Naval Facilities Engineering Systems Command Southwest
San Diego, CA

Final

Oil and Hazardous Substance Integrated Contingency Plan
Volume I

Marine Corps Air Station Miramar

June 2022

Naval Facilities Engineering Systems Command

Naval Facilities Engineering Systems Command Southwest
San Diego, CA

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Oil and Hazardous Substance Integrated Contingency Plan Volume I

Marine Corps Air Station Miramar
June 2022
DCN: MMEC-2405-7230-0004

Prepared for:
United States Department of the Navy
Naval Facilities Engineering Systems Command Southwest
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San Diego, CA 92132-0058

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Contract N62473-16-D-2405; Task Order No. N6247321F5230

Multi-Media Environmental Compliance Group

OIL AND HAZARDOUS SUBSTANCE INTEGRATED CONTINGENCY PLAN MARINE CORPS AIR STATION MIRAMAR

Management Approval

Facility Name and Location: Marine Corps Air Station (MCAS) Miramar
Miramar Road
San Diego, California 92145 – 2001

By signature below, the Management and the Designated Accountable Persons approve this Oil and Hazardous Substance (OHS) Integrated Contingency Plan (ICP), have the authority to commit the necessary resources to implement this OHS ICP, and acknowledge that the elements identified within this OHS ICP will be implemented.

This OHS ICP was prepared for MCAS Miramar in accordance with good engineering practices. The OHS ICP contains an SPCC Plan in accordance with 40 Code of Federal Regulations (CFR) 112.7, and a Facility Response Plan in accordance with 40 CFR 112.10. The OHS ICP will be reviewed and evaluated at least once every five years.

This page may be used for the initial Management Approval or for subsequent change of management and/or change of designated person accountable.

The United States Department of the Navy is committed to the prevention of discharges of oil and hazardous substances to navigable waters and the environment, and maintains the highest standards for spill prevention and response through regular review, update, and implementation of this OHS ICP for MCAS Miramar. The OHS ICP has the full approval of the MCAS Miramar management at a level with authority to commit the necessary resources.

Signature: Jacob Cook

Title: United States Marine Corps
Environmental Management Department

Date: 06 APR 23

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OIL AND HAZARDOUS SUBSTANCE
INTEGRATED CONTINGENCY PLAN
MARINE CORPS AIR STATION MIRAMAR

Management Approval

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Signature: ______________________________________

Title: United States Marine Corps
Environmental Management Department

Date: ______________________________________

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Professional Engineer Certification [40 CFR 112.3(d)]

I hereby certify that I or my agent have visited and examined the MCAS Miramar, San Diego, California, and being familiar with the provisions of 40 Code of Federal Regulations Part 112, attest that this Spill Prevention, Control, and Countermeasure Plan has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, that procedures for required inspections have been established, and that this SPCC Plan is considered adequate for the Facility.

This certification does not relieve the owner or operator of the MCAS Miramar of his/her duty to prepare and fully implement this SPCC Plan in accordance with the requirements of 40 CFR 112. This SPCC Plan is valid only to the extent that the MCAS Miramar owner or operator maintains, tests, and inspects equipment, containment, and other devices as prescribed in this SPCC Plan.

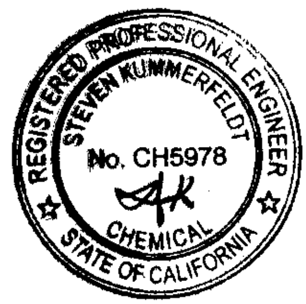
Engineer: **Steven Kummerfeldt PE**

Signature: ______________________

Registration Number: **CH 5978**

State: **California**

Date: June 20, 2022



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Facility Response Plan Information

Facility Name: Marine Corps Air Station (MCAS) Miramar

Facility Address: Miramar Road, San Diego, California 92145-2001

Facility Phone Number: (858) 577-1623

Mailing Address (if different from Facility address): P.O. Box 452001, San Diego, California 92145-2001

Facility Owner/Operator and Address: United States Marine Corps, MCAS, San Diego, California 92145-2001

Facility Owner Telephone: (858) 577-1623

Dun and Bradstreet Number: Not applicable

Longitude: 117°08’11.73”W

Latitude: 32°52’32.51”N

North American Industrial Classification System Code: 928110 – National Security

Facility Start Up Date: 1946. MCAS Miramar operations began in 1979.

Facility Acres: 24,000

Name of Protected Waterway or Environmentally Sensitive Area:
Rose Canyon/Rose Creek

Facility Distance to Navigable Waters:

0 – ¼ mile ¼ - ½ mile ___ ½ - 1 mile ___ >1 mile _X_

Worst Case Discharge Amount: 1,641,539 gallons

Maximum Oil Storage Capacity: 5,709,573 gallons

Largest Oil Aboveground Storage Tank (AST) Capacity: 1,641,539 gallons

Total Number of ASTs that contain Oil: 162

Total AST Oil Storage: 5,314,892 gallons

Total Number of Drums and Transformers that contain Oil:

235 drums (13,081 gallons total) and 164 transformers (>36,000 gallons total)

Total Number of Underground Storage Tanks (USTs) that contain Oil: 17

Total UST Oil Storage: 345,600 gallons

Number of Surface Impoundments and Total Storage of Surface Impoundments: 0

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Certification of the Applicability of the Substantial Harm Criteria [Reference 40 CFR 112, Appendix C, Attachment C-II]

FACILITY NAME: Marine Corps Air Station, Miramar, California

FACILITY ADDRESS: Miramar Road, San Diego, CA 92145-2001

1. Does the facility transfer oil over water to or from vessels **and** does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes ________ No ___X_____

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons **and** does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes ________ No ___X_____

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons **and** is the facility located at a distance (calculated using the appropriate formula in Attachment C-III Appendix C, 40 CFR 112 or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to Department of Commerce/National Oceanic and Atmospheric Administration (DOC/NOAA's) "Guidance for Facility and Vessel Response Plans" (section 10, Appendix E, 40 CFR Part 112 for availability) and the applicable Area SPCC Plan.

Yes ___X_____ No _________

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons **and** is the facility located at a distance (calculated using the appropriate formula (Attachment C-III, Appendix C, 40 CFR 112 or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?

Yes ________ No ___X_____

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons **and** has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes ________ No ___X_____

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

______________________________ ______________________________

Name (please type or print) Signature

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Tables

Acronyms and Abbreviations

§ .... Section

ACP .... Area Contingency Plan
AFFF .... aqueous film-forming foam
API .... American Petroleum Institute
APSA .... Aboveground Petroleum Storage Act
ARFF .... Aircraft Rescue and Fire Fighting
AST .... aboveground storage tank
ATG .... automatic tank gauging
AUL .... Authorized Use List

BMC .... Branch Medical Clinic
BPA .... Blanket Purchase Agreement

Cal OES .... California Governor's Office of Emergency Services
CCR .... California Code of Regulations
CDO .... Command Duty Officer
CERCLA .... Comprehensive Environmental Response, Compensation, and Liability Act
CETEP .... Comprehensive Environmental Training and Education Program
CFR .... Code of Federal Regulations
CNRSW .... Commander, Navy Region Southwest
CO .... Commanding Officer
CRDM .... continuous release detection method
CUPA .... Certified Unified Program Agency
CWA .... Clean Water Act

DEHQ .... County of San Diego Department of Environmental Health and Quality
DOT .... United States Department of Transportation
DTSC .... California Department of Toxic Substances Control

ECC .... Environmental Compliance Coordinator
EHS .... extremely hazardous substance
EMD .... Environmental Management Department
EOC .... Emergency Operations Center
EPA .... United States Environmental Protection Agency
EPCRA .... Emergency Planning and Community Right-to-Know Act
ERAP .... Emergency Response Action Plan

Acronyms and Abbreviations (continued)

Facility .... Marine Corps Air Station Miramar
FCC .... Federal Communications Commission
FIC .... Facility Incident Commander
FIFRA .... Federal Insecticide, Fungicide, and Rodenticide Act
FLC .... Fleet Logistics Center
FOSC .... Federal On-Scene Coordinator
FR .... Federal Register
FRC .... flatrack refueling capability
FRP .... Facility Response Plan

gpm .... gallon(s) per minute
GSA .... United States General Service Administration

HAZMAT .... hazardous materials
HAZWOPER .... Hazardous Waste Operations and Emergency Response
HDPE .... high-density polyethylene
HIRT .... Hazardous Incident Response Team
IC .... Incident Commander
ICP .... Integrated Contingency Plan
ICS .... Incident Command System
I&L .... Installation and Logistics

JP-5 .... jet propellant grade 5

KMEP .... Kinder Morgan Energy Partners LP
KVA .... kilovolt-amp(s)

Marine Corps .... United States Marine Corps
MCAS .... Marine Corps Air Station
MCCS .... Marine Corps Community Services
MCO .... Marine Corps Order
MFD .... MCAS Miramar Fire Department
MOS .... Military Occupational Specialty

NACE .... National Association of Corrosion Engineers
NAVFAC SW .... Naval Facilities Engineering Systems Command Southwest Division
Navy .... United States Department of the Navy

Acronyms and Abbreviations (continued)

NCP........................National Oil and Hazardous Substance Pollution Contingency Plan
NFPA..National Fire Protection Association
NOAA ....National Oceanic and Atmospheric Administration
NOSC .... Navy On-Scene Coordinator
NRC .... National Response Center

OFOE ....oil-filled operating equipment
OHS ....oil and hazardous substance
OPA 90..Oil Pollution Act of 1990
OSHA .... Occupational Safety and Health Administration
OWCN ....Oiled Wildlife Care Network
OWS...oil/water separator

PCB ....polychlorinated biphenyl
PE .... Professional Engineer
PFOA .... perfluorooctanoic acid
PFOS ....perfluorooctanesulfonic acid
PMO ....Provost Marshal's Office
POL .... petroleum, oil, and lubricant
PPE .... personal protective equipment
PREP .... Preparedness for Response Exercise Program
PWD ....Public Works Department

QI ....Qualified Individual

RCRA ....Resource Conservation and Recovery Act
RQ..reportable quantity

SAA ....satellite accumulation area
SARA .... Superfund Amendment and Reauthorization Act
SCADA ....Supervisory Control and Data Acquisition
SDAPCD ....San Diego Air Pollution Control District
SDRWQCB............ California Regional Water Quality Control Board, San Diego Region
SDS .... Safety Data Sheet
SOP .... standard operating procedure
SPCC ....spill prevention, control, and countermeasure
SPCC GRI .... SPCC Guidance for Regional Inspectors, EPA (2013 edition)
STI...Steel Tank Institute

Acronyms and Abbreviations (continued)

SWPPP .... Storm Water Pollution Prevention Plan

TIUGA .... tank inside an underground area
TSDF .... Treatment, Storage, and Disposal Facility

USCG .... United States Coast Guard
UST .... underground storage tank

WCD .... worst-case discharge

XO .... Executive Officer

INTRODUCTION AND BACKGROUND INFORMATION

1.0 Introduction

This Oil and Hazardous Substance (OHS) Integrated Contingency Plan (ICP) is an operational, single-source document for the management of oil and hazardous substances at the Marine Corps Air Station (MCAS) Miramar in San Diego, California. The OHS ICP is designed to meet the combined regulatory requirements for a United States Environmental Protection Agency (EPA) Spill Prevention, Control, and Countermeasure (SPCC) Plan and a Facility Response Plan (FRP). In addition, the MCAS Miramar Emergency Response Action Plan (ERAP) is a separate plan that addresses emergency planning, notification, and spill response actions directed by the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Emergency Planning and Community Right-to-Know Act (EPCRA), and Occupational Safety and Health Administration (OSHA) regulations.

A copy of the OHS ICP is maintained at MCAS Miramar and is available to the EPA Regional Administrator or to the local Certified Unified Program Agency (CUPA) representative for onsite review during normal working hours.

1.1 Background

The United States Department of the Navy (Navy) and MCAS Miramar are concerned about the impact that day-to-day operations may have on the environment. Pollution caused by OHS spills may have adverse effects on the environment if proper steps are not taken to prevent, contain, and respond effectively to such incidents in a timely and efficient manner. MCAS Miramar is dedicated to the prevention of OHS spills. It is the policy and intent of this facility to minimize the discharge or release of OHS from storage tanks, pipelines, transfer systems, and equipment, and to provide efficient and prompt containment and cleanup procedures if a spill or release occurs.

On June 5, 1996, the National Response Team issued a Federal Register Notice on ICP Guidance (61 FR 28642). It intended to provide a mechanism for consolidating multiple plans that facilities prepare to comply with various regulations into one functional emergency response plan or ICP. The OHS ICP is consistent with the National Oil and Hazardous Substance Pollution Contingency Plan (NCP) and the San Diego Area Contingency Plan (ACP).

A number of federal and state agencies have regulations pertaining to emergency response requirements for OHS storage and transfer facilities. The MCAS Miramar OHS ICP was developed to address the issues of spill prevention, discharge containment and cleanup, and emergency response actions. The OHS ICP combines all the federal regulatory requirements regarding the development of response plans into a single document that relate specifically to SPCC and FRP requirements.

The OHS ICP provides an in-depth response plan that addresses all aspects of an OHS spill response, including organization, assessment, containment, cleanup, additional resources, training, preventive maintenance, and other required items. The OHS ICP provides essential guidance in conducting federal, state, local, and Navy notification and reporting requirements.

1.2 Plan Organization

The MCAS Miramar OHS ICP has been developed to address a Facility-wide strategy for prevention, response, control, and reporting of OHS spills. The OHS ICP is organized into three volumes. Volume I contains three separate sections, Introduction and Background Information, SPCC Plan, and FRP. Volume II contains detailed information on the aboveground storage tanks (ASTs), emergency generators with base tanks, portable drums and containers, and mobile bulk storage tanks at MCAS Miramar that store 55 gallons or more of oil. Volume III contains detailed information on oil-filled electrical equipment (i.e., transformers) at MCAS Miramar that store 55 gallons or more of oil.

Volume I of the OHS ICP is organized as follows:

- **Introduction and Background Information**. This section contains background and facility information that is common to the SPCC Plan and FRP.
  - Section 1.0 provides background information, plan organization, definitions, amendments to the plan, and a regulation cross-reference table.
  - Section 2.0 presents a general description of MCAS Miramar, including a summary of the primary areas with significant oil spill potential.
  - Section 3.0 describes the roles and responsibilities of key personnel involved with implementing the OHS ICP and executing spill prevention, response, control, and reporting activities.

- **SPCC Plan**. MCAS Miramar is covered by the SPCC rule (40 Code of Federal Regulations [CFR] Part 112) because it has an aggregate aboveground oil storage capacity of more than 1,320 United States gallons, and there is a reasonable expectation of an oil discharge into or upon navigable waters. Combined with the introductory sections, the SPCC Plan describes oil handling operations, spill prevention practices, discharge or drainage controls, and the personnel, equipment, and resources at MCAS Miramar that are used to prevent oil spills from reaching navigable waters.
- **FRP**. MCAS Miramar has a potential to cause an oil discharge that could reasonably be expected to cause substantial harm to the environment. Regulations under 40 CFR 112.20 require preparation of an FRP and submission of the document to the respective EPA region. The FRP is a plan for responding to a worst-case discharge (WCD) of oil and to a substantial threat of such a discharge. The FRP also includes plans for responding to small and medium oil discharges, as appropriate.

1.3 Definitions

The following definitions are used in the OHS ICP:

Aboveground Storage Tank (AST). Any stationary tank that is not entirely covered with earth or other material, normally located above grade, or any tank that can be inspected inside a subterranean vault.

Area Contingency Plan (ACP). Plans required by the Oil Pollution Act of 1990 and Executive Order 12777 that are developed in accordance with the National Response Policy. The policy also requires that a predesignated Federal On-Scene Coordinator (FOSC) be assigned to ensure effective and immediate removal of a discharge of OHS. The United States Coast Guard (USCG) is the designated FOSC for the coastal zones of the United States, and EPA is the designated FOSC for the inland zone.

EPA Region IX, located in San Francisco, California, is responsible for preparing the ACP for the inland region of California and providing spill response personnel to accomplish the duties of the FOSC in the event of an OHS discharge. MCAS Miramar is located in the inland region and operates within the guidelines of the EPA Region IX Mainland Oil and Hazardous Substance Pollution Contingency Plan.

Barrel. 42 United States gallons at 60 degrees Fahrenheit (°F).

