filtration requirements apply.
4.6 Hazards and Hazardous Materials

Biohazardous aerosols that can cause inhalation exposure are generated during the mixing, shaking, and other disruptive handling of biological organisms. Current campus policies require that if BSL-2 or BSL-3 materials are involved, these activities must be conducted in biosafety cabinets, which contain aerosols and filter all released air to remove biohazardous materials. HEPA-filtered ventilation systems and biological safety cabinets are tested and certified annually by an external contractor; this includes filter leak and velocity tests. EH&S retains records of these tests. Most HEPA filters for biosafety cabinets recirculate air into laboratories and are 99.97 percent effective in screening out particles at 0.3 micron in size. Information on laboratory equipment shows that viruses can be smaller than bacteria. However, airborne viruses do not usually travel alone but on a host bacteria or aerosol (i.e., a water droplet or dust particle), for which HEPA filters are very effective; therefore, HEPA filters effectively remove biohazardous particles. Filters are decontaminated, typically with formaldehyde gas, before they are removed for disposal.

Laboratory equipment that could generate aerosols, such as shakers and centrifuges, must be sealed or contained during use. In the laboratory, aerosols deposit in relatively short distances from point sources. Potential aerosol emissions, if not controlled by a biosafety cabinet, are controlled by splash guards and decontamination of surrounding work surfaces. When a laboratory activity is finished, most tissues, fluids, and cell cultures are treated as infectious waste. This infectious material is generally stored in biohazard-labeled bags, autoclaved, and sent to the landfill once sterilized.

UCSD employees could be exposed to biological agents through contact with open wounds from skin punctures due to animal bites and scratches, or cuts and lacerations with contaminated cages or sharp edges. This risk is minimized by protective clothing and training in animal handling. Exposure to contaminated aerosols and splashes associated with increased laboratory research and washing of contaminated cages is also a potential risk. However, UCSD staff are required to wear respiratory protection when research protocols involve readily aerosolized agents, such as measles or tuberculosis. Therefore, exposure to aerosols and splashes is not considered a normal means of disease transmission with agents studied at UCSD unless these droplets settle and survive on surfaces that are contacted by an open wound.

An EH&S staff member is typically contacted by principal investigators for assistance in preparing protocols for experiments involving biohazardous agents. In addition, the Institutional Biosafety Committee reviews and approves biological research on campus. This committee is composed of campus faculty and administrators as well as members of the public with some knowledge of the field but no association with the campus. The committee evaluates the potential risks and the adequacy of the safety measures to be implemented prior to beginning research projects involving biohazardous materials. BSL-3 activities occur only in the designated BSL-3 laboratories with required procedures, review, and authorization by campus and agency officials prior to startup.

The potential impact of increasing the number of diseased animals and research material on employee health is considered less than significant because regulatory requirements and the current regulatory guidelines for controlling employee exposures to blood-borne pathogens would be followed. These programs are continuously monitored and upgraded as necessary. Such programs include the Cal/OSHA Bloodborne Pathogen Standard, the Centers for Disease Control guidelines for work in laboratory and animal facilities, Guidelines for Animal Transport and Quarantine, and National Institutes of Health guidelines for work with recombinant DNA.

Cal/OSHA’s Bloodborne Pathogen Standard requires the campus to implement Exposure Control Plans to minimize potential risks related to handling human blood. As part of these programs, hepatitis vaccinations are offered free of charge to all employees and students who work with human blood. Exposure Control Plans also provide for worker training and prescribe safety measures such as engineering controls (e.g., splash guards) and personnel protective equipment (e.g., face shields and gloves). All blood is to be handled as if it is contaminated by an infectious agent, whether or not its status is known.
Cal/OSHA has oversight of all campus laboratories. Cal/OSHA mandates methods of documenting, investigating, and controlling accidents that result in skin penetration. Evidence presented during Cal/OSHA rulemaking procedures indicate that safety and health program measures like those described above are effective in reducing the number and severity of injuries and illness in the workplace. Cal/OSHA does not regularly audit the campus laboratories but conducts inspections in the event of an accident or a complaint. The Campus EH&S Department, however, inspects all laboratories at least annually, and DHS inspects campus laboratories every 12 to 18 months.

The potential impacts of increasing the use of biohazardous materials at UCSD on employee health, the public, and the environment is considered less than significant because regulatory requirements and the current campus guidelines and practices for controlling employee exposures to infectious agents would be followed and would minimize impacts outside of the research laboratories.

Biohazardous Materials Disposal

Biohazardous waste is any liquid or solid waste generated through the handling of specimens from humans or animals that may contain infectious agents. Cultures of infectious agents, human anatomical remains, and animal carcasses that may be infectious are also considered to be biohazardous waste. Research laboratories using biohazardous materials and animal care activities at UCSD produce biohazardous waste. Most laboratory tissues, fluids, and cultures are considered to be potentially infectious waste. Potentially infected animal care wastes can include animal excreta, bedding and uneaten food, cage washing solutions, animal carcasses and tissues, workers’ disposable protective clothing and sharp objects such as needles, scalpels, and broken glass.