Blanket Purchase Agreement (BPA) Hazardous Materials (HAZMAT) Contractor. A commercial emergency response contractor that can respond to spills and perform spill containment. A HAZMAT contractor normally completes major cleanup activities at MCAS Miramar.

Bulk Storage Container. Any container, with a capacity of at least 55 gallons, used to store oil used for purposes, including, but not limited to, storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container (40 CFR 112.2).

Bunkered Tank. A container that is placed in the ground and breaks the natural grade, lies above grade, and is covered with earth or other material. A bunkered tank is considered an AST**.**

Completely Buried Tank. Any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered ASTs for the purposes of 40 CFR 112.2.

Discharge. Includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping of oil, but excludes discharges in compliance with a permit under Section 402 of the Clean Water Act (CWA) or Section 13 of the River and Harbor Act of 1899 (40 CFR 112.2).

Emergency Response Action Plan (ERAP). The ERAP provides the necessary information for MCAS Miramar and emergency personnel to respond to and contain an OHS spill or release. The ERAP is the primary reference used by the spill discoverer and spill response personnel during an actual OHS spill, discharge, or emergency. The ERAP provides in-depth information on spill response, notification, organization, duties, containment, cleanup, and disposal procedures. The ERAP supports the MCAS Miramar OHS SPCC Plan and FRP.

Environmentally Sensitive Area. An area of environmental importance that is in or adjacent to navigable waters. May also include areas that contain endangered or threatened plant and/or animal species.

Facility. Any mobile or fixed onshore or offshore building, structure, installation, equipment, pipe or pipeline used in oil storage, oil processing, oil transfer, oil distribution, and waste treatment, or in which oil is used. The boundaries of a facility depend on several site-specific factors, including, but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and the types of activity at the site (40 CFR 112.2).

Fish and Wildlife Sensitive Environments. Areas identified by their legal designation or by evaluations of area committees (for planning) or members of the FOSC spill response structure during OHS responses. These areas include wetlands, national and state parks, critical habitats for endangered or threatened species, wilderness and natural resource areas, marine sanctuaries and estuarine reserves, conservation areas, preserves, wildlife areas, wildlife refuges, wild and scenic rivers, recreational areas, national forests, federal and state lands that are research national areas, heritage program areas, land trust areas, and historical and archaeological sites and parks. These areas may include unique habitats such as aquaculture sites and agricultural surface water intakes, bird nesting areas, critical biological resources areas, designated migratory routes, and designated seasonal habitats (40 CFR 112.2).

Hazardous Material. Any material that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may pose a substantial hazard to human health or to the environment. Includes substances listed in 49 CFR 172.101 or 40 CFR 302.4, including untreated sewage, petroleum products, and by-products.

Hazardous Substance. A hazardous material or waste designated as hazardous under Section 10 of CERCLA, as identified in 40 CFR 117.

Hazardous Material Release. The spilling, releasing, discharging, placing, percolating, draining, pumping, leaking, seeping, emitting, disposing of, bypassing, or other escaping of a hazardous material into the air, water, subsurface water, or onto the ground.

Hazardous Waste. Any solid, liquid, semisolid, or contained gaseous material designated as waste for disposal and identified in 40 CFR, Part 261.

Major or Emergency Spill. Any unplanned release or condition resulting from an accidental or intentional spill, or accumulation of an oil, hazardous materials, or hazardous waste in concentrations or quantities sufficient to pose a substantial, actual, or potential hazard to human health, property, or the environment. An emergency spill would also include any quantity of an oil, hazardous material, or hazardous waste entering a storm drain. Cleanup and recovery are normally beyond the capability of the site personnel.

Mechanical Removal. The use of pumps, skimmers, booms, earthmoving equipment, and other mechanical devices to contain the discharge of oil and to recover the discharge from the water or adjoining shorelines.

Medium Discharge. A discharge from 2,100 to 36,000 gallons, or 10 percent of the WCD, whichever is less.

Minor or Operational Spill. Any unplanned release or condition resulting from an accidental or intentional spill, or accumulation of an oil, hazardous materials, or hazardous waste in low concentrations or small quantities that do not pose a threat to human health, property, or the environment and can be safely mitigated by the facility.

National Oil and Hazardous Substance Pollution Contingency Plan (NCP). The National Oil and Hazardous Substance Pollution Contingency Plan (40 CFR 300), which provides the legal framework for federal government OHS pollution contingency planning and response.

National Response Center (NRC). A 24-hour OHS spill notification center located at USCG headquarters in Washington, DC. The NRC serves as the single federal notification point for OHS spills.

Natural Resource Damage Assessment. The process by which trustees determine whether a resource has been injured and the loss associated with that injury, in order to effect restoration.

Navigable Waters. The waters of the United States, including the territorial seas. The term includes the following:

- All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;
- All interstate waters, including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce, including any such waters:
    - That are or could be used by interstate or foreign travelers for recreational or other purposes;
    - From which fish or shellfish are or could be taken and sold in interstate or foreign commerce;
    - That are used or could be used for industrial purposes by industries in interstate commerce;
- All impoundments of waters otherwise defined as waters of the United States;
- Tributaries of waters;

- The territorial sea; and
- Wetlands adjacent to waters (other than waters that are themselves wetlands).

Non-Petroleum Oil. Oil of any kind that is not petroleum-based, including, but not limited to, fats, oils, greases of animal, fish, or marine mammal origin, and vegetable oils, including oils from seeds, nuts, fruits, and kernels.

Oil. Oil of any kind or in any form, including, but not limited to, fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and other oils and greases, including petroleum (gasoline, jet fuel, and diesel), fuel oil, hydraulic oil, lube oil, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.

Onshore Facility. Any facility of any kind located in, on, or under any land within the United States, other than submerged lands.

Operator. The person who owns, leases, operates, controls, or is responsible for the operation of the equipment. The Navy is the formal owner and operator of the oil storage equipment at MCAS Miramar.

Owner. Any person who has legal or equitable title to a facility.

Partially Buried Tank. A storage container partially inserted or constructed in the ground, but not entirely below grade, and not completely covered with earth or other material. A partially buried tank is considered to be an AST.

Permanently Closed. Any container or AST for which (1) all liquid and sludge has been removed from the container or AST and connecting lines; and (2) all connecting lines and piping have been disconnected from the container or AST and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on the container or AST stating that it is a permanently closed container or AST and noting the date of closure.

Petroleum Oil. Petroleum in any form, including, but not limited to, crude oil, fuel oil, mineral oil, sludge, oil refuse, and refined product.

Pipeline. All parts of an onshore pipeline facility through which oil moves, including, but not limited to, line pipe, valves, and other appurtenances connected to line pipes, pumping units, fabricated assemblies associated with pumping units, metering and delivery stations, fabricated assemblies, and breakout tanks.

Release or Spill. Synonymous terms as defined by Section 101 (22) of CERCLA, relating to the intentional or accidental spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of a hazardous substance into the environment.

Reportable Quantity (RQ). The RQ means the quantity of a hazardous substance release that requires federal regulatory notification. The RQ for a hazardous substance in pounds or kilograms is listed in *Table 302.4 – List of Hazardous Substances and Reportable Quantities* in 40 CFR 302.4. For an extremely hazardous substance (EHS) under EPCRA, the RQ is listed in Appendix A or Appendix B in 40 CFR 355.

Response Activities. The containment and removal of oil from the land, water, and shorelines, the temporary storage and disposal of recovered oil, or the taking of other actions as necessary to minimize or mitigate damage to the public health or welfare of the environment.

Responsible Party. The organization responsible for the operation, area, or equipment that caused the spill.

Safety Data Sheet (SDS). A compilation of information required under the Occupational Safety and Health Administration Hazard Communication Standard on the identity of hazardous chemicals, health and physical hazards, exposure limits, and precautions. The Federal Hazard Communication Standard is cited in 29 CFR 1910.1200.

Secondary Containment. Containment that prevents any materials spilled or leaked from reaching the land or water outside the containment area before cleanup occurs.

Small Discharge. Any discharge volume less than or equal to 2,100 gallons, but not to exceed the calculated WCD.

SPCC Plan. Document required by 40 CFR Part 112.3 that details the equipment, manpower, procedures, and steps to prevent, control, and provide adequate countermeasures to an oil spill; a written description of the facility’s compliance with 40 CFR Part 112.

Spill Event. A discharge or release of oil or a hazardous substance.

Storage Capacity. The shell capacity of a tank or container, whether the tank or container is partially or fully filled with oil or a mixture of oil and other substances.

Underground Storage Tank (UST). Any tank completely covered with earth or other material. Tanks in subterranean vaults, bunkered tanks, or partially buried tanks are considered ASTs.

Vegetable Oil. A non-petroleum oil or fat of vegetable origin, including, but not limited to, oils and fats derived from plant seeds, nuts, fruits, and kernels.

Waste Oil. Oil that has been changed markedly from its original specifications or contaminated, thereby becoming unsuitable for further use as an original lubricant and cannot be recycled.

Worst-Case Discharge (WCD). The largest foreseeable discharge in adverse weather conditions for an onshore non-transportation-related facility. The WCD is considered under the FRP.

1.4 Amendments to Plan

At least once every 5 years after its implementation, the OHS ICP is reviewed and evaluated. The OHS ICP is amended within 6 months of the review to include more effective spill prevention and control technology if (1) such technology significantly reduces the likelihood of a discharge as described in 40 CFR 112.1(b) from MCAS Miramar, and (2) such technology has been field-proven at the time of review.

The OHS ICP is also amended within 6 months whenever a significant change occurs in design, construction, operation, or maintenance that materially affects the potential of MCAS Miramar for a discharge of oil into or near waterways or their tributaries. A common example would be the installation or removal of an OHS AST. Amendments are incorporated in the OHS ICP within 6 months of any change to the OHS ICP or alteration at MCAS Miramar. Technical amendments are certified and stamped by a registered Professional Engineer. Amendments are fully implemented as soon as possible, but no later than 6 months after such change occurs. Documentation of the each OHS ICP revision or amendment is provided in Table 1.

1.5 Regulation Cross-Reference

A cross-reference to the regulations under 40 CFR 112 to each respective section of the OHS ICP is provided in Table 2.

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2.0 Site Description

This section presents a description of MCAS Miramar (i.e., Facility), its location and geographic setting, a summary of areas with significant oil spill potential, the total Facility oil storage capacity, possible spill migration pathways, and spill history.

2.1 Facility Description

MCAS Miramar is located in the city of San Diego, California, approximately 13 miles north of the downtown area, as shown on Figure 1. It is bordered by the communities of Mira Mesa and Scripps Ranch to the north, University City and Claremont to the west, Kearny Mesa and Tierrasanta to the south, and unincorporated rural areas to the east.

The primary mission of MCAS Miramar is to maintain and operate United States Marine Corps (Marine Corps) facilities and provide services and materials to support operations of Marine Corps aircraft units designated by the Commandant of the Marine Corps in coordination with the Chief of Naval Operations. It is the home to the 3rd Marine Aircraft Wing, which is the aviation element of the 1st Marine Expeditionary Force.

The summers at MCAS Miramar are short, warm, arid, and clear and the winters are long, cool, and partly cloudy. Over the course of the year, the temperature typically varies from 46 to 82°F and is rarely below 39°F or above 91°F. Precipitation is bi-seasonal and sporadic, occurring as fall and winter showers. MCAS Miramar receives an average annual precipitation of only 8.7 inches. The coordinates for the Facility are 32° 52’ 32.51” North latitude and 117° 08’ 11.73” West longitude.

2.2 Oil and Hazardous Substance Storage Areas

MCAS Miramar currently has several facilities that store or use OHS, or generate hazardous waste. OHS most commonly used at the Facility include paints, aerosols (i.e., paint, primer, and adhesives), cleaning solvents; petroleum, oil, and lubricants (POLs) such as engine oil, lube oil, grease, brake fluid, and hydraulic fluid; corrosives (i.e., batteries, acids, and bases); and fuels (i.e., gasoline, diesel, and jet propellant grade 5 [JP-5] jet fuel). Hazardous wastes include used oil and fuels, solvents, and solids (i.e., oily rags, pads, batteries, and POL containers).

The Facility is equipped with both ASTs and USTs, which store petroleum products used for equipment testing, emergency generator support, and vehicle and aircraft fueling. The Facility also has aboveground and underground oil/water separators (OWSs) to remove oil from industrial wastewater and storm water streams prior to discharge to the sanitary sewer system or the environment. In addition, the Facility has used cooking oil containers and electrical transformers that contain at least 55 gallons of oil.

Relatively small quantities of OHS are normally stored in hazardous material storage lockers outside MCAS Miramar buildings or within flammable liquid storage cabinets both inside and outside the buildings. OHS stored in larger bulk quantities (e.g., more than 55 gallons) are normally contained in the ASTs and USTs at the Facility.

Authorized users of OHS at MCAS Miramar have access to Building 8672, the Satellite Consolidated Hazardous Materials Reutilization and Inventory Management Program Center, which provides a centralized storage location for hazardous materials on MCAS Miramar. Limited quantities of hazardous materials that appear on a site's Authorized Use List (AUL) may be checked out from Building 8672 by a Marine Corps unit.

Several sites at the Facility generate small volumes of hazardous waste, including used oil and fuels, solvents, and solids (i.e., oily rags, pads, batteries, and POL containers). These wastes may be kept in exterior waste storage lockers, or in designated Hazardous Waste Accumulation Areas with bermed secondary containment for spill protection. Typically, hazardous waste is picked up regularly and volumes do not exceed the storage area's design capacity.

Complete site descriptions of the oil storage areas in MCAS Miramar, including photographs and facility maps, are provided in Volume II of this OHS SPCC Plan. The locations of the oil storage areas at MCAS Miramar are described in Figure 2.

2.2.1 Aboveground Storage Tanks

The Facility currently operates several ASTs including the following:

- ASTs containing diesel fuel for fueling emergency generators, government vehicles, lawn maintenance equipment, boilers, and emergency fire water pumps;
- ASTs containing JP-5 jet fuel for military aircraft operations and engine testing;
- ASTs containing used oil or waste cooking oil for disposal;
- ASTs containing hydraulic fluid for aircraft equipment testing and building elevator operation;
- ASTs containing salvaged JP-5 jet fuel for reuse;
- ASTs containing virgin lube oil for vehicle maintenance (grease guns) or support of engine test cell equipment;

- ASTs containing gasoline for fueling government vehicles and lawn maintenance equipment; and
- AST containing E-85 (ethanol mixture with gasoline) for vehicle fueling.

MCAS Miramar operates ASTs with capacities ranging from 66 gallons to 1.64 million gallons. A majority of the ASTs are of double-walled construction and others are of single-walled construction located within concrete bermed secondary containment structures.

The Facility operates emergency generators with diesel ASTs that provide backup power for essential Marine Corps equipment. The emergency generator engines may be mounted on top of a base tank, or they may have a separate stand-alone AST that supplies diesel fuel to a day tank or directly to the generator. With the exception of two mobile trailers, the emergency generator tanks are at fixed locations within fenced and/or masonry wall enclosures adjacent to the buildings they support. Most of the emergency generator ASTs are of double-walled construction with capacities ranging from 60 to 1,959 gallons.

MCAS Miramar also operates several portable tanks including 900-gallon six containers together (SIXCONs), 2,500-gallon flatrack refueling capability (FRC) systems, and 5,000-gallon M970s Tanker Trailers used for transporting fuel under military field conditions. In addition, the Facility operates several 600-gallon bowsers to defuel military aircraft and several tanker trucks, ranging in capacity from 1,000 to 10,000 gallons, for jet fuel delivery.

A list of current MCAS Miramar ASTs is provided in Table 3. The location of each AST at the Facility is shown in Figure 2. A detailed description of each OHS AST at the Facility is provided in the MCAS Miramar OHS ICP Volume II.

2.2.2 Underground Storage Tanks

The Facility also operates several USTs, which provide JP-5 jet fuel, diesel fuel, or gasoline to support Marine Corps and commercial vehicle fueling, United States General Service Administration (GSA) fleet vehicle fueling, and engine test cell, boiler system, and emergency generator operation. The USTs in operation at MCAS Miramar are reinforced fiberglass tanks of double-walled construction that are constantly monitored by electronic sensors to detect any leaks, ruptures, or overfills.

Current MCAS Miramar USTs are listed in Table 4. The location of each UST at the Facility is shown in Figure 2. A detailed description of each OHS UST at the Facility is provided in the MCAS Miramar UST/AST Management Plan.

2.2.3 Oil-Filled Operating Equipment

Oil-filled operating equipment (OFOE) is equipment that includes an oil storage container in which the oil is present solely to support the function of the apparatus or device. Types of OFOE include electrical equipment such as transformers, switch gears, voltage regulators, and circuit breakers, as well as hydraulic systems, lubricating systems, gear boxes, machining coolant systems, heat transfer systems, certain aviation ground support maintenance equipment, and elevator hydraulic reservoirs.

OFOE at MCAS Miramar includes hydraulic fluid ASTs to support building elevators, lubricating oil crank case ASTs inside large emergency generators, and oil-filled electrical equipment (i.e. transformers). The Facility currently operates several electrical transformers that contain 55 gallons or more of coolant oil. Each transformer is sealed and mounted on a concrete pad. Pole-mounted transformers at MCAS Miramar are either a dry-type transformer or contain less than 55 gallons of coolant oil.

Once a transformer is filled with oil, there is normally no oil replacement or transfer required. The transformer oil storage capacities ranges from 68 to 632 gallons, with power ratings ranging from 25 to 2500 kilovolt-amp (KVA). Most of the transformers are equipped with general spill containment with a below-grade blind concrete sump or concrete berm that surrounds each unit.

Table 3 lists hydraulic fluid tanks that are considered OFOE. A list of current MCAS Miramar electrical OFOE is provided in Table 5. The location of each oil-filled transformer that contains 55 gallons or more of coolant oil at the Facility is shown in Figure 3. A detailed description of each electrical OFOE that contains 55 gallons or more of coolant oil at the Facility is provided in the MCAS Miramar OHS SPCC Plan Volume III.

2.2.4 Major Pipelines

Fuel Farm Area G or the Operating Storage Facility at MCAS Miramar has three 1.6-million-gallon ASTs that provide JP-5 jet fuel to Marine Corps aircraft at the Flightline. Bulk jet fuel is delivered directly to the ASTs by a private commercial vendor, Kinder Morgan Energy Partners (KMEP), under contract to the Navy and under the supervision of the MCAS Miramar Fuels Division. The fuel is received by an 8-inch-diameter underground pipeline. This pipeline enters MCAS Miramar at the southeastern corner of the property, where it emerges aboveground at a filter/separator area. This equipment is not included in this OHS SPCC Plan because it is covered under the KMEP SPCC Plan.

Bulk JP-5 jet fuel can also supplied to MCAS Miramar through a Navy underground pipeline from the Fleet Logistics Center at Naval Base Point Loma in San Diego. In addition, MCAS Miramar receives JP-5 jet fuel from commercial or military tanker trucks.

A 12-inch-diameter, single-walled, aboveground suction pipeline from each AST connects to Building 7931, a Pump House containing six 600-gallon-per-minute (gpm) pumps. The distribution pumps transport JP-5 jet fuel into a 12-inch-diameter, single-walled, underground pipeline system to in-line fueling stations along the Flightline for direct fueling of Marine Corps fixed-wing and rotary-wing aircraft. The underground jet fuel pipelines from the Operating Storage Facility to the Flightline are shown in Figure 4.

During pipeline receipt operations from the commercial pipeline, two personnel are involved. One operator in Fuel Farm Area G opens valves, checks gauges, and inspects the transfer pipeline continuously for leaks or unusual conditions. A fuel distribution operator monitors the transfer at the Fuels Division Pump House and Operations Control Room (Building 7931). Operators at MCAS Miramar maintain communications with each other via two-way radios and with the dispatcher at the KMEP facility by telephone.

2.2.5 Drum Storage Areas

MCAS Miramar manages more than 100 55-gallon drums of OHS in various locations. These drums may contain oil and other hazardous material or waste, non-hazardous waste, cleaning compounds, and solvents. Drums are usually stored in 180-day satellite accumulation areas (SAAs), hazardous waste accumulation areas, or hazardous material storage lockers.

2.2.6 Used Cooking Oil Tanks

New cooking oil is provided to MCAS Miramar in 5- to 10-gallon containers. Used cooking oil at MCAS Miramar is typically stored in ASTs outside mess halls, commissaries, and food establishments. An inventory of the used cooking oil ASTs is included in Table 3, and their locations are shown in Figure 2. Used cooking oil tanks that are owned or operated by the Marine Corps Community Services (MCCS)-contracted food establishments (e.g., McDonald’s, Denny’s, Subway, etc.) are not included in this SPCC Plan.

Used cooking oils at MCAS Miramar are typically vegetable or animal based, and are collected and recycled by one or more contractors. Contractors service the used cooking oil containers with regularly scheduled collections based on a calculated facility usage schedule.

The used cooking oil tanks are positioned behind cooking facilities and are emptied regularly by contracted disposal trucks. The tanks are either rolled out or lifted directly by the disposal trucks, and the contents dumped into the collection compartment on the truck. Some trucks are equipped with vacuum equipment that allows the tanks to be suctioned out rather than lifted. Most tanks are stored on concrete surfaces to facilitate disposal truck access. The tanks are typically stored alongside the trash dumpsters behind the facilities.

2.2.7 Oil/Water Separators

The Facility currently operates several OWSs. The OWSs are aboveground or underground separation units located within the Facility fuel farm areas and along the Flightline.

Under federal SPCC regulations, OWSs are exempt from the regulations if they are used for wastewater treatment, and they do not contain a separate storage tank for collection of the waste oil. However, under the California Aboveground Petroleum Storage Act (APSA), aboveground wastewater treatment systems containing OWSs with a petroleum storage capacity of 55 gallons or greater are APSA-regulated ASTs. One large aboveground OWS is at the tanker truck transfer station at Fuel Farm Area G. There are also aboveground OWSs within the closed-loop wash racks at vehicle maintenance facilities at the Flightline, but their oil capacity is considered to be less than 55 gallons.

The OWSs are primarily used as general containment devices to collect potential spills originating from Marine Corps military aircraft parked on the Flightline. The OWSs discharge to the sanitary sewer or storm drains. General spill prevention procedures are followed during removal of the accumulated oil within each OWS. Additional information on OWSs is provided in the MCAS Miramar Storm Water Pollution Prevention Plan (SWPPP).

2.3 Total Facility Oil Storage

The estimated total amount of oil stored aboveground at MCAS Miramar is approximately 5.3 million gallons. The total amount of oil stored at MCAS Miramar exceeds the threshold level of 1,320 gallons to require an SPCC Plan. All oil storage containers used at the MCAS Miramar are made of materials (e.g., carbon steel) compatible with the contents of the container.

2.4 Spill Potential and History

Oil spills associated with activities at MCAS Miramar could result from personnel error from overfilling ASTs, tank or pipeline ruptures, equipment leaks, accidents at storage sites, and aircraft fuel system ruptures or leaks. As an active military facility, MCAS Miramar experiences small spills of jet fuel, generally less than 10 gallons, from the maintenance and servicing of military aircraft that are quickly isolated, contained, cleaned up, and properly disposed of.

The age of the storage tanks and transfer equipment can influence the potential for an oil spill. Storage tanks, pipeline couplings and control valves, and transfer sites have been refurbished and upgraded. The ASTs are equipped with monitoring systems and leak detection to meet the latest standards. These actions reduce the potential for a WCD at the Facility. Secondary containment has also been upgraded at many sites, thus reducing the potential for a spill to migrate from the site into the environment.

The potential for spills is highest where fuel transfer operations frequently occur. Some portion of the bulk storage and transfer systems is operated daily. Although the quantity of fuel stored in these ASTs and transferred is relatively large, the systems are well engineered and closely controlled. Direct oversight of all operations by supervisory personnel minimizes the likelihood of a discharge and increases the ability to control a spill should one occur. Secondary containment and closed drainage control valves help prevent a discharge from leaving the site, thereby reducing the potential impact. Strict adherence to safe operating procedures, combined with frequent equipment testing and inspection, further reduces the likelihood of a spill.

Past spills at MCAS Miramar have occurred mostly as a result of operator error or equipment failure, caused soil contamination, generated a hazardous waste, and resulted in a loss of usable product. Most of the spills involved small to moderate quantities that were adequately contained, cleaned up, and did not have a significant impact on the local environment.

On 9 September 2011, MCAS personnel notified local and state agencies that approximately 1,000 gallons of JP-5 jet fuel may have leaked under the Flightline parking apron north of former UST 9935 (Fuel Farm Area H) from an underground fuel supply or return pipeline from Fuel Farm Area G to Fuel Farm Area I. A Supplemental Compliance Inspection Report was issued by the County of San Diego Department of Environmental Health and Quality (DEHQ) that required an update of the OHS SPCC Plan.

2.5 Potential Spill Predictions, Volumes, and Direction

OHS spills occurring at MCAS Miramar could reach navigable waters through the following pathways:

- Surface drainage through the municipal storm drain system;
- Surface drainage into Rose Canyon from releases on the Flightline and adjoining areas; or
- Subsurface releases and contaminant migration.

The potential spill predictions, volumes, direction of flow, and current spill control measures for each AST containing oil at MCAS Miramar are summarized in the OHS SPCC Plan Volume II. The potential impacts of a spill depends on the quantity and type of substance released, adequacy of spill containment, weather conditions at the time of the spill, site topography, location of local drainage structures, and MCAS Miramar's emergency response time. General storm water drainage pathways are also described in the Facility's SWPPP.

3.0 Roles and Responsibilities

This section identifies the roles and responsibilities of key MCAS Miramar personnel that are involved with the development, maintenance, and execution of the OHS ICP. Procedures for carrying out these responsibilities are provided in other sections of this OHS ICP.

3.1 Organization for Spill Response

MCAS Miramar is required by regulations to have a predesignated official to coordinate and direct control and cleanup efforts at the scene of an OHS discharge on or adjacent to the Facility. This designated individual serves as the Facility Incident Commander (FIC). The roles and responsibilities of response personnel, as discussed in Commander, Navy Region Southwest (CNRSW) Instruction 5090.1C, for the management and coordination of spill response activities are incorporated into this OHS ICP.

The MCAS Miramar Commanding Officer (CO) has ultimate responsibility for all aspects of operations at MCAS Miramar, including responding to major OHS spill events. The CO is responsible for implementing and enforcing this OHS ICP; however, the CO can delegate the role of FIC to other personnel at MCAS Miramar.

The MCAS Miramar Fire Department (MFD) is the primary department within the Facility with properly trained and equipped personnel to conduct an immediate response to an OHS spill or release. MFD personnel may be assisted by additional departments within the Facility, including Aircraft Rescue and Firefighting (ARFF), Fuels Division, Environmental Management Department (EMD), Security Department, and Facility medical personnel. In the event of a major OHS release, the Incident Management Team may be activated, which includes members of the Command staff. The Incident Management Team is required by federal regulations and is a critical element in the response strategy to a major OHS release. Other resources, both from on and off the Facility, can also be mobilized, if needed.

The EMD is responsible for developing the OHS ICP, implementing and revising the OHS ICP, managing spill prevention training, and monitoring oil handling activities and storage. In addition, they are responsible for implementing proper spill prevention measures, and engaging in spill and emergency response planning at levels sufficient to provide appropriate and timely spill response considering the routine military activities conducted at the Facility.

3.2 General Roles and Responsibilities

General roles and responsibilities of Facility personnel are discussed in this section and are summarized in Table 6.

Aircraft Rescue and Fire Fighting (ARFF). MCAS Miramar ARFF is a Marine Corps unit that is trained to respond to airfield emergencies such as aircraft crash rescues, fires, fuel spills, etc. The primary responsibility of MCAS Miramar ARFF is to provide support to MCAS Miramar Flightline operations; however, the unit may be called upon by the MFD to assist in emergencies within the Facility for spill recognition and mitigation. MCAS Miramar ARFF is composed of active duty personnel and its team members are continuously rotated because of military deployment activities.

Blanket Purchase Agreement Hazardous Materials (BPA HAZMAT) Contractor. The BPA HAZMAT contractor consists of members of a commercial emergency response contractor that may respond to OHS spills and perform spill containment. Major cleanup activities are normally completed by the HAZMAT contractor. The HAZMAT contractor is activated under the Naval Facilities Engineering Systems Command Southwest (NAVFAC SW) BPA by authorized BPA “callers” at MCAS Miramar.

Branch Medical Clinic (BMC). The BMC is to be part of dispatching medical personnel and ambulances to assist injured personnel upon receipt of emergency call. Normally, all non-critical patients are transported to Balboa Hospital at 34800 Bob Wilson Drive in San Diego. All critical patients re transported to Scripps Memorial Hospital at 9888 Genesee Avenue in La Jolla, which operates the nearest emergency room to MCAS Miramar.

CO. The CO is the lead military officer in charge of all operations at MCAS Miramar.

Command Duty Officer (CDO). The CDO is the direct representative of the CO. The CDO on duty at MCAS Miramar is the lead military officer in charge of Facility operations during non-working hours.

Commander, Navy Region Southwest (CNRSW). The CNRSW Environmental Office provides oversight of environmental issues and compliance at the MCAS Miramar. This office also can provide resources or arrange for resources to assist in spill response and other emergency response activities. For significant OHS spill incidents at MCAS Miramar, the CNRSW provides a Navy On-Scene Coordinator (NOSC) to assist or direct Navy response activities as necessary.

Environmental Compliance Coordinator (ECC). Each military unit at MCAS Miramar has a designated ECC responsible for managing the hazardous materials, wastes, and making proper notifications in the event of a spill or emergency. The Unit ECC's responsibilities include the following:

- Conduct minimum training including 24-hour hazardous materials management course and subsequent 8-hour annual refreshers;
- Maintain hazardous waste and hazardous material accumulation areas including documentation and inspection records;
- Conduct inspections of the hazardous material storage lockers and Hazardous Waste Accumulation Areas;
- Initiate corrective action for identified storage deficiencies;
- Notify the MFD and the EMD for OHS spills of more than 25 gallons; and
- Ensure that sufficient emergency spill response equipment is available for responding to an OHS spill within the unit and that the equipment is functional.

Environmental Management Department (EMD). The MCAS Miramar EMD is responsible for implementing and ensuring compliance of all units and activities with the OHS ICP including training, inspections, and record keeping. The EMD is also responsible for updating the OHS ICP, submitting approvals for personnel to be authorized BPA "callers," and coordinating the spill containment activities. Representatives from the EMD generally report to the spill site to assist in activating additional response resources on the Facility and provide technical expertise on the severity of the spill, mitigation actions, and environmental impact. The EMD determines the reportable nature of the spill, and the EMD Qualified Individual (QI) is responsible for making all required notifications and reports to federal, state, and local agencies.

The EMD is responsible for implementing the following activities:

- Provide a member who is a QI for MCAS Miramar;
- Serve as the OHS spill prevention regulatory point of contact for MCAS Miramar;
- Conduct field surveys every five years and determines if modifications to the OHS ICP are necessary;
- Review the OHS ICP annually and incorporates any technical changes within six months;
- Review plans and drawings for new construction, maintenance, or modification of OHS facilities;

- Support the Public Works Department (PWD) in the UST leak monitoring systems inspection and maintenance program, and confirm monitoring systems are certified annually;
- Assist the PWD in preparing project documentation, construction, and repair projects included in the OHS ICP;
- Provide guidance and technical support to implement the OHS ICP;
- Communicate the requirement of the OHS ICP to all applicable construction, repair and maintenance contractors active at the Facility; and
- Provide notifications and submit reports, as required, to applicable federal, state, and local regulatory agencies regarding any oil major OHS discharges to the environment.

Explosive Ordnance Disposal Team. A military unit that handles, deactivates, and performs disposal of ammunition and firearms at MCAS Miramar.

Facility Incident Commander (FIC). The CO serves as the primary FIC for MCAS Miramar. The CO has identified the MFD Fire Chief as the Alternate FIC. Navy policy designates the FIC as the formal official responsible for coordination and direction of all Navy responses to OHS releases at the Facility. The FIC may conduct initial spill response duties as the IC or delegate the duties to others, as needed.

Fuels Division Manager. The Fuels Division is responsible for aircraft fuel-dispensing operations and fuel storage at the Bulk Storage Tank Farm. The Fuels Division Manager has the following responsibilities:

- Fuel system inspections and record archiving for a minimum of 3 years;
- Leak monitoring, detection system maintenance, and annual leak detection certifications; and
- Notification of non-compliance issues to the EMD.