Implementation of the 2004 LRDP would increase campus biohazardous waste generation because use of biohazardous materials would increase. Biohazardous waste generated at UCSD is pickup by a contractor for treatment or is treated on campus. The waste is treated by autoclaving, which renders the waste nonhazardous by applying steam pressure. Once treated, the waste can be disposed of as nonhazardous waste at a landfill. Biohazardous wastes that also contain hazardous chemical or radioactive waste are categorized and handled as hazardous or radioactive. Generated wastes are segregated, handled, labeled, stored, and transported to minimize direct or indirect exposure of personnel. Some campus activities also produce biohazardous waste that cannot be autoclaved, such as animal carcasses. Wastes of this kind are double-bagged, refrigerated, and picked up by an outside contractor for incineration. EH&S guides and assists with the disposal of medical waste and performs regular inspections of campus medical waste generator and treatment sites.

Existing campus health and safety practices and compliance with federal and state regulations minimize the potential for adverse health effects related to biohazardous waste. New UCSD projects implemented under the 2004 LRDP would comply with these practices. Therefore, the impact of increased generation of biohazardous waste by UCSD laboratories would be less than significant.

Use and Disposal of Hazardous Materials Associated with Infrastructure

Due to their age, numerous campus buildings are assumed to contain some form of asbestos or lead paint. Workers can be exposed through inhalation or ingestion of lead dust or asbestos particles when lead paint is disturbed or made friable by drilling, sanding, or other destructive processes. An unknown number of fluorescent light ballasts containing PCBs are also present in some campus buildings. Building materials may also be contaminated as a result of radioactive or chemical hazardous materials use in the building resulting in spills or aerosol releases that may deposit contaminants on the floors or walls. If contamination is present, exposure can be minimized through worker training and appropriate engineering and administrative controls and protective equipment.
During project planning, EH&S and the campus project manager coordinate assessment of potentially contaminated buildings and needed remediation. In addition, the campus Office of Architecture and Engineering and Facilities Services routinely direct surveys for asbestos and lead paint in existing buildings proposed for modification, and develop appropriate abatement plans. Implementation of health and safety plans and site remediation plans for work within existing buildings is a condition of campus and contractor construction management.

UCSD performs lead and asbestos surveys for all remodeling and demolition projects. State law requires that contractors and workers be notified of the presence of asbestos in buildings constructed before 1979. The DHS requires the certification of employees and supervisors performing construction activities involving lead in residential and public buildings. Standard specifications included in all campus construction contracts specify that contractors who disturb or potentially disturb asbestos or lead must comply with all federal, state, and local rules and regulations regarding hazardous materials. Contractors are also required to stop work and inform UCSD if they encounter material believed to be asbestos, PCBs, lead, or other hazardous materials. Fluorescent light ballasts containing PCBs are disposed of by UCSD.

Prior to any demolition or renovation work in a laboratory, all hazardous materials must be removed and EH&S or other qualified personnel survey the laboratory for contamination. EH&S then performs a confirmation survey for contamination resulting from the use of radioactive or biohazardous materials, chemical carcinogens, fume hoods or biosafety cabinets, and hazardous chemicals. EH&S uses a survey meter and collects wipe samples to test for radioactivity before removing a room from a Radiation Use Authorization (RUA). If the EH&S auditor finds reasons to suspect a major chemical spills or if there are concerns about waste disposal, sampling for chemical constituents may be performed.

Campus practices currently include investigating existing buildings for the presence of hazardous materials or wastes as part of the site selection process, preparation and implementation of site remediation plans for buildings with chemical or radioactive contamination, and development and implementation of health and safety plans before beginning work on contaminated sites. Compliance with federal and state regulations, campus policies, and current EH&S procedures minimizes the potential for exposure of workers to contaminated building materials. UCSD would continue to comply with the federal and state regulations under the 2004 LRDP. The impact would therefore be less than significant.

Transport of Hazardous Materials and Waste

As discussed above, implementation of the 2004 LRDP would increase hazardous materials use and hazardous waste generation on campus. Consequently the transport of hazardous materials to and from campus would also increase. UCSD policy requires that packaging of chemicals to be transported on public roads conform with all legal requirements, including those of the U.S. Department of Transportation and the California Departments of Agriculture, Health, and Highway Patrol, and to the guidelines of the International Civil Aeronautics Organization and the International Air Transport Association. All hazardous waste is picked up from generators by EH&S or a licensed hazardous waste contractor, and generators must properly package and label all hazardous wastes. Under the 2004 LRDP, UCSD would continue to require compliance with these safety regulations, guidelines, and policies. Therefore, the impact of the increased transport of hazardous materials to and from campus would be less than significant.

Mitigation Measures

The 2004 LRDP would have a less than significant impact on the use, disposal, and transportation of hazardous materials to the public with compliance of existing associated regulations, programs, practices and procedures; therefore, no mitigation measures are required.
4.6.3.2 ISSUE 2 – ACCIDENTAL RELEASES

Hazards and Hazardous Materials Issue 2 Summary

Would implementation of the 2004 LRDP result in the release of hazardous materials into the environment through reasonably foreseeable accidents?

**Impact:** The 2004 LRDP could result in increased transport, use, and disposal of hazardous materials; however, safeguards mandated by law would minimize impacts.