Incident Commander (IC). The IC is responsible for managing the initial response, control, and containment of all significant OHS spills or releases. The IC is responsible for directing all emergency response personnel and equipment until the OHS incident is resolved or until the responsibility is turned over to other qualified personnel.

Installations and Logistics Department (I&L). The I&L is the central management location for the PWD.

MCAS Miramar Fire Department (MFD). The MFD is an initial responder to all OHS spills. The MFD Fire Chief normally designates or assigns an IC for each OHS spill response at MCAS Miramar. The MFD initiates spill control and containment actions as directed the QI or IC. Once the MFD has determined that the spill has been contained and there is no longer a danger to the Facility from vapors, fire, or an explosion, they may turn the incident over to other qualified personnel or the HAZMAT contractor for cleanup.

Occupational Safety and Health. A Safety Manager reports to the FIC as requested and provide technical assistance to ensure personnel are being properly protected and equipment is being operated in a safe manner consistent with the cleanup activities. The Safety Manager ensures compliance with OSHA standards during the response operations.

Provost Marshal's Office (PMO). The PMO provides security functions at MCAS Miramar. The PMO has the following responsibilities:

- Conduct daily inspections of OHS storage and security systems such as access control, secured storage areas, lighting, fencing, and traffic control areas to prevent spills due to an unauthorized entry;
- Inspect fuel delivery vehicles for leaks and mechanical problems that may cause a spill;
- Assist in an evacuation in the event of a major OHS spill response; and
- Man the MCAS Miramar Dispatch Center (24-Hour Emergency Notification).

Public Works Department (PWD). The PWD Officer assists the FIC in all public works issues during a major OHS spill response.

Qualified Individual (QI). Federal regulations require that a QI be designated for all sites that have an FRP. The regulations require that the QI must have written authority to activate and contract with an HAZMAT contractor, to act as liaison with the FOSC, and to obligate funds required for carrying out spill response activities. In the event of a WCD event, the FIC may delegate the fulfillment of spill response activities to the QI, as necessary.

The QI has the following responsibilities:

- Activate internal alarms and hazard communication systems to notify all Facility personnel;
- Notify response personnel, as needed;

- Identify the character, exact source, amount, and extent of the OHS release, as well as the other items needed for notification;
- Notify and provide information to appropriate federal, state, and local authorities with designated response roles;
- Assess the interaction of the discharged OHS with other substances stored at Facility and notify on-scene response personnel of the assessment;
- Assess the possible hazards to human health and the environment due to the OHS release considering both the direct and indirect effects of the release;
- Assess and implement prompt removal actions to contain and remove the OHS released;
- Coordinate rescue and response actions with all response personnel;
- Use approved contract authority to access additional outside resources to initiate cleanup activities; and
- Direct cleanup activities.

San Diego Fire and Rescue Department Hazardous Incident Response Team (HIRT). The San Diego Fire and Rescue Department joined forces with the DEHQ to provide the HIRT. The team consists of 10 California State Certified Hazardous Materials Specialists combined with skilled firemen to investigate and mitigate chemically related emergencies or complaints. Emergency response activities include mitigation, containment, and control actions, hazard identification, and evaluation of the threat to local populations and the environment.

Security Department. The Security Department is responsible for overall security at the Facility, provides traffic control, and keeps unauthorized personnel away from the spill site.

Spill Discoverer. The Spill Discoverer is the person who first identifies and reports the spill. The Spill Discoverer should remain on scene (if safe to do so) and protect the site as directed by the MFD dispatcher until the QI, IC, or MFD personnel arrive on scene.

Unit. For the purposes of this OHS ICP, a unit is any location within the Facility that stores or uses OHS in containers or equipment with a volume of 55 or more gallons, or stores or uses hazardous substances in any volume. This includes operations personnel, as well as vendors and contractors working at the Facility. Each unit is required to engage in spill prevention activities, and spill response and cleanup activities for small spills that they are capable of responding to in a safe manner.

OHS Spill Prevention, Control, and Countermeasure (SPCC) Plan

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4.0 Purpose of SPCC Plan [40 CFR 112.2]

MCAS Miramar meets the definition of a “non-transportation-related” facility, and has an aggregate aboveground storage capacity of more than 1,320 gallons of oil in aboveground containers. It is reasonable to expect that oil could be discharged in harmful quantities into or upon navigable waters of the United States or adjoining shorelines, into the subsurface aquifer, or outside the property onto non-federal land. Therefore, MCAS Miramar meets the applicability criteria of Title 40, CFR, Part 112 (Section [§]112), and is subject to the EPA SPCC Rule. The Facility must develop and maintain an SPCC Plan.

This SPCC Plan for MCAS Miramar achieves the requirements of 40 CFR 112, applicable industry standards, and the Marine Corps Headquarters Marine Corps Order (MCO) 5090.2, Environmental Compliance and Protection Program. This SPCC Plan also supports the mission assurance plan for MCAS Miramar. Operations within the Facility boundary that store and transfer oil in support of Marine Corps activities are included in the SPCC Plan because of the amount of oil stored at their locations.

The OHS SPCC Plan documents the procedures for the prevention, response, control, and reporting of spills of OHS at MCAS Miramar. Various types and quantities of oil products and hazardous substances are stored, transported, and handled throughout the Facility to support building, vehicle, and aircraft maintenance and operation. A description of the Facility is provided in the Introduction and Background Information section of the OHS ICP.

The OHS SPCC Plan describes the applicable state and federal regulations for spill prevention and control, and provides the methods used to prevent a discharge of oils and hazardous substances from MCAS Miramar to the navigable waters of the United States or to the adjoining shorelines. In addition to the ERAP, the OHS SPCC Plan serves as a guide for all personnel and units that are responsible for the prevention, response, control, and reporting of all spills of oils and hazardous substances.

Oil pollution prevention regulations under 40 CFR 112 require the preparation and implementation of an SPCC Plan for all facilities that store oil in excess of an aggregate aboveground container capacity of more than 1,320 gallons, and that have discharged or could reasonably be expected to discharge oil into navigable waters of the United States or its adjoining shorelines. Because MCAS Miramar stores more than 1,320 gallons of petroleum products in containers or ASTs with capacities of at least 55 gallons, the Facility is considered subject to the federal SPCC regulations.

RCRA established a comprehensive program for federal and state regulations of solid waste management and disposal. Subtitle C of the Act requires EPA to define hazardous waste and publish standards that must be followed, including standards for storage and handling of hazardous waste. These specific regulations are set forth in 40 CFR 260 and 20 CFR 265. The CWA and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) also regulate the storage and handling of hazardous substances.

Facilities that handle or store hazardous substances, the release of which could endanger health and human safety and adversely affect the environment, must comply with additional federal regulations that govern emergency planning, notification, and response. These requirements are part of the RCRA, CERCLA, and EPCRA regulations contained in 40 CFR Part 264, 40 CFR Part 302, and 40 CFR Part 355, respectively. OSHA also has regulations governing emergency response and planning. Applicable requirements contained in 29 CFR Part 1910 are addressed in this plan.

Navy shore facilities pursue the protection and enhancement of the quality of the environment by adhering to all applicable regulatory requirements. In accordance with MCO 5090.2 – *Environmental Readiness Program Manual*, all Navy facilities are to maintain contingency plans to combat releases of hazardous substances or discharges of oil and minimize hazards to human health and the environment. Navy shore facilities in the continental United States are subject to a wide array of OHS planning, training, exercise, reporting, and response requirements and must review appropriate regulations to determine whether they meet the criteria to prepare and submit plans. At a minimum, each plan must be reviewed and updated annually. Depending on personnel turnover rate, the responsibility and notification sections must be updated at least quarterly. Each plan must be updated and resubmitted as required by regulations or, at a minimum, every 5 years or after any major spill event.

For the purposes of the OHS SPCC Plan, a hazardous substance is any material or mixture of materials that is toxic, corrosive, irritant, strong sensitizer, flammable, or generates pressure and heat through decomposition, heat, or other means (40 CFR 261.3). These materials require controls to ensure sufficient protection of human life and health, property, and the environment.

4.1 Designated Person [40 CFR 112.7(f)(2)]

§112.7(f)(2) Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management.

The Department Head, MCAS Miramar performs duties as described in 40 CFR 112.7(f)(2). The person holding this role is the Designated Person accountable for discharge prevention MCAS Miramar, reports to Facility management, and can be contacted at (858) 307-1108.

4.2 Professional Engineer Certification [40 CFR 112.3 (d)]

Professional Engineer (PE) Certification is on page B-iii of this SPCC Plan.

4.3 Location of SPCC Plan [40 CFR 112.3 (e)]

§112.3(e) If you are the owner or operator of a facility for which a Plan is required under this section, you must:

(1) Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or at the nearest field office if the facility is not so attended and (2) have the Plan available to the Regional Administrator for onsite review during normal working hours.

In accordance with 40 CFR 112.3(e), a complete copy of this SPCC Plan is maintained at the MCAS Miramar EMD at Building 6022. The EMD is normally attended during the hours of 0800 to 1600, five days per week (closed on Saturdays and Sundays).

4.4 SPCC Plan Review [40 CFR 112.5 (b)]

§112.5(b) Notwithstanding compliance with paragraph (a) of this section, complete a review and evaluation of the SPCC Plan at least once every five years from the date your facility becomes subject to this part; or, if your facility was in operation on or before August 16, 2002, five years from the date your last review was required under this part. As a result of this review and evaluation, you must amend your SPCC Plan within six months of the review to include more effective prevention and control technology if the technology has been field-proven at the time of the review and will significantly reduce the likelihood of a discharge as described in §112.1(b) from the facility. You must implement any amendment as soon as possible, but not later than six months following preparation of any amendment. You must document your completion of the review and evaluation and must sign a statement as to whether you will amend the Plan, either at the beginning or end of the Plan or in a log or an appendix to the Plan. The following words will suffice, "I have completed review and evaluation of the SPCC Plan for (name of facility) on (date) and will (will not) amend the Plan as a result."

The MCAS Miramar EMD is responsible for initiating and coordinating comprehensive reviews of the SPCC Plan at least once every 5 years. Amendment of the SPCC Plan should be within 6 months of the review and implementation within 6 months of the amendment. The amendment is to include more effective prevention and control technology if such technology significantly reduces the likelihood of a spill event, and if such technology has been field proven at the time of the review. Such updates are considered technical amendments and must be certified by a PE. Reviews and amendments of this SPCC Plan are documented in the OHS ICP Review and Amendment Schedule in Table 1.

4.5 Amendments to SPCC Plan [40 CFR 112.5 (a)]

§112.5(a) Amend the SPCC Plan for your facility in accordance with the general requirements in §112.7, and with any specific section of this part applicable to your facility, when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge as described in §112.1(b). Examples of changes that may require amendment of the Plan include but are not limited to: commissioning or decommissioning containers; replacement, reconstruction, or movement of containers; reconstruction, replacement, or installation of piping systems; construction or demolition that might alter secondary containment structures; changes of product or service; or revision of standard operation or maintenance procedures at a facility. An amendment made under this section must be prepared within six months, and implemented as soon as possible, but not later than six months following preparation of the amendment.

In accordance with 40 CFR 112.5(a), the SPCC Plan must be amended whenever there is any change in the facility design, construction, operation, or maintenance that materially affects the facility’s potential for an oil discharge, including the following:

- Commissioning or decommissioning containers;
- Replacement, reconstruction, or movement of containers;
- Reconstruction, replacement, or installation of piping systems;
- Construction or demolition that might alter secondary containment structures;
- Changes of product or service; and
- Revision of standard operation, inspection, or maintenance procedures.

Amendments to this SPCC Plan made to address changes of this nature are considered technical amendments and must be certified by a PE. Non-technical amendments can be made by the MCAS Miramar EMD or designee, and include changes to contact information and other changes to this SPCC Plan that do not affect the potential for an oil discharge. All amendments, whether technical or non-technical, must be recorded in the OHS ICP Review and Amendment Schedule in Table 1. All copies of the SPCC Plan must be updated when the SPCC Plan is amended.

4.6 Management Approval [40 CFR 112.7]

Management Approval Acknowledgement is on page i of this OHS ICP.

4.7 Facility Boundaries and Excluded Areas [40 CFR 112.7 (a)(3)]

The Marine Corps has determined the facility boundaries as defined in the SPCC Rule based on the ownership and operation of equipment at MCAS Miramar. Figure 1 shows the Facility boundaries of MCAS Miramar.

The following areas at MCAS Miramar are excluded from this SPCC Plan because they contain oil tanks and equipment not owned or operated by MCAS Miramar, or the facilities operate under a separate SPCC Plan:

- Naval Consolidated Brig at Buildings 7683 and 7684;
- Federal Communications Commission (FCC) facility at Building 3720;
- National Weather Service weather station southwest of Building 9743 on the Flight line; and
- MCCS-contracted food establishments (e.g., McDonald’s, Denny’s, Subway, etc.).

4.8 Additional Facilities or Procedures, Methods, or Equipment Not Yet Fully Operational [40 CFR 112.7]

§112.7 If the Plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, you must discuss these items in separate paragraphs, and must explain separately the details of installation and operational start-up.

At the time of this SPCC Plan revision (January 2022), no construction projects are pending for the installation of new SPCC-regulated ASTs and equipment. In the event new construction occurs, the information will be included in this SPCC Plan within 6 months after the ASTs or equipment are installed and turned over to operation by the Facility.

4.9 Cross-Reference with SPCC Rule Provisions [40 CFR 112.7]

§112.7 If you do not follow the sequence specified in this section for the Plan, you must prepare an equivalent Plan acceptable to the Regional Administrator that meets all of the applicable requirements listed in this part, and you must supplement it with a section cross-referencing the location of requirements listed in this part and the equivalent requirements in the other prevention plan.

To present the information in a useful and logical order, this SPCC Plan does not follow the exact order presented in the SPCC Rule. Table 2 presents a cross-reference of the SPCC Plan sections relative to applicable parts of the SPCC Rule. Section headings also identify, where appropriate, the relevant section(s) of the SPCC Rule.

5.0 General Facility Information

§112.7(a)(3) Describe in your Plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each fixed oil storage container and the storage area where mobile or portable containers are located. The facility diagram must identify the location of and mark as "exempt" underground tanks that are otherwise exempted from the requirements of this part under §112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes, including intra-facility gathering lines that are otherwise exempted from the requirements of this part under §112.1(d)(11). You must also address in your Plan:

(i) The type of oil in each fixed container and its storage capacity. For mobile or portable containers, either provide the type of oil and storage capacity for each container or provide an estimate of the potential number of mobile or portable containers, the types of oil, and anticipated storage capacities;

(ii) Discharge prevention measures, including procedures for routine handling of products (loading/unloading, and facility transfers, etc.);

(iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge.

General Facility information is provided in Section 2.0 of this OHS ICP. The following measures are implemented to prevent oil discharges during the storage, handling, use, or transfer of oil products at the Facility.

5.1 Conformance with Requirements [40 CFR 112.7(a)(1)]

§112.7(a)(1) Include a discussion of your facility's conformance with the requirements listed in this part.

The oil storage tanks, OFOE, portable containers, and all associated management procedures described in this OHS SPCC Plan conform to the requirements of the SPCC Rule with the exceptions noted in the following section.

5.2 Environmental Equivalence [40 CFR 112.7(a)(2)]

§112.7(a)(2) Comply with all applicable requirements listed in this part. Except as provided in §112.6, your Plan may deviate from the requirements in paragraphs (g), (h)(2) and (3), and (i) of this section and the requirements in subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.9(d)(3), 112.10(c), 112.12(c)(2), and 112.12(c)(11), where applicable to a specific facility, if you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure. Where your Plan does not conform to the applicable requirements in paragraphs (g), (h)(2) and (3), and (i) of this section, or the requirements of subparts B and C of this part, except the secondary containment requirements in paragraph (c) and (h)(1) of this section, and §112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11), you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection. If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan, following the procedures in §112.4(d) and (e).

Except as discussed in this section, this OHS SPCC Plan does not deviate from the requirements in 40 CFR 112. For instances where this OHS SPCC Plan deviates from the requirements in the SPCC Rule, this section includes the reasons for non-conformance, detailed alternate methods, and an explanation of how equivalent environmental protection is achieved.

5.2.1 Integrity Testing of Portable Drums

§112.8(c)(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs.