**Mitigation:** No mitigation is required.

**Significance Before Mitigation:** Less than significant.

**Significance After Mitigation:** Less than significant.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2004 LRDP may have a significant adverse impact if it would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Accidental release of hazardous materials would be injurious to the health and safety of persons and/or the environment if released and exposed to the public.

Impact Analysis

Under current practice at UCSD, all hazardous materials and waste storage on campus must comply with all applicable regulations, including suitable containers that are sealed at all times (when not adding or removing waste) and secondary containment. Packages of hazardous materials opened at EH&S are resealed before they are delivered to campus laboratories. Most containers of hazardous materials are delivered to campus users in their original packaging. A few solvents are received in bulk and dispensed by EH&S into safe containers for pickup or delivery.

The U.S. Department of Transportation Office of Hazardous Materials Safety prescribes strict regulations for the transportation of hazardous materials, as described in Title 49 CFR. Transportation along state roadways within or near campus is also subject to all hazardous materials transportation regulations established by the California Highway Patrol pursuant to the California Vehicle Code. As detailed in the discussion of Issue 1, Section 4.6.3.1 above, campus policy requires that all hazardous materials shipped on public roads be packaged in compliance with all applicable regulations. Compliance with these regulations minimizes the potential for accidental release of hazardous materials being transported to or from campus.

As also explained above, almost all hazardous materials are delivered to the users in their original packaging. If EH&S opens the packages, they are resealed before they are delivered to the users. The exception to this is that some solvents are delivered in bulk and transferred to smaller containers for distribution. Hazardous wastes are picked up from users only by EH&S staff, who check the wastes for appropriate packaging, or by licensed hazardous waste haulers. Further, all individuals who handle hazardous materials are appropriately trained and are provided with copies of the MSDSs, which outline procedures to follow in the event of accidental release or exposure. Safety equipment is available in all areas where hazardous materials are used.

UCSD has prepared an Emergency Management Plan, which addresses the campus community's planned response to various levels of man-made or natural emergency situations including the release of hazardous materials to be specifically handled by EH&S. Responsible units providing technical expertise in containment and cleanup of spill chemicals, radioactive, biological, asbestos-containing, or other regulated materials are EH&S, San Diego Fire Department, County HAZMAT (if available), and outside contractors. A Hazardous
Materials Business Plan also addresses emergency and spill response procedures which include, but is not limited to specific emergency response instructions, locations of personnel and equipment resources (i.e., telephone numbers, fire extinguishers, spill kits, safety showers/eyewashes, first aid kits, etc.), and specialty hazard instructions as well as appropriate training. Compliance with all applicable federal and state laws, as well as campus programs, practices, and procedures related to the transportation, storage, and use of hazardous materials would continue under the 2004 LRDP, minimizing the potential for a release and providing for prompt and effective cleanup if an accidental release occurs. Therefore, the impacts related to accidental release due to the increased transportation, storage, or use of hazardous materials under the 2004 LRDP would be less than significant.

**Mitigation Measures**

Implementation of the 2004 LRDP would have a less than significant impact on the release of hazardous materials into the environment from an accident due to compliance with associated regulations, programs, practices, and procedures; therefore, no mitigation measures are required.

**4.6.3.3 ISSUE 3 – HAZARDS TO NEARBY SCHOOLS**

<table>
<thead>
<tr>
<th>Hazards and Hazardous Materials Issue 3 Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Would implementation of the 2004 LRDP result in activities that emit hazardous emissions or handle hazardous materials within one-quarter mile of an existing or proposed school?</strong></td>
</tr>
<tr>
<td><strong>Impact:</strong> Hazardous materials and waste would be handled within one-quarter mile of an existing or proposed school; however, the materials are not anticipated to occur in quantities significant enough to pose a risk to occupants of the school or the campus community.</td>
</tr>
<tr>
<td><strong>Mitigation:</strong> No mitigation is required.</td>
</tr>
</tbody>
</table>

**Significance Before Mitigation:** Less than significant.  
**Significance After Mitigation:** Less than significant.

**Standards of Significance**

Based on Appendix G of the CEQA Guidelines and Section 21151.4 of the Public Resources Code, implementation of the 2004 LRDP may have a significant adverse impact if it would result in a health or safety hazard based on activities that emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (kindergarten through 12th grade).

**Impact Analysis**

Existing schools within one-quarter mile of campus include the Preuss Charter School located on UCSD property and La Jolla Country Day School located east of Regents Road. La Jolla Country Day is an independent, co-educational, non-sectarian, not-for-profit college preparatory school for 1,000 students in pre-kindergarten through 12th grade from throughout San Diego County. Childcare centers are also currently located on the campus, and development under the 2004 LRDP could include construction of additional childcare facilities.

While hazardous materials and waste could be handled within one-quarter mile of an existing or proposed school as a result of implementation of the 2004 LRDP, these materials would not exist in quantities significant enough to pose a risk to occupants of the school or the campus community. As explained in the discussion for Issue 1 above, hazardous materials in laboratories are typically handled in small quantities. The potential consequences of accidental releases would be limited to a single building and in most cases are...
4.6 Hazards and Hazardous Materials

limited to the individual laboratory where the spill occurred, and people outside the buildings would not be exposed; therefore, the impact to those attending existing or proposed schools would be less than significant.