Reason for Non-conformance

This SPCC Plan deviates for the integrity testing requirements under 40 CFR 112.8(c)(6) for 55-gallon portable drums. The Steel Tank Institute (STI) SP001 Standard for the Inspection of Aboveground Storage Tanks (6th Edition) contains recommended forms to conduct and record monthly inspections of portable containers (drums). Because a significant number of 55-gallon drums are used and constantly moved throughout the Facility, this SPCC Plan deviates from using the formal STI monthly portable container inspection forms.

Environmentally Equivalent Alternative

Per the SPCC Guidance for Regional Inspectors, EPA (2013 edition) (SPCC GRI) (page 3-1), "environmental equivalence need not be a mathematical equivalence, but it must achieve the same desired outcome, though not necessarily through the same mode of operation (see 67 Federal Register [FR] 47095, 17 July 2002)."

Unit ECCs and hazardous waste handlers that use portable containers are trained to visually inspect 55-gallon drums on a frequent basis. Individual units are also responsible for monitoring the condition of the drums in their area, and are instructed to immediately report to the EMD any drums that are damaged, corroded, or leaking. Any 55-gallon drums showing any signs of visual degradation (i.e., rusting, corrosion, etc.) and drums that are 10 or more years old are replaced on the basis of good engineering practice.

The EMD also conducts spot inspections of drum storage areas. The frequent informal visual inspections and replacement of damaged drums are considered environmental equivalence to satisfy integrity testing requirements.

5.2.2 Monthly Inspection for Water in Bulk Oil Storage Containers

§112.8(c)(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs.

Reason for Non-conformance

This SPCC Plan deviates for the integrity testing requirements under 40 CFR 112.8(c)(6) for conducting the STI SP001 monthly inspection checklist Item 1.2, a check for water in the primary tank of bulk oil storage containers. Most double-walled ASTs do not have bottom drains connected to the primary tank to test for the presence of water. The only test method available to check for a water layer is to "stick" the tank (i.e., insert a rod through the fill port coated with a water-finding paste).

However, most small shop-fabricated ASTs at MCAS Miramar are flat-bottomed rectangular tanks that do not collect water in a low point for detection. A significant amount of water may be in the tank before such a test would be able to detect it. In addition, frequent sticking of the tank increases the potential to introduce contamination from the paste into the stored oil or fuel.

Environmentally Equivalent Alternative

As stated on page 7-11 of the EPA 2013 SPCC Guidance for Regional Inspectors, the purpose of integrity testing is to ensure that containers are suitable for continued service under current and anticipated operating conditions. Further, the 2013 SPCC Guidance for Regional Inspectors (page 7-45) states an environmentally equivalent approach to following the applicable industry standard may be an "inspection program that is based on elements designed to minimize the risk of container failure and allow detection of leaks before they impact navigable waters or adjoining shorelines. These elements may be based on a combination of various industry standards and good engineering practice…"

The inspection for water in the primary tank is conducted on an annual basis with the STI SP001 Annual Inspection Checklist. The annual inspections are more in-depth compared with the monthly inspections, and provide reliable results in assessing the tank's suitability for continued service. Annual AST inspections at MCAS Miramar are conducted by a STI-certified contractor familiar with tank integrity inspection procedures.

5.2.3 Engineered Fail-Safe Features for Portable Drums and Used Cooking Oil ASTs

§112.8(c)(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

Reason for Non-conformance

This SPCC Plan deviates from the engineered fail-safe features requirements under 40 CFR 112.8(c)(8) for used cooking oil ASTs and 55-gallon drums at the Facility. Transfer of fluids into used cooking oil ASTs and drums is normally limited to 5 gallons or less, unless there is a response to a major spill.

Environmentally Equivalent Alternative

The 55-gallon drums may be equipped with a plastic spill collection funnel to prevent overfilling. The drums are normally closed-top type 1A1 Department of Transportation (DOT) drums. Personnel are instructed to use a funnel to prevent a spill release on the exterior of the drum. Waste cooking oils, fats, and grease are also manually loaded through a large grated opening into each tank. Direct visual observation of the fluid level inside the tank hatch opening or drum is considered sufficient to limit an overfilling situation.

5.2.4 Preventing Physical Damage to Aboveground Piping

§112.8(d)(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

Reason for Non-conformance

This SPCC Plan deviates from the requirement under 40 CFR 112.8(d)(5) to warn all vehicles entering the Facility to be sure that no vehicle endangers aboveground piping or other oil transfer operations. Aboveground piping and other equipment are protected from the possibility of a collision by installing traffic bollards, fencing, barriers, curbing, or other physical obstacles.

Environmentally Equivalent Alternative

The primary protection against the possibility of vehicular collision for aboveground piping connected to bulk storage containers included in this SPCC Plan is by routing traffic away. In those cases where tank and/or pipe systems are in areas susceptible to damage from vehicles, protective measures are in place such as traffic bollards, fencing, barriers, or curbing. This approach provides superior protection as compared with verbal or written warnings to drivers.

5.3 Discharge Prevention

5.3.1 General Spill Prevention Guidelines

Discharge detection generally relies on the vigilance of operating personnel present during all OHS transfer operations. Daily checks of equipment and systems and scheduled security rounds of the fuel storage and handling sites also help ensure detection of a discharge. Discharges can occur during routine operations or transfer operations, or from equipment failure. Facility personnel are normally in attendance during any OHS transfer operation and should detect any discharge quickly. A discharge resulting from equipment failure should also be detected by Facility personnel working in the area.

Each location that uses an OHS must follow general prevention and planning guidelines to prevent spills. Responsible operational personnel should be aware of the procedures that facilitate the timely detection, response, and cleanup of spills. General spill prevention guidelines include the following measures:

- Use drip pans under any equipment or containers that may leak small amounts of OHS. Remove accumulated spills from pans on a daily basis;
- Store all 55-gallon drums of OHS on plastic secondary containment pallets; if drums are stored outside, cover them and the pallet with a plastic sheet or store them in a sealed locker to prevent storm water collection;
- Place all drum storage areas away from vehicle roadways and parking areas, doorways and personnel access areas, floor drains, storm drain swales, and storm drain catch basins;
- Keep spill absorbent materials and kits near OHS storage and dispensing areas for quick response to spills;
- Avoid washing down areas where an OHS is used. Use dry sweep methods, if possible;
- Carefully move one OHS portable container at a time with appropriately rated equipment;
- Make sure all OHS containers are properly sealed and labeled with their contents and hazards; and
- Use a funnel when transferring materials into a 55-gallon drum to prevent spilling and overfilling.

5.3.2 Discharge Prevention Measures [40 CFR 112.7(A)(3)(II)]

§112.7(a)(3)(ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.).

Transfer operations from vendor tanker trucks to the bulk ASTs have the greatest potential to spill jet fuel, diesel fuel, or lubricating oil at the Facility. Proper operating techniques minimize this potential. All tanker truck drivers are required to comply with DOT regulations in 49 CFR 177. Vehicles used to dispense jet fuel, diesel fuel, or lubricating oil into the ASTs are required to check in with tank operator prior to off-loading, and the tank operator monitors all bulk deliveries at the site.

During tanker truck transfer operations at the MCAS Miramar Fuel Farm Areas, a single operator, the refueler driver, at the Facility performs the hook-up, uses the deadman switch to control the pump, and monitors the fuel transfer for leaks or conditions that may lead to a discharge. A fuel distribution operator (dispatcher) is also present in the Fuels Division Pump House and Operations Control Room (Building 7931) and maintains communication with the driver by two-way radio.

While any fuel transfer operation is being conducted, pumps, valves, manifolds, and pipelines are checked routinely to detect possible leaks and ensure that the systems are in proper working order. If a significant discharge or leak is detected, it is reported immediately to the Fuels Division Site Supervisor and MCAS Miramar Emergency Communications Center. The person who discovers the discharge then takes action to stop the product flow, warns or summons other personnel, initiates containment actions, and performs other safety and response actions outlined in the ERAP.

During bulk off-loading, the vendor must comply with the following requirements:

- Smoking is prohibited;
- The engine of the tanker truck is stopped unless the engine is used to operate a transfer pump;
- The parking brake is be set;
- The truck wheels are chocked;
- Warning signs or cones are posted;
- The tanker truck operator attends the tanker truck at all times during the off-loading operation;
- The tanker truck is grounded at all times during the off-loading operation;
- The AST being filled is manually gauged to confirm that adequate capacity is available prior to starting the transfer operation;
- During loading operations, all exterior hose and piping components are inspected to confirm that no leaks are present. If necessary, spill pans are placed under each hose fitting connection;
- Facility personnel continually monitor the fluid level on the tank’s gauge to confirm proper loading and to prevent overfilling of the AST;
- Once the transfer is complete, the transfer hose fitting is removed from the tank’s fill port connection, and the not-in-service fill pipe connection to the tank is closed and secured with a cap;
- Following termination of flow, the transfer hose is drained of all fluids into the tank that is being filled;
- The area is inspected for any leaks. Any small leaks or spills from the filling operation are cleaned up promptly with appropriate absorbent materials;

- The tanker truck driver provides a record that includes the date, time, and type and amount of material delivered; and
- Prior to departure, the lower-most drain and all outlets on the tanker truck are inspected to ensure that they are tightened, adjusted, and secured to prevent any liquid discharge while in transit.

The tanker truck operator should a spill kit available on the vehicle to respond to small incidental spills generated during transfer operations. In addition, the tank operator should have spill response supplies of sufficient quantity to respond to an oil or fuel release up to 25 gallons during the transfer operation.

The tanker truck transfer procedures are periodically reviewed and updated by EMD and facility personnel, as needed, to reflect best management practices, equipment changes, or other aspects that may contribute to spill prevention.

5.3.3 Discharge or Drainage Controls [40 CFR 112.7(a)(3)(iii)]

§112.7(a)(3)(iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge.

The detailed site descriptions in the OHS SPCC Plan Volume II provide information on the secondary containment or diversionary structures, and the discharge or drainage controls at each oil storage location at MCAS Miramar.

Storm water collected within a passive permanent secondary containment structure around oil storage containers is required to be visually inspected for contamination (i.e., oil sheen on the water surface) after a storm event. If no oil is present, the storm water is then released by opening a valve connected to a drain pipe in the below-grade sump or concrete bermed structure. The collected storm water then gravity drains onto adjoining pavement, to a landscaped or vegetated area, or to a storm drain. If the water has an oil sheen, the contaminated storm water is pumped out of the secondary containment structure for offsite disposal.

More than 90 electrical OFOE systems at MCAS Miramar have passive secondary containment structures. The Utilities Department has insufficient staff available to adequately manage storm water drainage at each of these transformer containment structures after each storm event. In addition, several of the transformer secondary containment structures have blocked or damaged drainage pipelines with missing or broken control valves.

SPCC regulations under 40 CFR 112.8(b)(1) and 112.8(b)(2) require that when a facility uses control valves to drain a secondary containment structure, the valves must be of manual, open-and-closed design. Because of the issues noted above, MCAS Miramar has installed an alternative technology specifically engineered to prevent oil from escaping the transformer passive secondary containment structures. The system provides environmental protection equivalent to using a manually operated valve, and provide an alternative to visually inspecting the storm water prior to release.

A Petro-Pipe device has been installed after the isolation valve on the drainage pipelines of several transformer sites that have passive secondary containment structures (www.basicconcepts.com/products/products_petropipe.asp). When maintained properly, the device allows drainage of uncontaminated storm water, but automatically shuts off and seals upon detecting a release of transformer oil.

EPA has noted that similar devices have previously been installed at electrical substations to drain uncontaminated rainwater under normal conditions, while also preventing oil from escaping the containment system in the event of a discharge from transformers or other oil-filled electrical equipment. A material inside the Petro-Pipe expands upon contact with oil, effectively plugging the drainage system and stopping the flow. The Petro-Pipe becomes permanently plugged and would need to be replaced after use, thus providing an equivalent measure of environmental protection.

MCAS Miramar is currently in the process of upgrading the electrical OFOE secondary containment drainage systems to incorporate the Petro-Pipe drainage device.

5.4 Predicted Direction, Rate of Flow, and Total Quantity of Oil Discharged as a Result of Equipment Failure [40 CFR 112.7(b)]

§112.7(b) Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge), include in your Plan a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure..

Experience indicates a reasonable potential for equipment failure for all bulk oil storage containers at MCAS Miramar. Therefore, predictions of the potential spill direction and the maximum quantity of oil that could be discharged are included in the site descriptions in Volume II of the OHS SPCC Plan. In the event of a catastrophic release, the spill rate is assumed to be instantaneous based on a failure of the entire structure (i.e., major rupture of bulk ASTs). Flow rates for secondary release conditions, such as from overfilling the tank or leaks from transfer piping or hoses, are considered relatively low and highly variable.

5.5 Appropriate Containment and/or Diversionary Structures or Equipment to Prevent a Discharge [40 CFR 112.7(c)]

§112.7(c) Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in §112.1(b), except as provided in paragraph (k) of this section for qualified oil-filled operational equipment, and except as provided in §112.9(d)(3) for flowlines and intra-facility gathering lines at an oil production facility. The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank, will not escape the containment system before cleanup occurs. In determining the method, design, and capacity for secondary containment, you need only to address the typical failure mode, and the most likely quantity of oil that would be discharged. Secondary containment may be either active or passive in design. At a minimum, you must use one of the following prevention systems or its equivalent:

(1) For onshore facilities:

(i) Dikes, berms, or retaining walls sufficiently impervious to contain oil;

(ii) Curbing or drip pans;

(iii) Sumps and collection systems;

(iv) Culverting, gutters, or other drainage systems;

(v) Weirs, booms, or other barriers;

(vi) Spill diversion ponds;

(vii) Retention ponds; or

(viii) Sorbent materials.

This section describes the secondary containment provisions for the oil storage equipment at MCAS Miramar. The secondary containment provisions are included in the site descriptions in the OHS SPCC Plan Volume II.

5.5.1 Bulk Oil Storage Tanks

Bulk oil storage tanks at the Facility comply with the secondary containment provisions of 40 CFR 112.7(c) through passive containment structures (e.g., dikes, concrete berms, retaining walls, and sumps) and/or double-walled tank construction.

5.5.2 Portable Tanks and Containers

Portable containers (i.e., 55-gallon drums) at the Facility comply with the secondary containment provisions of 40 CFR 112.7(c) through a combination of passive containment structures (e.g., concrete berms, secondary containment pallets, or metal storage lockers) and active spill response procedures (e.g., application of drain covers, absorbents, and booms from local spill kits).

MCAS Miramar also operates several portable tanks including 900-gallon SIXCONs and 2,500-gallon FRCs. These portable tanks are normally stored empty around Building 6018. SIXCONs containing fuel are stored within a covered secondary containment bermed structure west of Building 6018. FRCs that contain fuel would be stored within pop-up rubber secondary containment structures.

In addition, the Facility currently operates seven portable oil storage containers (mobile fuel bowsers or defuelers). Currently, four empty mobile fuel bowsers are checked out by the individual MCAS flight squadrons from the Fuels Dispatch (Building 9744) and towed to their respective units. Once full, the bowsers are then towed back by the squadrons and temporarily parked in the tanker truck parking lot (north of Building 9744), where the bowsers are eventually emptied using a 2,000-gallon contaminated defueler truck. Once the 2,000-gallon contaminated defueler truck is full, it is unloaded into the salvaged fuel ASTs located at Fuel Farm Area D. The additional three mobile fuel bowsers are currently staged empty at Fuel Farm Area D (Building 7229) inside a maintenance shelter and are kept as reserves.

5.5.3 Mobile Refuelers and Other Non-Transportation-Related Tankers

EPA defines a mobile refueler as a mobile bulk storage container onboard a vehicle or being towed that is designed or used solely to store and transport fuel for transfer into, or from, an aircraft, motor vehicle, locomotive, vessel, ground service equipment, or other oil storage container. A mobile refueler qualifies for general secondary containment, containment that is designed to address the most likely discharge from the container and from oil transfers into or from the mobile refueler. However, this exemption from sized secondary containment does not apply to mobile refuelers that are used primarily to store oil in a stationary location, such as tanker trucks used to supplement storage and serving as a fixed tank that is no longer mobile (i.e., a tanker truck that is hard piped or permanently parked, or a tank car that has been separated from the cab of the truck).

The Fuels Division currently operates 14 mobile tanker trucks designated Tank Nos. 9744-1 through 9744-14. When loaded with JP-5 jet fuel, the trucks are normally parked north of Building 9744. A large sloped concrete pad is designed with 11 parking locations for the trucks. The entire area drains to four surface catch basins that are connected to a collection sump.

MCAS Miramar also operates 12 5,000-gallon M970 Tanker Trailers used to supply jet fuel to military field operations. The tankers are parked in an open concrete area south of Building 6018 and are normally enclosed by rubber pop-up secondary containment structures when containing fuel.

5.5.4 Electrical Oil-Filled Operating Equipment

OFOE is exempt from SPCC regulations for specific secondary containment provisions, whereby one is to provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation, because OFOE are not considered bulk storage containers. However, OFOE remains subject to general secondary containment requirements under 40 CFR 112.7(c), which requires one to provide appropriate containment to prevent a discharge from reaching navigable waters for a spill or leak based on a typical failure mode and in accordance with good engineering practice.

A typical failure mode considered for the electrical OFOE at MCAS Miramar is a crack or split in the transformer casing due to internal corrosion or excessive age of operation. Several of the transformers in operation at MCAS Miramar were installed in the 1950s and 1960s. Coolant oil in electrical OFOE does not get consumed, so once a transformer is filled with oil, there is normally no oil replacement or transfer required. For the basis of this OHS SPCC Plan, a typical failure mode release quantity is considered to be **10 gallons or less** of coolant oil from each applicable electrical OFOE, irrespective of the total oil storage capacity inside each unit.

In the event of a loss of oil from an electrical OFOE, new, virgin oil is normally brought to the site in small containers, which poses a minor spill risk. The transformer and associated equipment would then be properly shut down by Utilities Department personnel, and the transformer would be repaired or replaced as needed to maintain electrical service to the building.

In most electrical situations, the installation of permanent secondary containment structures, such as dikes or curbs that may enclose a transformer, are not considered feasible because of a potential electrical grounding hazard. 40 CFR 112.7(c) allows for the use of certain types of active containment measures that use countermeasures or a spill response capability. Active containment measures are those that require deployment or other specific action by the Facility. These measures may be deployed in reaction to a discharge as long as the active measure is designed to prevent an oil spill from reaching navigable water. Passive measures are permanent secondary containment structures that do not require deployment or action by the Facility.

Most of the electrical OFOE at MCAS Miramar is provided with passive permanent secondary containment structures, either with a below-grade sump that surrounds each transformer or a concrete bermed structure with the transformer mounted on an elevated concrete pad. The containment sumps are built into the concrete pad surrounding each transformer and consist of square below-grade trenches approximately 6 to 8 inches deep covered by metal grates. This arrangement provides drainage of a potential spill and/or storm water into an isolated sump while allowing relatively safe access to the transformer by Utilities Department personnel.

Each of the passive secondary containment structures around the MCAS Miramar electrical OFOE was evaluated to confirm that sufficient freeboard was available to contain precipitation. The secondary containment capacity calculations for the below-grade sumps and concrete containment structures are provided in Tables 7 and 8, respectively. The available secondary containment capacity for each applicable electrical OFOE is also described in the OHS SPCC Plan Volume III.

For the remaining electrical OFOE at MCAS Miramar that does not have passive secondary containment measures, a field survey was conducted to consider the locations that may be applicable to active containment measures. The efficacy of active containment measures to prevent an oil discharge from a transformer reaching a navigable water depends on the relative distance of the electrical OFOE to a discharge point (i.e., storm drain catch basin), degree of visible exposure to Facility personnel (i.e., remote location or in high traffic area), site topography of the potential spill pathway (i.e., flat or steep terrain), ability to deploy spill containment materials following an observed discharge, and technical effectiveness in adequately containing the typical failure mode release quantity.

The field survey identified several electrical OFOE locations at MCAS Miramar that were considered applicable for active containment measures. In general, these transformers were located in areas with significant Facility activity to provide rapid observation of a potential spill, had local surface topography that would isolate or limit the travel distance of a spill, and were not observed to be near a storm drain catch basin or a waterway.

In the event of a reported spill from electrical OFOE, Utilities Department personnel respond and take active measures to stop, isolate, contain, and clean up the spill. Each Utilities Department vehicle has a spill response kit that contains sufficient adsorbent booms, pads, and additional containment materials to adequately address a typical failure mode release from a MCAS Miramar electrical OFOE.

In addition, some electrical OFOE locations at MCAS Miramar do not have passive secondary containment structures and are not considered to be qualified for active containment measures, as shown in Table 5. These locations are considered “At-Risk” transformers because of their proximity to a storm drain catch basin, remote site location, steep terrain, or relative difficulty in adequately responding to a typical failure mode release. These locations are recommended to be upgraded with passive secondary containment structures, such as a below-grade sump.

5.6 Impracticability of Secondary Containment [40 CFR 112.7(d)]

§112.7(d) Provided your Plan is certified by a licensed Professional Engineer under §112.3(d), or, in the case of a qualified facility that meets the criteria in §112.3(g), the relevant sections of your Plan are certified by a licensed Professional Engineer under §112.6(d), if you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section, and §112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11) to prevent a discharge as described in §112.1(b) from any onshore or offshore facility is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under §112.20, provide in your Plan the following:

(1) An oil spill contingency plan following the provisions of part 109 of this chapter.

(2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

Secondary containment, either as sized secondary containment or as general secondary containment provisions, has been provided for all bulk storage tanks containing oil included in the OHS SPCC Plan.

However, secondary containment is considered impracticable for certain single-walled, portable storage tanks when they are stored empty at MCAS Miramar. These single-walled steel tanks include SIXCONs, FRCs, and fuel bowsers. The portable tanks are normally stored completely empty of product, and are inspected frequently because they are considered mission-critical equipment. Passive secondary containment is provided in the form of rubber pop-up secondary containment structures whenever these portable tanks contain fuel and are parked for long time periods.

5.7 Inspections, Tests, and Records (40 CFR 112.7(e)]

§112.7(e) Inspections, tests, and records. Conduct inspections and tests required by this part in accordance with written procedures that you or the certifying engineer develop for the facility. You must keep these written procedures and a record of the inspections and tests, signed by the appropriate supervisor or inspector, with the SPCC Plan for a period of three years. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

All ASTs and associated aboveground piping, drainage areas, secondary containment structures, and tanker truck transfer areas are inspected to ensure that the equipment is properly maintained and the potential for a significant spill or leak due to a failure is minimized. Visual observation of tank supports, foundations, secondary containment storage, and monitoring and alarm equipment is included in monthly and annual tank inspections that are conducted by the EMD or an authorized contractor. Records of inspections are maintained for 3 years by the EMD and are readily accessible for review. Any observed leaks are promptly repaired. Used oil and waste oil ASTs are visually inspected each operating day by the tank operator.

5.7.1 Daily AST Inspections

California considers used petroleum oil to be a hazardous waste. MCAS Miramar has submitted an AST Certification and Engineering Assessment Exemption Notification Form HM-9271 to the DEHQ for each AST at the Facility that currently stores used oil. This notification exempts each tank from the requirements of a Professional Engineer assessment under Title 22 of California Code of Regulations (CCR) Section 66265.192 for hazardous waste tank systems. One of the terms and conditions of the DEHQ exemption is to conduct daily inspections of each used oil tank and maintain a log onsite. The Used Oil Storage Tank Daily Inspection Checklist is provided in Appendix A.

5.7.2 Monthly AST Inspections

All ASTs that contain 55 gallons or more of oil at MCAS Miramar are inspected on a monthly basis, with the exception of used oil tanks and empty tanks that could be used to store 55 gallons or more of oil. Used oil tanks are inspected on a daily basis. Empty tanks that could be used to store oil are inspected on an annual basis to confirm that they are empty.

Monthly AST inspections are conducted by the Unit ECC, the operator of the tank, EMD, or an approved contractor. Additional inspections of the ASTs associated with the emergency generators and fire pumps may be conducted by the MCAS Miramar PWD.

Inspections of the ASTs are conducted in accordance with the inspection requirements in the STI Standard for Inspection of Aboveground Storage Tanks (SP001). The STI SP001 Monthly Inspection Checklist is provided in Appendix B.

In accordance with STI SP001, the monthly AST inspections at the Facility include the following procedures:

- Each AST is visually inspected for presence of oil, water, and leaks;
- The interstitial space of all double-walled ASTs is checked for the presence of oil by confirming that no leak alarm is present;
- All secondary containment structures surrounding the ASTs and portable containers are inspected for the presence of fluids. If the containment structure contains oil, the oil is removed for proper disposal or recycling. If no oil is present, the collected water is drained per the procedures under Section 6.6. Any debris in the containment structures is removed and disposed of properly;
- All pipe connections are inspected for evidence of leaks. Threaded connections are tightened, if necessary;
- The exterior shell of the tank is inspected for corrosion, defects, or damage; and
- Standard and emergency vents on primary and secondary tanks are inspected, cleared, and cleaned, if necessary.

Routine exterior maintenance, such as spot or touch-up painting, may be performed by Facility personnel. Extensive exterior maintenance, such as cleaning and complete painting of tanks, rust removal, and integrity testing, is normally performed by outside contractors. Monthly AST records are maintained by the EMD for a minimum of 3 years and are readily accessible for review.

5.7.3 Annual AST Inspections

In addition to the monthly inspections, a detailed annual inspection of all ASTs is performed. The annual inspections are normally performed by an outside contractor and documented on the STI SP001 Annual Inspection Checklist provided in Appendix B. The OHS SPCC Plan Volume II provides site-specific information of each AST that should be used when conducting the annual survey; however, the EMD must ensure that the site-specific information is kept current by updating all operational changes.

In accordance with STI SP001, the annual AST inspections at the Facility include the following procedures:

- A walk-around inspection is performed to check for proper drainage around each AST, documenting any ground settling or puddling of water near the tank;
- O-ring gasket(s) of emergency vents are checked for damage or deterioration;

- The tank's foundation is checked for signs of settlement, cracking, pitting, or spalling;
- Anchor bolts are checked for signs of distortion of the bolts or significant cracking around the bolts; and
- Overfill protection devices (i.e., fluid gauges and electronic high-level alarms) and leak detection devices are functionally checked with manual removal and physical actuation. Tank monitoring equipment and gauges are checked during the annual inspection for proper operation. All defective monitoring equipment is repaired or replaced, as needed.

The annual AST inspection records are maintained by the EMD for a minimum of 3 years and are readily accessible for review.

5.7.4 Electrical Oil-Filled Operational Equipment Inspections

Electrical OFOE that uses active containment measures requires inspections to observe a potential spill and to respond to and isolate a spill before it enters the environment. Unlike bulk storage containers, electrical OFOE systems are sealed devices that do not have frequent exchange of oil. Thus, electrical OFOE may be considered to have a lower inspection frequency compared with oil storage tanks and containers.

All electrical OFOE at MCAS Miramar should be visually inspected on a biannual basis. If possible, "At-Risk" transformer sites should be visually inspected on an annual basis. Transformer inspections are normally scheduled under the MAXIMO system by the Utilities Department as part of a standard preventive maintenance program of electrical equipment at MCAS Miramar. Field maintenance inspections generally include a review of the external condition of the transformer casing, observation of any oil leaks, release of the internal casing pressure, and evaluation of electrical operation. The visual inspections of electrical OFOE should be documented by Utilities staff, the EMD, or a qualified contractor.

5.7.5 Product Recovery Tank Inspections

MCAS Miramar Fuel Farm Area G operates Tank No. 7937-1, a 4,000-gallon JP-5 jet fuel product recovery tank inside a below-grade concrete containment vault northwest of Building 7931. The tank is classified as a (tank inside an underground area (TIUGA) and is exempt from UST regulations. Based on previous discussions with the DEHQ, site-specific inspection requirements have been established for this AST to exempt its classification as a UST. Fuels Division personnel conduct daily inspections of the tank and its associated interconnecting pipelines per the Product Recovery Tank Audit Form, which is included in Appendix C.

5.8 Oil-Handling Personnel Training [40 CFR 112.7(f)]

In accordance with 40 CFR 112.7(f), oil-handling personnel receive initial SPCC training and annual discharge prevention briefings. Oil-handling personnel include personnel who conduct AST inspections and/or are engaged in the operation and maintenance of oil storage containers or the operation of equipment related to storage containers and emergency response personnel. The term does not include administrative assistants, clerks, and other personnel who are not involved in operation or maintenance activities related to oil storage or equipment, oil transfer operations, emergency response, countermeasure functions, or similar activities.

Initial SPCC training and annual discharge prevention briefings are required for all oil-handling personnel at MCAS Miramar. The primary means for delivering the SPCC training is through classroom and/or onsite training provided by the EMD. Tank operators assigned to units that operate ASTs must complete the “SPCC and Tank Management” course on the MarineNet website. In addition, the EMD provides training on tank operation and inspections during the quarterly ECC meetings and on an as-needed basis.

Specialized equipment training for uniformed bulk fuel operators is provided at their Military Occupational Specialty (MOS) schools and career progression training schools. Uniformed motor transport Marines also receive operator training at their MOS school.

5.8.1 Personnel Training and Discharge Prevention Procedures [40 CFR 112.7 (f)(1)]

> *§112.7(f)(1) Personnel, training, and discharge prevention procedures. (1) At a minimum, train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and the contents of the facility SPCC Plan.*

MCAS Miramar conducts SPCC-based training of all Facility personnel involved in using, maintaining, or handling oil-related products. The training addresses the following content specified in the SPCC regulations:

- Instruction on the operation and maintenance of equipment to prevent the discharge of OHSs;
- Identification of a designated person accountable for oil or hazardous materials spill prevention; and

- Spill prevention briefings to ensure sufficient comprehension of the SPCC Plan for the Facility.

Hazard communication for toxic and hazardous substances under 29 CFR 1910.1200 requires that personnel be trained in the following:

- Methods and observations that may be used to detect releases of hazardous materials in the work area (e.g., employer monitoring, continuous monitoring devices, visual appearance or odor of hazardous chemicals or fuels release);
- Precautions that personnel can implement to protect themselves from hazards, including specific procedures such as appropriate work practices, emergency procedures, and personal protective equipment (PPE); and
- A hazard communication program that includes elements such as SDS training, a material labeling system, and procurement, understanding, and use of manufacturer information on hazardous materials.

MCO 5090.2, Volume 7 discusses Marine Corps emergency planning and response. MCO 5090.2, Volume 18, discusses storage tank management, including SPCC Plans. General OHS SPCC training requirements include the following:

- Introduction to OHS – Provides information pertaining to proper management of OHS;
- Spill Response – Provides instruction on the proper storage, disposal, and cleanup of OHS at the Facility;
- OHS SPCC Plan – Provides instruction on federal OHS SPCC requirements and on the contents of the OHS SPCC Plan;
- Container Storage – Specifies good management practices for storage of OHS and container management (i.e., 55-gallon drums);
- Spill Response – Emergency spill procedures, notification, emergency phone numbers, and hazard communication;
- Tank Inspection/Record Keeping – Requirements for tank inspections, including standard forms for recordkeeping; and
- Discussion of known discharges or failures, malfunctioning components, and any recently developed precautionary measures.

SPCC-based training is available at MCAS Miramar through web-based training modules and the Navy Environmental Compliance Assessment, Training, and Tracking System. Classroom briefs and presentations are also provided during the 16-hour hazardous waste and Unit ECC training classes.

The EMD is responsible for ensuring that all personnel who work around OHS are sufficiently trained. Training should be conducted on an annual basis, and new personnel assigned to the Facility should be trained prior to working with OHS. Unit ECCs are responsible for arranging appropriate training for all military personnel assigned to their units.

Training records are kept in an electronic file through the web-based Comprehensive Environmental Training and Education Program (CETEP). A CETEP manager in the EMD tracks the training records. The Unit ECC confirms that training has been completed for the appropriate military personnel down to the unit level. Records documenting the dates of SPCC-based training are kept and maintained in an electronic file for a minimum of 3 years and are available for review on request.

All offsite personnel, such as HAZMAT contractors, who respond to a spill emergency at the Facility must have proper training, including Hazardous Waste Operations and Emergency Response (HAZWOPER) training per 29 CFR 1910.120(q). This training includes the following:

- First Responder Operational Level (warm zone, personnel decontamination);
- HAZMAT Technician Level; and
- HAZMAT Specialists Leve.

With the exception of the IC, most responders who do not enter the spill area (i.e., cold, warm, or hot zone) require only Hazard Communication or First Responder Awareness Level training. However, the IC requires awareness, operations, and Incident Management training.