In addition, Section 15186 of the CEQA Guidelines establishes requirements for school projects, as well as projects near schools, to ensure that potential health impacts resulting from exposure to hazardous materials, wastes, and substances are examined and disclosed in an environmental document. Section 15186 also states that hazardous materials that must be considered a risk are those which may impose a health or safety hazard to persons who would attend or would be employed at the school. Specifically, when a project located within one-quarter mile of a school involves the construction or alteration of a facility that might reasonably be anticipated to emit hazardous or acutely hazardous air emissions or handle acutely hazardous materials or a mixture containing acutely hazardous materials in a quantity equal to or greater than that specified in Section 25536(a) of the Health and Safety Code, the Lead Agency must (1) consult with the affected school district regarding the potential impact of the project when circulating the environmental document and (2) notify the affected school district in writing prior to approval and certification of the environmental document.

The 2004 LRDP does not include specific proposals for new development that might involve the use or transport of hazardous materials and the campus would continue to comply with the provisions of Section 15186 of the CEQA Guidelines as it applies to any future development. Compliance with federal and state regulations pertaining to hazardous wastes, including the CEQA Guidelines section specified above, along with the existing campus programs, practices, and procedures would ensure that risks associated with hazardous emissions or materials to existing or proposed schools located one-quarter mile from the campus would remain less that significant through proper handling procedures, disposal practices, and/or clean-up procedures.

Mitigation Measures

Implementation of the 2004 LRDP would have a less than significant impact associated with hazards to nearby school facilities; therefore, no mitigation measures are required.

4.6.3.4 ISSUE 4 – LISTED HAZARDOUS MATERIALS SITES

Hazards and Hazardous Materials Issue 4 Summary

Would implementation of the 2004 LRDP result in activities located on a listed hazardous materials site creating a significant hazard to the public or environment?

Impact: Closed and active hazardous material sites are located on campus that could pose a risk to construction workers and occupants. A historic burn ash site and storage tanks associated with Camp Matthews are recorded on the campus and could result in hazards. There is also the potential for unrecorded contamination to occur.

Mitigation: Assessment of the risk if the site is known for present or past contamination and remediation if risk exists (Haz-4A and -4B) and stoppage of construction activities if contamination is encountered and implementation of remedial activities (Haz-4C).

Significance Before Mitigation: Potentially significant. Significance After Mitigation: Less than significant.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2004 LRDP may have a significant adverse impact if it would result in activities located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
Impact Analysis

As previously discussed, a records search based upon federal, state, and county hazardous waste lists and databases was conducted for the campus and identified a total of 176 records located on campus and a total of 372 records within the search radius for each list and database. However, most of these records do not denote conditions that are considered to pose a potential environmental concern during future development and redevelopment of the campus. Only the records for leaking USTs cases were considered a concern due to the potential for soil and groundwater contamination. Other conditions of concern that are included in the waste lists and databases searched were not identified on or around the campus.

The records search indicated that 16 leaking USTs cases were on the campus and several more were in the immediate vicinity. Because the record search only provides summary information on these cases, additional research was conducted to determine the status of the cases on and adjacent to the campus. Ninyo & Moore (2003) conducted this research by reviewing files at the County DEH. Because DEH files are organized by property and the record search is by case number, the number of files review differed from the records search. To ensure a thorough review, all files for UCSD and adjacent properties with cases were reviewed. This review is summarized in Table 4.6-7, which also contains updated information from EH&S.

As indicated in Table 4.6-7, most of the cases are closed or have a low likelihood to present an environmental concern to the implementation of the 2004 LRDP. However, remediation goals are typically based on cleanup levels designed to protect water quality. Residual contamination may present non-water quality risks to the environment, such as human health, or create a condition of pollution or nuisance not addressed by the regulatory agency cleanup requirements. Residual contamination may be of particular concern during subsurface construction activities, when the contaminant pathway is often the most direct and shortest. Therefore, there is potential for significant impacts to occur if construction on these sites is proposed.

In addition, there are also several cases that are still active or that do not have enough documentation, which could be concern. Of those cases, it is anticipated that only those cases that are located on campus have the potential to impact activities or projects associated with the implementation of the 2004 LRDP. These are identified below:

- H02535-009 and 011, UCSD East Campus Parking
- H21010-002, UCSD Building T-40 and 42 Scripps Oceanographic Institute

Those sites located on properties adjacent to the campus are considered a potential concern; however, due to their location and type, they are not anticipated to impact future development on campus that would occur under the 2004 LRDP.

Due to the historic uses of the UCSD properties, there is the possibility for additional contaminated sites to occur. Known tanks associated with Camp Matthews that stored hazardous materials are listed in Table 4.6-5. Because there is limited data available on the activities and decommissioning of Camp Matthews and Callan, it is likely that additional tanks were used on the property and that some of those tanks or associated contamination remain. The historic burn ash site is also in an area that could be impacted by the implementation of the LRDP.

Development of sites with contamination could potentially expose campus occupants and construction workers to hazardous materials. UCSD conducts risk assessments with identified or discovered sites during construction activities and at which soil is to be disturbed prior to project implementation to address non-water quality risks posed by any residual contamination, to establish appropriate procedures (e.g., natural attenuation, active remediation, engineering controls) that would be protective of human health and the environment. UCSD identifies the status of the site(s) in question if a site is determined to be opened or
closed. A detailed analysis is performed on closed sites to discover the level of cleanup, any materials left in place and if the status has changed since the closure. Potential issues related to the pathway of hazardous materials associated with the site are addressed with the risk assessment. Approval from the DEH is requested if the site (open or closed) is a County site.