All contractors responding to a spill emergency at MCAS Miramar, including the HAZMAT contractor, are responsible for using properly trained personnel, preventing expirations of training requirements through yearly refresher training, and providing proof to the QI or IC that training requirements have been met. The QI, IC, or designee gives the HAZMAT contractor personnel an initial briefing at the site prior to their participation in any emergency response at the Facility. The briefing includes use of appropriate PPE, chemical hazards involved, and specific duties.

In addition to training records, the EMD is responsible for maintaining records of an OHS spill at the Facility and its cause. Historical records of all spills are maintained for a minimum of 3 years and are readily accessible for review. Records, such as an electronic copy of this OHS SPCC Plan, may also be accessed on the MCAS Miramar intranet.

5.8.2 Annual Discharge Prevention Briefings [40 CFR 112.7(f)(3)]

§112.7(f)(3) Schedule and conduct discharge prevention briefings for your oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that facility. Such briefings must highlight and describe known discharges as described in §112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.

In accordance with 40 CFR 112.7(f)(3), oil-handling personnel at MCAS Miramar receive discharge prevention briefings by the EMD at least once per year during their annual refresher training to ensure adequate understanding of the OHS SPCC Plan, including all amendments. Installation-specific SPCC training is also part of the Hazardous Waste Handler’s course and is reviewed at the annual refresher.

At a minimum, the annual discharge prevention briefings includes the following:

- Known discharges as described in 40 CFR 112.1(b) of the SPCC Rule;
- Known failures or malfunctioning components; and
- Recently developed spill prevention precautionary measures.

The following specific topics are also reviewed during the annual refresher training:

- Review of the OHS SPCC Plan as appropriate;
- AST operating procedures;
- Overview of regulations;
- Recent oil or fuel discharge incidents at the Facility;
- Upcoming equipment installations that might impact spill control planning or implementation;
- Response to fire, explosions, or spills;
- Recordkeeping and documentation requirements; and
- Spill containment and cleanup operation procedures.

5.9 Security [40 CFR 112.7(g)]

§112.7(g) Security (excluding oil production facilities). Describe in your Plan how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of-service and loading/unloading connections of oil pipelines; and address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges.

In December 2008, EPA amended the facility security requirements to be more performance based (73 FR 74236, 5 December 2008). As stated on page 3-19 of the 2013 SPCC GRI, "a facility owner may achieve the rule's security objectives by providing a description of the security measures and how they are implemented at the facility. This description may include a discussion of how measures employed by the facility help deter vandals and prevent unauthorized access to containers and equipment that could be involved in an oil discharge."

In addition, per the SPCC GRI, "SPCC Plans must describe how the facility owner addresses the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges."

5.9.1 Base Security

As a military installation, MCAS Miramar is a restricted-access facility. The Security Department is responsible for Facility-wide security. The normal administrative hours at the Facility are weekdays 8:00 AM to 5:00 PM, but hours vary for each activity because of operational requirements.

Vehicles and personnel must enter the Facility via secured gates guarded 24 hours per day by Marine Corps and contract security personnel. Visitors to MCAS Miramar must check in with the Security Department upon arrival and register their vehicles. Contractors working at the Facility must also have clearance and must check in upon arrival.

The MCAS Miramar Security Department significantly reduces the potential for OHS leaks and spills caused by unauthorized tampering or vandalism of tanks and associated equipment. Security police patrol the Facility and bulk fuel storage locations on a 24-hour basis. Fuels Division personnel also check bulk storage sites during duty hours. Fuels Division operators and controllers are on duty 6 days per week and can be available on Sundays and holidays as required. Facility personnel at other operational sites with ASTs also monitor their respective sites to prevent unauthorized access and ensure the physical integrity of the equipment.

The Flightline is a restricted area in MCAS Miramar with its own security fencing. The number of personnel authorized to enter the Flightline area is strictly limited, and entry is restricted to a limited number of gates equipped with cipher locks. Many OHS ASTs and storage sites also have additional fencing and gates to control access.

For security and safety purposes, the following items are prohibited at fuel handling locations: explosives, dangerous drugs, alcoholic beverages, ammunition, incendiary devices, strike-anywhere matches, firearms, and other such items that could cause a fire or explosion, or impede personnel performance.

5.9.2 Fencing and Gates

MCAS Miramar has 24-hour/365-day-per-year controlled access through two manned security gates. All visitors are required to stop at a gate for security personnel to check identification. Public access is restricted.

Chain-link or wrought iron fences enclose the entire Facility. In addition, several oil storage containers are within additional fenced or masonry wall enclosures with locked gates. The cabinet doors on oil-filled transformers are locked with a padlock and have a recessed special-shaped door retaining bolt. Additional information on site security for each oil storage location is provided in the site descriptions in the OHS SPCC Plan Volume II.

5.9.3 Flow and Drain Valves

All flow valves controlling the flow of oil from ASTs at the Facility are within secured areas. Bottom drain connections on relatively small ASTs, if applicable, normally do not contain a flow valve and are sealed with a threaded plug. Drain valves on larger storage tanks are kept closed, and where necessary, chained and locked when the tank is not being used in a transfer. Control valves for very large ASTs in Fuel Farm Area G are motor operated and can be operated remotely.

Valves controlling drainage from secondary containment and surface water collection areas are in secure areas and are operated manually. Valves on secondary containment structures are kept in the closed position to prevent inadvertent discharge of oil or contaminated water. Valves controlling runoff from surface drainage areas generally remain open to allow normal storm water runoff, but can be closed quickly in the event of a fuel discharge in the area. Such valves are normally closed prior to initiating bulk off-loading or loading operations within the drainage area.

5.9.4 Starter Controls

The starter controls for oil pumps are maintained in the “off” position and locked. Access to starter controls is limited to authorized personnel only. Each starter control is in a secure area of a building or within a locked concrete-walled pump house adjacent to the applicable oil storage tank. Only authorized personnel have access to keys for the pump houses and starter controls.

Transfer pumps at Tanker Truck Transfer Stations are operated by Fuels Division personnel only. Transfer pump controls are within secured areas. Pump controls require a separate key to unlock and function. Each transfer station has a grounding system that shuts down the transfer operation if the fault system is interrupted. The stations are also equipped with meters and counters that automatically shut down the pumps if a preset quantity of fuel has been transferred. The loading station’s fueling system is connected to the tanker truck’s overfill protection system and shuts down the transfer if the fuel reaches the tank’s high level. Operators must also use a deadman switch to fill the trucks.

5.9.5 Pipeline Loading/Unloading Connections

Oil pipeline loading/unloading connections are securely capped or blank-flanged when not in service or standby service. Designated personnel who observe fuel loading/unloading activities verify that these connections are properly capped following each fuel loading/unloading event.

5.9.6 Facility Lighting

Adequate overhead lighting is provided within the Facility for most bulk oil storage areas and buildings, along roadways and thoroughfares, and at all tanker truck parking areas to facilitate discovery of potential oil discharges occurring during hours of darkness and to prevent discharges occurring through acts of vandalism. An exception is the Flightline area, where lighting is limited because of active airfield operations.

If additional lighting is needed, portable lights can be provided by the MFD or ARFF. Security Department personnel also have flashlights and vehicle-mounted spotlights. Additional information on lighting provisions for each bulk oil storage location is provided in the site descriptions in the OHS SPCC Plan Volume II.

5.10 Tanker Truck Loading/Unloading Racks [40 CFR 112.7(h)]

§112.7(h) Facility tank car and tank truck loading/unloading rack (excluding offshore facilities).

(1) Where loading/unloading rack drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck loading/unloading racks. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.

Tanker Truck Unloading Stations Nos. 7935 and 7936 at Fuel Farm Area G are used only in the event of an emergency to provide replacement JP-5 jet fuel into pipelines that supply Tank Nos. 7932-1, 7933-2, and 7934-3 if the main supply pipeline fails. The two tanker truck unloading stations are a limited secondary source of fuel supply and can receive fuel from commercial and military tanker trucks. The tanker truck unloading stations are also used to return on-specification JP-5 jet fuel that is removed from MCAS Miramar aircraft back into the ASTs during an operation.

Additional tanker truck transfer stations are at Fuel Farm Area D. Designated concrete areas are in front of Tank Nos. 7956-1 through 7960-1 and 7906-1 through 7909-1 to transfer jet fuel, diesel fuel, and gasoline between fixed ASTs and mobile tanker trucks.

MCAS Miramar does not operate any loading racks, and is not subject to the requirements under 40 CFR 112.7(h). EPA defines a “loading rack” as a structure at a terminal or bulk plant consisting of a platform and a loading arm designed for use in loading the compartments of a tank vehicle. The mobile tanker truck fuel transfer areas at the Facility are not considered loading racks because they do not have fixed-arm assemblies. All connections between the loading stations and mobile tanker trucks are with flexible hoses. An additional description of the Truck Unloading Stations is provided in the OHS SPCC Plan Volume II.

5.10.1 Fuel Transfer Management

A Scully® system provides fail-safe control for the tanker truck fuel transfer operations at the Facility’s bulk fuel storage areas. It connects the pumping station to the receiving or issue tank truck and manages the safety aspects of the operation. It provides grounding between the tanker truck and the fuel loading facility, and provides tanker truck fuel compartment overfill protection in three ways:

- Detection of an open ground and/or overfill condition automatically shuts down the loading/unloading operation. Overfill protection is activated by fuel contact with liquid-sensor probes in the fuel tank compartments. Ground-continuity-monitoring indicator lights (green “permit” and red “non-permit”) provide visual indication of the Scully® system status;

- The operator holds a device called the deadman control switch during fuel transfer. If this device is not kept closed, then the loading/unloading system automatically stops; and
- The fuel loading facility is equipped with a backward counting meter that tracks the number of gallons transferred to the fuel truck and shuts off when the meter reaches zero (e.g., meter is set to required truck load).

5.10.2 United States Department of Transportation Regulations

All MCAS Miramar tanker truck fuel loading and unloading operations are required to comply with DOT regulations in 49 CFR 177. Tanker truck unloading and loading is conducted in accordance with standard operating procedures described in Section 5.3.2.

5.10.3 Adequate Secondary Containment for Vehicles

The tanker trucks at MCAS Miramar are considered mobile refuelers. All designated parking areas for tanker trucks have adequate secondary containment capacity to contain the maximum storage capacity of the tanker truck, plus sufficient freeboard for precipitation. There are no rail tank car fueling operations at MCAS Miramar.

5.10.4 Warning or Barrier System for Vehicles

§112.7(h)(2) Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks or vehicle brake interlock system in the area adjacent to a loading/unloading rack, to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.

Per the fuel transfer procedures described in Section 5.3.2 premature tanker truck departure is prevented by chocking the wheels and using the parking brake.

5.10.5 Vehicles Examined for Lowermost Drainage Outlets Before Leaving

§112.7(h)(3) Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.

Per the fuel transfer procedures described in Section 5.3.2, prior to departure, the lowest drain and all outlets on the tanker truck are inspected to ensure that they are tightened, adjusted, and secured to prevent any liquid discharge while in transit.

5.11 Brittle Fracture Evaluation [40 CFR 112.7(i)]

§112.7(i) If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

40 CFR 112.7(i) applies to three field-erected ASTs that are located at the Fuel Farm Area G at MCAS Miramar. The facility has an inspection and maintenance program consistent with the standards and protocols established with American Petroleum Institute (API) Standard 653 – Tank Inspection, Repair, Alteration, and Reconstruction. The program addresses all aspects associated with maintenance inspections, repair, alteration, relocation, and reconstruction of tanks, as applicable.

The program assesses and confirms suitability for continued service in instances where tank inspections indicate a change of service from original physical condition has occurred. The inspection program incorporates procedures for assessing the tanks' suitability for continued operation or change of service with respect to brittle fracture. Brittle fracture assessment considerations use decision tree logic as outlined within API Standard 653.

MCAS Miramar employs the services of a certified API inspector to establish an inspection frequency schedule for each field-constructed tank that includes non-routine in-service external inspections, and addresses non-destructive testing options and protocols as outlined in API Standard 653 (i.e., non-routine out of service internal inspections). Inspection frequencies are established by the authorized API inspector based on historical inspection records and known or projected tank bottom corrosion rates. After each tank subject to API Standard 653 has been evaluated, the authorized API inspector identifies suitability for service actions, and determines when the next API inspection is required for the respective tank.

The formal internal tank inspection under API Standard 653 consists of the following procedures:

- Cleaning of the tank and difficult-to-reach areas within the tank in accordance with generally accepted practices;
- Removal, transportation, and disposal of sludge as required by law;
- Inspection of the tank shell for soundness and testing of all welds and seams on tank bottom for porosity and tightness;
- Visual inspection of the internal surfaces of the tank and difficult to reach areas for corrosion or failure;

- Inspection of internal coatings for any signs of failure such as cracks, bubbles, blisters, peeling, curling, or separation; and
- A tightness test of each tank and any connecting underground pipelines.

Construction, inspection, repair/alteration history records, and reports consistent with API Standard 653 are maintained for the life of the tank system.

5.12 Conformance with State and Local Applicable Requirements [40 CFR 112.7(j)]

§112.7(j) In addition to the minimal prevention standards listed under this section, include in your Plan a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules, regulations, and guidelines.

In October 2007, the State of California enacted the APSA under the California Health and Safety Code, Division 20, Chapter 6.67, Sections 25270–25270.13. This act requires facilities to prepare and implement an SPCC Plan in accordance with the federal requirements of 40 CFR 112, specific action to prevent spills, filing of a tank storage statement, and implementation of a monitoring program for facilities that store more than 10,000 gallons of petroleum.

Petroleum is defined under APSA as “crude oil, or any fraction thereof, which is liquid at 60ºF and 14.7 pounds per square inch absolute pressure (normal atmospheric pressure).” Fuels that are not liquid at 60ºF are not considered petroleum under the APSA definition. MCAS Miramar stores more than 10,000 gallons of petroleum and is required to comply with APSA.

The local CUPA has the responsibility of verifying that owners and/or operators comply with the portions of 40 CFR 112 applicable to ASTs containing petroleum oils, as defined in APSA. Owners and/or operators may prepare a single SPCC Plan to meet the requirements of both the federal SPCC regulations and the State of California APSA. The local CUPA for MCAS Miramar is the DEHQ.

The California APSA generally sets a narrower scope of regulated containers than federal SPCC regulations. APSA excludes non-petroleum oils and OFOE, including, but not limited to, transformers, circuit breakers, or capacitors, if the OFOE meets either of the following conditions:

- The equipment contains less than 10,000 gallons of dielectric fluid; and
- The equipment contains 10,000 gallons or more of dielectric fluid with polychlorinated biphenyl (PCB) levels less than 50 parts per million, appropriate containment or diversionary structures or equipment are employed to prevent discharged oil from reaching a navigable water course, and the electrical equipment is visually inspected in accordance with the usual routine maintenance procedures of the owner or operator.

The California APSA also has a wider scope than the federal SPCC regulations regarding the exemption for wastewater treatment systems or OWSs because the APSA does not exclude oil handling in these <u>aboveground</u> systems.

Discussions regarding general conformance and/or consideration with the requirements of API, National Fire Protection Association (NFPA), STI, and other industry standards are integrated where applicable throughout this OHS SPCC Plan.

The following industry standards are referenced in this OHS SPCC Plan:

- API Standard 653, Field Constructed Tank Inspection, Repair, Alteration, and Reconstruction;
- NFPA 1 – Uniform Fire Code;
- NFPA 30 and 30A – Flammable and Combustible Liquids Code;
- NFPA 704 – Standard System for the Identification of the Hazards of Materials for Emergency Response; and
- STI SP001 – Standard for Inspection of Aboveground Storage Tanks.

5.13 Qualified Oil-Filled Operational Equipment [40 CFR 112.7(k)]

§112.7(k) Qualified Oil-filled Operational Equipment. The owner or operator of a facility with oil-filled operational equipment that meets the qualification criteria in paragraph (k)(1) of this sub-section may choose to implement for this qualified oil-filled operational equipment the alternate requirements as described in paragraph (k)(2) of this sub-section in lieu of general secondary containment required in paragraph (c) of this section.

(1) Qualification Criteria—Reportable Discharge History: The owner or operator of a facility that has had no single discharge as described in §112.1(b) from any oil-filled operational equipment exceeding 1,000 U.S. gallons or no two discharges as described in §112.1(b) from any oil-filled operational equipment each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war or terrorism); and

(2) Alternative Requirements to General Secondary Containment. If secondary containment is not provided for qualified oil-filled operational equipment pursuant to paragraph (c) of this section, the owner or operator of a facility with qualified oil-filled operational equipment must:

(i) Establish and document the facility procedures for inspections or a monitoring program to detect equipment failure and/or a discharge; and

(ii) Unless you have submitted a response plan under §112.20, provide in your

Plan the following:

(A) An oil spill contingency plan following the provisions of part 109 of this chapter.