Typically, any contaminated soils are handled appropriately for containment prior to any construction activities by an approved hazardous waste contractor. Typical procedures for contaminated soils include, but are not limited to, proper excavation, handling, and disposal (Kimberly O’Connell and Larry Oberti, personal communications, September 23, 2003). Construction activities may also require specific procedures, called best management practices (BMPs), that the campus would follow to ensure the risk of exposure to campus occupants and/or construction workers would remain less than significant in the event that contaminated soil is discovered. Any USTs that exist or are discovered during future renovation activities that are removed are done so under permit by the DEH. The soil and groundwater within the vicinity of the USTs must be adequately characterized and remediated, if necessary, to a standard that would be protective of water quality and human health, based on future site use. Any ASTs that are removed during redevelopment activities and contain hazardous substances must be removed and properly disposed of in accordance with state and federal regulations. In addition, effluent discharge of water generated during construction dewatering must meet discharge requirements for National Pollution Discharge Elimination System (NPDES) permitting and/or City of San Diego sewer system discharge and, therefore, groundwater contamination would be detected and treated.

Because listed hazardous material sites exist on the campus in areas that could be impacted by activities under the 2004 LRDP, and there is also the potential to encounter unknown contaminated sites resulting from Camps Matthews and Callan, a significant hazard to the public or the environment could occur if such sites are disturbed without appropriate investigation and/or remediation. Therefore, implementation of the 2004 LRDP would result in a potentially significant impact associated with hazardous material sites.

**Mitigation Measures**

Implementation of measure Haz-4A and Haz-4B would reduce the potentially significant impacts associated with known potentially hazardous materials sites, such as those on file with the County DEH, the recorded Camp Matthews tanks, or the historic burn ash site, to a less than significant level. Measure Haz-4C would reduce impacts associated with unknown contamination to a level that is less than significant.

**Haz-4A**  
During project planning, EH&S shall be consulted in order to identify if any past contamination, underground storage tanks (USTs), aboveground storage tanks (ASTs), or other contamination could potentially occur in areas to be impacted. EH&S Environmental Affairs will consider the cases on file at the County Department of Environmental Health (DEH), the list of Camp Matthews tanks (Table 4.6-5), the historic burn ash site (see Figure 4.6-1), and information on historic uses in the area to be impacted such as old maps and photos. If EH&S Environmental Affairs determines that there is limited potential for contamination to occur on site, no additional mitigation is necessary. If it is determined that contamination has potential to exist on a project site, Haz-4B shall be implemented.

**Haz-4B**  
If contamination exists on a proposed project site and if it poses a risk to human health or the environment, actions shall be taken prior to any construction, pursuant to applicable regulations, to remove of otherwise remediate the contamination through appropriate measures such as natural attenuation, active remediation, and engineering controls. Assessment and remediation activities shall incorporate the following conditions:
i. All assessment and remediation activities shall be conducted in accordance with a work plan which is approved by the regulatory agency having oversight of the activities.

ii. It may be necessary to excavate existing soil within the project site, or to bring fill soils into the site from off-site locations. At sites that have been identified as being contaminated or where soil contamination is suspected, appropriate sampling is required prior to disposal of excavated soil. Contaminated soil shall be properly disposed at an approved off-site facility. Fill soils also shall be sampled to ensure that imported soil parameters are within acceptable levels.

iii. Caution shall be taken during excavation activities near existing groundwater monitoring wells, so that they are not damaged. Existing groundwater monitoring wells may have to be abandoned and reinstalled if they are located in an area that is undergoing redevelopment.

Haz-4C

In the event that USTs, not identified in consultation with EH&S Environmental Affairs, or undocumented areas of contamination are encountered during construction or redevelopment activities, work shall be discontinued until appropriate health and safety procedures are implemented. Either the DEH or the San Diego Regional Water Quality Control Board (RWQCB), depending on the nature of the contamination, must be notified regarding the contamination. Each agency and program within the respective agency has its own mechanism for initiating an investigation. The appropriate program (e.g., the DEH Local Oversight Program for tank release cases, the DEH Voluntary Assistance Program for non-tank release cases, the RWQCB for non-tank cases involving groundwater contamination) will be selected based on the nature of the contamination identified. The contamination remediation and removal activities will be conducted in accordance with pertinent regulatory guidelines, under the oversight of the appropriate regulatory agency.

4.6.3.5 ISSUE 5 – HAZARDS FROM NEARBY AIRPORTS

Hazards and Hazardous Materials Issue 5 Summary

Would implementation of the 2004 LRDP result in an aircraft safety hazard?

**Impact:** Activities from MCAS Miramar and the Torrey Pines Gliderport pose minimal safety hazards to development on the campus.

**Mitigation:** No mitigation is required.

**Significance Before Mitigation:** Less than significant. **Significance After Mitigation:** Less than significant.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2004 LRDP may have a significant adverse impact if it would result in a safety hazard for people residing or working in the project area due to the hazards from aircraft from MCAS Miramar or the Torrey Pines Gliderport.

Impact Analysis

The campus is not located within two miles of a public airport, public use airport, or private airstrip, but it is located within approximately two miles of MCAS Miramar and is adjacent to the Torrey Pines Gliderport. As previously discussed, the DOD has established APZs which define the areas that would be more likely to be affected if an aircraft-related accident were to occur. UCSD is not located within any APZs for MCAS Miramar and, thus, implementation of the 2004 LRDP would not result in a significant aircraft safety hazard.
associated with MCAS Miramar. With regard to the Gliderport, as previously discussed, this intermittent short-term use is not a safety hazard to the campus and surrounding area because the gliders do not take-off or land over UCSD structures. Therefore, development of the campus under the 2004 LRDP is not anticipated to increase hazards. Based on the above discussions, potential impact associated with aircraft safety hazards are considered less than significant.

**Mitigation Measures**

The 2004 LRDP would have a less than significant impact on aircraft accident hazards; therefore, no mitigation measures are required.

### 4.6.3.6 ISSUE 6 – EMERGENCY RESPONSE AND EVACUATION PLANS

#### Hazards and Hazardous Materials Issue 6 Summary

<table>
<thead>
<tr>
<th>Impact:</th>
<th>2004 LRDP construction-related road closures or detours could require alternate emergency response or evacuation routes on campus.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigation:</td>
<td>Notification of emergency response providers (Haz-6A).</td>
</tr>
<tr>
<td>Significance Before Mitigation:</td>
<td>Potentially significant.</td>
</tr>
<tr>
<td>Significance After Mitigation:</td>
<td>Less than significant.</td>
</tr>
</tbody>
</table>

#### Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2004 LRDP may have a significant adverse impact if it would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

#### Impact Analysis

UCSD currently trains and equips the campus emergency response personnel to respond to hazardous materials emergencies, including a Level B hazardous materials incident; prepares or updates safety planning documents and implementing safety training upon occupying new buildings; develops Illness and Injury Prevention Plan, Laboratory Chemical Hygiene Plans, and Emergency Action Plans for all new buildings as necessary, and assigns a Building Safety Coordinator for each building. The City of San Diego Fire Department is trained and equipped to implement emergency hazardous materials intervention and control techniques. The San Diego County Agreement for Hazardous Materials Automatic Aid provides the City of San Diego and other participating agencies with adequate hazardous materials emergency response capabilities, including a Level A hazardous materials incident.

UCSD has an Emergency Management Plan which addresses planned responses, instructions, and procedures to various levels of man-made or natural emergency situations for all campus staff, students, and visitors. Multiple emergency response regions are provided throughout the campus equipped to provide necessary supplies and trained personnel in the event of an emergency.

The types of hazardous materials used by new facilities developed under the 2004 LRDP would be similar to those used by existing facilities. Although the number of hazardous materials incidents could increase, the types of incidents would be similar to those that have occurred in recent years, which have been minimal and rarely require non-UCSD assistance. Therefore, the potential impact of implementation of the 2004 LRDP resulting in an exceedence of emergency response capabilities would be less than significant.
Implementation of the 2004 LRDP could interfere with emergency response and evacuation on the campus through construction-related road closures. Under current campus procedures, multiple emergency access or evacuation routes are provided to ensure emergency response services are not impaired or interfered in the event of a temporary roadway closure and/or changes in campus traffic patterns. If determined necessary, UCSD would also initiate notification of local emergency services, including the UCSD Police Department, City of San Diego Fire Department, and appropriate ambulance services to the campus. However, these procedures are not mandated by law and, therefore, the impact from lane closures is considered potentially significant.

**Mitigation Measures**

Implementation of measure Haz-6A would reduce the potentially significant impacts associated with construction-related road closures to a less than significant level.

**Haz-6A**  
In the event that the construction of a project requires a lane or roadway closure, prior to construction the contractor and/or FD&C shall ensure that the UCSD Fire Marshal is notified. If determined necessary by the UCSD Fire Marshal, local emergency services will be notified by the Fire Marshal of the closure.

### 4.6.3.7 ISSUE 7 – WILDLAND FIRES

**Hazard and Hazardous Materials**  
Would implementation of the 2004 LRDP expose people or structures to a significant risk of loss, injury or death involving wildland fires?

**Impact:** Portions of the campus contain canyons with natural vegetation, which have minimal potential for large-scale wildland fires.

**Mitigation:** No mitigation is required.

**Significance Before Mitigation:** Less than significant.  
**Significance After Mitigation:** Less than significant.

**Standards of Significance**

Based on Appendix G of the CEQA Guidelines, implementation of the 2004 LRDP may have a significant adverse impact if it would expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

**Impact Analysis**

Additional development of the campus could expose people or structures to increased risks associated with wildland fires due to the open spaces that exist on the campus. UCSD is located in a developed coastal area and is not substantially prone to the spread of wildland fires from other areas of the County due to limited open space, milder temperature, and higher humidity than areas located east of I-805. However, in response to the fall 2003 fires that burned throughout San Diego County, UCSD formed a workgroup with the UCSD Fire Marshal and staff from the Resource Management and Planning, Auxiliary & Plant Services, Environmental Health & Safety, and Campus Planning Assistant Vice Chancellor areas. The workgroup’s charge was to assess the current conditions and recommended policies on campus. Its findings are summarized in the UCSD Campus Landscape Fire Management Report (2004). As a result of the workgroup’s efforts, it was determined that there are very few areas on campus exposed to a moderate or high life safety or property loss risk due to wildfires. The risk would be reduced at these select areas through the addition of four fire hydrants.
(located by the UCSD Fire Marshal) and brush management. In addition, new development in these areas would further reduce the risk because they would include sprinklers and improve access/egress routes for fire fighting and evacuation.

The campus Fire Marshal and staff are responsible for campus-wide fire prevention and provide services such as plan review and construction inspections of new construction as well as alterations or renovations to existing buildings and facilities in accordance with current California building and fire codes. When new development, redevelopment, or site improvements occur at UCSD, the Fire Marshal is also responsible for ensuring that adequate access is maintained on campus at all times. The UCSD Fire Marshal meets regularly with the City of San Diego Deputy Fire Chief to maintain a site plan/access plan which will adequately serve the campus. All applicable fire code and ordinance requirements for construction, access water mains, fire hydrants, fire flows, brush clearance and fuel modification plans would be fully enforced to reduce fire risk and thus reduce potential wildland fires to ensure that this impact is less than significant.

Mitigation Measures
The 2004 LRDP would have a less than significant impact on wildland fires through compliance with appropriate fire safety regulations; therefore, no mitigation measures are required.

### 4.6.4 CUMULATIVE IMPACTS AND MITIGATION

<table>
<thead>
<tr>
<th>Hazards and Hazardous Materials Cumulative Issue Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would implementation of the 2004 LRDP have a cumulatively considerable contribution to a cumulative hazards and hazardous materials impact considering past, present, and probable future projects?</td>
</tr>
<tr>
<td><strong>Cumulative Impact</strong></td>
</tr>
<tr>
<td>Regional use, transport, and disposal of hazardous materials.</td>
</tr>
<tr>
<td>Regional exposure of people to contaminated sites.</td>
</tr>
<tr>
<td>Exposure of people and structures to wildland fires.</td>
</tr>
</tbody>
</table>

The geographic context for the analysis of cumulative impacts from hazardous materials use, transport, and disposal ranges from the immediately surrounding area to the San Diego region. Some of the issues analyzed in this section are site specific and would not combine with impacts from other projects to result in cumulative impacts. Therefore, for the purposes of CEQA, the analysis provided in the preceding sections is sufficient for these issues.

### 4.6.4.1 TRANSPORT, USE, DISPOSAL, AND ACCIDENTAL RELEASE OF HAZARDOUS MATERIALS

It is anticipated that future growth in the San Diego area would result in an incremental increase in the amount of hazardous materials used, treated, transported, and disposed area-wide. Although each development site has potentially unique hazardous materials considerations, it is expected that future growth would comply with federal and state statutes and regulations applicable to hazardous materials, and would be subject to existing and future plans or programs of enforcement by the appropriate regulatory agencies. For these reasons, cumulative impacts resulting from the use, transport and disposal of hazardous materials or risk of
upset from a release of hazardous materials, would be less than significant and implementation of the 2004 LRDP would not have a cumulatively considerable contribution.

As discussed above in Sections 4.6.3.1 and 4.6.3.2, the 2004 LRDP would not result in significant public hazards as a result of hazardous materials use, transport or disposal, or as a result or accidental release of hazardous materials. While the UCSD campus would continue using varying amounts and types of hazardous materials in day-to-day activities and operations, the campus would also continue to implement existing campus health and safety practices and comply with federal and state regulations to minimize the potential for adverse health effects related to hazardous materials use. As required by federal, state, and campus policy, particulate-borne air emissions such as bacteria, viruses, and some radioisotopes would continue to be controlled by efficient filtrations. Consequently, the contribution of the 2004 LRDP to cumulative impacts would not be cumulatively considerable.

Cumulative effects of hazardous waste disposal and the geographic area of impact vary based upon the type of waste in question. Non-radioactive hazardous waste materials are disposed of into permitted hazardous waste facilities, and radioactive waste is decayed onsite or disposed of in facilities that specifically approved for radioactive waste. Cumulative impacts associated with the generation of solid waste are evaluated in Section 4.14, Utilities, Service Systems, and Energy. Disposal facilities accepting radioactive hazardous waste are currently available, and it is likely that some will be available in the future or alternative means of disposal would be required in order to comply with the law. In addition, UCSD has the capacity to decay all radioactive waste with less than 110 days half-life. Therefore, cumulative impacts for non-radioactive and radioactive hazardous waste would be less than significant and implementation of the 2004 LRDP would not have a cumulatively considerable contribution.

It is possible that future development in the City of San Diego would involve significant renovation and demolition activities, which would potentially subject construction workers to health and safety risks through exposure to hazardous materials, although the individual workers potentially affected would vary from project to project. It is anticipated that future development projects would adhere to the applicable requirements that regulate worker safety and exposure. As a result, cumulative impacts would be less than significant. UCSD would continue to adhere to these applicable regulations, as well as established campus programs and practices. As a result, the 2004 LRDP’s contribution to cumulative impacts associated with potential exposure of construction workers to hazardous materials would not be cumulatively considerable.

4.6.4.2 HAZARDS TO NEARBY SCHOOLS

Future development in the City of San Diego may also involve hazardous emissions or the handling of acutely hazardous materials, substances, or wastes within one-quarter mile of an existing or proposed school. It is anticipated that future development would comply with applicable laws and regulations pertaining to hazardous wastes, and that risks associated with hazardous emissions or materials to existing or proposed schools located within one-quarter mile of future development would be eliminated or reduced through proper handling, disposal practices, and/or clean-up procedures. Therefore, cumulative impacts on schools associated with hazardous emissions or handling of hazardous materials would be less than significant. Under the 2004 LRDP, UCSD would continue to comply with applicable hazardous materials and disclosure requirements for the handling, use, storage and disposal of hazardous materials. Furthermore, the materials would not be anticipated to occur in quantities significant enough to pose a risk to occupants of nearby schools or the campus community. Therefore, the 2004 LRDP contribution to cumulative impacts associated with hazardous emissions or handling of hazardous materials within a quarter mile of an existing or proposed school would not be cumulatively considerable.
4.6.4.3 LISTED HAZARDOUS MATERIALS SITES

Future development in the City of San Diego would potentially expose residents and construction workers to contaminated soil or groundwater, including on or near sites included on a list of hazardous materials sites compiled pursuant to government code Section 65962.5. Development projects would adhere to the applicable law and regulations that govern underground storage tanks and pesticide use, as well as requirements applicable to disposal and cleanup of contaminants. In addition, it is anticipated that risk associated with identified hazardous materials sites would be eliminated or reduced through proper handling, disposal practices, and/or clean-up procedures. Pursuant to law, most sites affected by hazardous materials cannot be developed unless adequate clean-up or treatment is achieved. Therefore, cumulative impacts on the public or environment associated with development on or near hazardous materials sites would be less than significant. As discussed in Section 4.6.3.4, development under the 2004 LRDP would potentially pose a risk to construction workers from known and unknown on-campus hazardous materials sites, including a historic burn ash site and storage tanks from the former Camp Callan. Mitigation measures Haz-4A, -4B, and -4C would be implemented to reduce this impact to a less than significant level. As a result, the 2004 LRDP’s contribution to cumulative impacts associated with exposure to contaminated soil or groundwater, including development on or near hazardous materials sites, would not be cumulatively considerable.

4.6.4.4 HAZARDS FROM NEARBY AIRPORTS

Future development in the City of San Diego in the communities near UCSD (e.g., University City, Torrey Pines, Sorrento Mesa, etc.) will also be located in the vicinity of MCAS Miramar. The risk posed to each future development project is based on location, and is therefore unique. It is also likely that such risk would be a factor in any decision to approval or deny future development proposals. All land uses that may be impacted by MCAS Miramar are reviewed and regulated through the Miramar Comprehensive Land Use Plan, the City of San Diego, and the San Diego Regional Airport Authority. As a result, cumulative risks to future development associated with proximity to MCAS Miramar would not be cumulative considerable. The UCSD campus is in the vicinity of the Torrey Pines Gliderport, however, this intermittent short-term use is not a safety hazard to the campus and surrounding area. Therefore, the 2004 LRDP’s contribution to cumulative impacts associated with development located in the vicinity of MCAS Miramar and the Torrey Pines Gliderport would not be cumulatively considerable.

4.6.4.5 EMERGENCY RESPONSE AND EVACUATION PLANS

Construction and operation associated with future development in the City of San Diego could result in activities that could interfere with adopted emergency response or evacuation plans, such as temporary construction barricades or other obstructions that could impede emergency access. It is anticipated that future development projects would undergo CEQA review of potential impacts on adopted emergency response or evacuation plans, and would be required to implement measures necessary to mitigate potential impacts. As a result, cumulative impacts related to interference with adopted emergency response or evacuation plans would be less than significant. UCSD has an adopted Emergency Management Plan which addresses planned responses, instructions, and procedures to various levels of man-made or natural emergency situations for all campus staff, students, and visitors. In addition, under current campus procedures, multiple emergency access or evacuation routes are provided to ensure emergency response services are not impaired or interfered with in the event of a temporary roadway closure and/or changes in campus traffic patterns. Therefore, the 2004 LRDP’s contribution to cumulative impacts associated with interference with adopted emergency response or evacuation plans would not be cumulatively considerable.
4.6.4.6 **WILDLAND FIRES**

A significant risk of wildland fires currently exists in the City of San Diego, as evident by the October 2003 Cedar fire. Although the City has developed policies to manage the fire risk, existing and future residents and structures will continue to be at risk. However, implementation of the 2004 LRDP will not contribute to the risk of wildland fires because it will not result in an increase in areas prone to wildfires or create a new development edge near a wildfires prone area. Therefore, the 2004 LRDP’s contribution to the regional cumulative impact is not cumulatively considerable.

4.6.5 **CEQA CHECKLIST ITEMS ADEQUATELY ADDRESSED IN INITIAL STUDY**

The 2004 LRDP Initial Study indicated that all checklist items related to hazards and hazardous materials should be evaluated in the EIR.

4.6.6 **REFERENCES**


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