(B) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

OFOE is equipment that includes an oil storage container in which the oil is present solely to support the function of the apparatus or device. OFOE in use at MCAS Miramar includes electrical transformers, hydraulic elevators, and lifts.

MCAS Miramar meets the qualification criteria as defined in 40 CFR 112.7(k)(1) and uses alternate requirements to secondary containment for hydraulic elevator OFOE as defined by 40 CFR 112.7(k)(2). MCAS Miramar has had no single discharge from any OFOE at a quantity exceeding 1,000 United States gallons, or no two discharges from any OFOE each exceeding 42 United States gallons within any 12-month period in the 3 years prior to the OHS SPCC Plan certification date as described in 40 CFR 112.1(b). The complete spill history is maintained by the EMD.

As part of the alternate requirements to secondary containment, OFOE must be covered by an inspection plan as defined by 40 CFR 112.7(k)(2)(i). Hydraulic elevators are inspected and tested every 6 months by a contractor. The inspection form includes a check of the hydraulic oil tank, hydraulic feed line, hydraulic pump, and control valves. Completed Hydraulic Elevator Inspection and Test Reports are maintained by the Public Works Department.

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6.0 SPCC Plan Requirements for On-shore Facilities (Excluding Production Facilities) [40 CFR 112.8]

MCAS Miramar is an on-shore facility and not a production facility, and therefore must comply with the requirements in 40 CFR 112.8.

6.1 Facility Drainage for Diked Storage Areas [40 CFR 112.8(b)(1) and (2)]

§112.8(b) Facility Drainage (1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

§112.8(b)(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.

Most of the bulk storage containers at MCAS Miramar are steel, double-walled tanks constructed with integral secondary containment. For the tanks on the Facility that are in concrete or steel dikes, storm water is retained in the dikes by open-and-closed types of valves. These valves are secured to prevent discharge into the storm water drainage system or facility effluent treatment system. The valves are kept closed until rainwater accumulation is determined by visual inspection to be uncontaminated. Flow is directed either to an OWS or the curb and gutter by the manually operated valves. Valves are re-secured after drainage is complete. Records of discharge from secondary containment are kept for each discharge event by the tank operator.

6.2 Facility Drainage Design and Equipment [40 CFR 112.8(b)(3) and (4)]

§112.8(b)(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

§112.8(b)(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

MCAS Miramar uses in-ground catchment basins (i.e., OWSs) that are designed to retain oil in undiked drainage areas along the Flightline and tanker truck loading areas at Fuel Farm Areas D and G. Additional information on the OWSs is provided in the site descriptions in the OHS SPCC Plan Volume II and in the Facility SWPPP.

6.3 Facility Drainage Pump Transfer [40 CFR 112.8(b)(5)]

§112.8(b)(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two “lift” pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in §112.1(b) in case there is an equipment failure or human error at the facility.

The requirements of 40 CFR 112.8(b)(5) are not applicable to the containers included in this OHS SPCC Plan because the Facility’s storm water drainage system treatment units (i.e., below-grade OWSs) are not transferred via pumped flow.

6.4 Bulk Storage Container Construction [40 CFR 112.8(c)(1)]

§112.8(c)(1) Bulk storage containers. You must not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

All oil storage containers and ASTs at MCAS Miramar are constructed of carbon steel. The design and construction of the steel containers are compatible with the characteristics of the oil product they contain under the temperature and pressure conditions. Most of the steel ASTs also have adequate exterior coatings to prevent rust formation. Transportable containers of oil conform to DOT specifications. Table 3 is an inventory of bulk oil ASTs, and the site descriptions in OHS SPCC Plan Volume II provide details regarding container construction materials and compatibility.

6.5 Secondary Containment for Capacity of Largest Bulk Storage Container Plus Freeboard [40 CFR 112.8(c)(2)]

§112.8(c)(2) You must construct all bulk storage tank installations (except mobile refuelers and other non-transportation related tank trucks) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

Methods of secondary containment intended to comply with the provisions of 40 CFR 112.8(c)(2) for bulk storage containers include dikes, containment pallets, and built-in secondary containment structures. Double-walled ASTs and containers described in this OHS SPCC Plan provide intrinsic secondary containment for the entire tank shell capacity. Because this secondary containment is not open to precipitation, this volume is sufficient to fully contain the product in the event of a leak from the primary container.

Sufficient freeboard is not defined in 40 CFR 112; however, in 67 FR 137, EPA suggested that freeboard should be able to contain the precipitation of a 25-year, 24-hour rainfall event for the local area. A 25-year, 24-hour rainfall event is a rainfall event with a probable recurrence interval of once in 25 years, respectively, as defined in the National Weather Service Technical Paper Number 40, "Rainfall Frequency Atlas of the United States," May 1961, or equivalent regional or state rainfall probability information developed from National Weather Service documents.

The National Oceanic and Atmospheric Administration (NOAA) Hydrometeorological Design Center has developed precipitation frequency maps for the United States. The Precipitation Frequency Data Server (http://hdsc.nws.noaa.gov/hdsc/pfds/index.html) provides individual maps for each state to locate precipitation data for specific points. For example, MCAS Miramar is located at 32.8873 North latitude and -117.1198 West longitude, and a 25-year, 24-hour rainfall event generates approximately 3.26 inches of storm water freeboard. Thus, when designing passive exterior secondary containment structures, the structure should be at least 3.26 inches higher than the calculated height for the largest tank shell volume.

Most of the ASTs currently in operation at MCAS Miramar are of double-walled construction. The remaining ASTs are of single-walled construction and are enclosed within concrete bermed secondary containment structures. All secondary containment structures were evaluated and confirmed to have sufficient freeboard available to contain local precipitation. The secondary containment capacity calculations for single-walled ASTs are provided in Table 9. The site descriptions in the OHS SPCC Plan Volume II provide additional details regarding secondary containment capacity.

6.6 Drainage of Diked Storage Areas [40 CFR 112.8(c)(3)]

§112.8(c)(3) You must not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:

(i) Normally keep the bypass valve sealed closed.

(ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in §112.1(b).

(iii) Open the bypass valve and reseal it following drainage under responsible supervision; and

(iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§122.41(j)(2) and 122.41(m)(3) of this chapter.

Diked secondary containment is installed around all large fuel storage tanks at MCAS Miramar. Sloped containment is also provided at the Tanker Truck Transfer Stations at Fuel Farm Areas G and D.

Storm water collected within open secondary containment structures around ASTs, portable containers, and oil-filled operational equipment (i.e., electrical transformers) is normally required to be inspected for contamination (i.e., oil sheen on the water surface) after each storm event unless the diked drainage area has a system, such as a Petro-Pipe, to prevent oil discharges. If no sheen or visible fuel product is present, the storm water is then removed by hand, pumped out, or drained through the manual operation of a ball valve connected to a drain pipe. The collected storm water is then gravity drained onto adjoining pavement, into a landscaped or vegetated area, or potentially into a storm drain catch basin.

To prevent accidental discharge of oil from diked secondary containment areas, all dike drainage areas at MCAS Miramar have “open and-closed” types of valves and are normally sealed closed after use. The valves are opened only after the collected water has been inspected for an oil sheen. With the exception of diked drainage areas that have a system to prevent oil discharges, the drainage events are normally conducted under the supervision of the tank operator. If an oil sheen is present, the contaminated storm water is pumped out of the secondary containment structure for offsite disposal.

Other support equipment associated with the ASTs, such as manifolds, pumps, and valve assemblies, may also be protected by concrete-curbed containment, metal walls, or dikes. The secondary containment of this equipment is also checked routinely by the tank operator or Facility personnel.

The dikes, curbs, or berms enclosing ASTs are checked monthly for any cracks, erosion, defects, or discoloration. The drain valves are also checked to ensure that they are in a closed position when not in use. The secondary containment inspections are completed as part of the monthly AST inspections.

The following standard operating procedure (SOP) is followed to ensure safe discharge of uncontaminated storm water from diked areas that do not have a system to prevent oil discharges:

1. Determine the type of OHS stored in the AST or container (e.g., oil, corrosives, solvents, etc.).
2. Prior to draining the secondary containment area, visually inspect the water surface to ensure that no oil sheen, surface film, or coating is present.
3. If significant quantities of oil are present or if a hazardous material other than oil is present, notify the Unit ECC and the EMD. Do not drain the spilled material. The Unit ECC or EMD personnel determines whether to pump out the contaminated water for disposal or drain the water to an OWS.
4. If small amounts of oil are present, use adsorbent materials to remove the oil.
5. Check exposed drain pipes, valves, and connections to the containment structure before draining.
6. Obtain the authorization of the Unit ECC, Manager, or EMD to drain the containment area and ensure that there is no operational interruption.
7. Allow the secondary containment area to drain completely. After draining is complete, close and secure the drain valve.
8. Do not drain a containment structure near the end of a work shift. Do not allow a drain valve to be left open overnight or for longer than 24 hours.

Facilities with open secondary containment structures, including stationary portable, temporary, or mobile flexible pop-up berms, maintain a storm water discharge logbook or complete a form to document inspection of the accumulated rainfall prior to discharge.

6.7 Corrosion Protection for Buried, Partially Buried, and Bunkered Storage Tanks [40 CFR 112.8(c)(4) and (5)]

§112.8(c)(4) You must protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

§112.8(c)(5) You must not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

No partially or completely buried or bunkered metallic storage tanks are at MCAS Miramar; therefore, these sections are not applicable.

6.8 Inspect or Test Each Aboveground Container for Integrity [40 CFR 112.8 (c)(6)]

§112.8(c)(6) You must test or inspect each aboveground container for integrity on a regular schedule and whenever you make material repairs. You must determine, in accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections, which take into account container size, configuration, and design (such as containers that are: shop-built, field-erected, skid-mounted, elevated, equipped with a liner, double-walled, or partially buried). Examples of these integrity tests include, but are not limited to: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph.

In addition to monthly and annual inspections, non-destructive integrity testing of ASTs may be required. The integrity testing is based on a prescribed inspection schedule in accordance with STI SP001 and whenever material repairs are made for ASTs with capacities of 50,000 gallons or less. The integrity testing for ASTs is based on shop-fabricated construction, the type of spill protection present, the tank’s capacity, and the age of the tank. STI SP001 classifies ASTs according to the following categories:

- Category 1 – ASTs with spill control and continuous release detection method (CRDM);
- Category 2 – ASTs with spill control and without CRDM; or
- Category 3 – ASTs without spill control and without CRDM.

Spill control is defined as a means to control a release such as remote impounding, secondary containment dike or berm, and double-walled tank construction. CRDM is a passive means of detecting a release through the inherent tank design such as elevating the tank on saddles, mounting the tank on an impermeable barrier, or providing secondary containment with double-walled or double-bottom construction.

All ASTs at MCAS Miramar are classified as Category 1. The recommended schedule for inspections and certified integrity testing under STI SP001 for shop-fabricated ASTs with capacities of 50,000 gallons or less in capacity is described in Table 10. Most of the ASTs at MCAS Miramar have capacities that are less than 5,000 gallons. These ASTs, including portable tanks, satisfy integrity testing requirements through the environmental equivalence of monthly and annual visual inspections.

Six ASTs at MCAS Miramar currently have a storage capacity of 5,001 to 50,000 gallons. In addition to monthly and annual inspections, these tanks require additional integrity testing every 20 years of operating service based on STI SP001. The integrity testing consists of a formal external inspection of the tank and its components by an STI-certified tank inspector. The certified integrity tank testing records are maintained by the EMD for the life of the tank and are readily accessible for review.

6.9 Leakage through Heating Coils [40 CFR 112.8(c)(7)]

§112.8(c)(7) You must control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

ASTs at MCAS Miramar do not have internal heating coils; therefore, this section is not applicable.

6.10 Overfill Prevention Devices [40 CFR 112.8 (c)(8)]

§112.8(c)(8) You must engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

(i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.

(ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.

(iii) Direct audible or code signal communication between the container gauger and the pumping station.

(iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

40 CFR 112.8 also requires all bulk oil storage containers to be inspected on a periodic basis to determine whether the secondary containment provisions for each container are intact, and a leak has not occurred. The regulation requires that a user inspect the outside of the container frequently for leaks and any accumulation of oil inside interstitial or secondary containment areas. Any accumulated oil present must be removed promptly.

Most fuel storage tanks, such as emergency generator base tanks, have an electronic sensor connected to an alarm panel to detect a leak into the interstitial space of a double-walled constructed tank. Separate stand-alone tanks may use a mechanical pop-up gauge to indicate the leak. Several used oil ASTs have also used vacuum gauges for leak detection, but this arrangement has become unreliable.

Descriptions of each AST, including the respective overfill protection and leak detection device, if present, are provided in the site descriptions in the OHS SPCC Plan Volume II. All fail-safe and leak detection devices are inspected on an annual basis to confirm proper operation.

All of the large fuel storage tanks at the Fuel Farm Area G are fitted with an automatic tank gauging (ATG) system, high-level shut-off valves, and/or high-level alarms that are used to determine liquid levels. A Supervisory Control and Data Acquisition (SCADA) computer system monitors the tank sensors, provides tank levels, calculates volumes, gives product densities and temperatures, checks water bottoms, processes alarms, logs events, and tracks responses to each tank action. Sensors on the ASTs activate an alarm if tank levels exceed low level or high level set points, or if there is any unauthorized fuel movement in the tank. System monitors are in the Fuels Division Pump House and Operations Control Room (Building 7931). Operators ensure that gauge readings and tank inventory data are recorded daily.

The Tanker Truck Transfer Stations are bottom-loading and are equipped with safety systems that provide ground fault and overfill protection during transfers. The systems automatically shut down the transfer if the truck's high level sensor is activated or the grounding device is interrupted, or when the programmed loading quantity is reached. The positive displacement loading meters (Turbo Meters) shut down the system after issuing the volume of fuel preset by the operator. An operator is in attendance at all times during transfers and reacts to any problems as required. The systems are visually checked daily for any possible leakage and are inspected and tested monthly.

6.11 Liquid Level Sensing Devices [40 CFR 112.8 (c)(8)(v)]

112.8(c)(8)(v) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must regularly test liquid level sensing devices to ensure proper operation.

Liquid level sensing devices mounted on ASTs (e.g., fluid level gauges and interstitial leak detectors) are examined during the monthly AST inspection, and any deficiencies are documented on the STI SP001 Monthly Inspection Checklist. The sensing devices are checked on an annual basis to confirm proper operation.

The bulk fuel storage tanks at Fuel Farm Area G are equipped with liquid level sensors that activate alarms in the Fuels Division Pump House and Operations Control Room (Building 7931) if fuel reaches low level or high level set points. The alarm for an AST is also activated if the fuel level varies more than 1/16 inch during static conditions. The transfer pumps have alarms that activate if an emergency shutdown occurs from a pressure, temperature, or vibration problem. The alarms are at each site and in the Operations Control Room. The alarms may be audible (horn or buzzer), visual (red or flashing light), or both.

6.12 Observation of Effluent Treatment Facilities [40 CFR 112.8 (c)(9)]

§112.8(c)(9) You must observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in §112.1(b).

OWSs are inspected and maintained on a frequent basis. Each unit is responsible for performing weekly inspection of the influent and effluent; maintaining a logbook; checking the amount of oil, water, and sludge; and requesting cleaning of each OWS. A request for an OWS cleanout is submitted to the EMD, who contacts an approved waste contractor.

6.13 Correct Visible Discharges [40 CFR 112.8 (c)(10)]

§112.8(c)(10) You must promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

Personnel conducting tank inspections are trained to initiate corrective action when visible oil leaks from container walls, piping, pumps, valves, rivets, bolts, or other components are discovered. Corrective actions range from minor oil cleanup to submittal of an emergency work request to ensure oil is removed and the cause addressed as soon as possible to prevent a larger spill. Oil is promptly removed and disposed of according to the hazardous waste disposal method described in this OHS SPCC Plan.

Accumulated liquids in secondary containment diked areas or interstitial spaces are removed in accordance with the secondary containment discharge procedures in this OHS SPCC Plan.

Visible oil leaks from tank seams, gaskets, piping, pumps, rivets, and bolts are reported promptly to tank operators and fuel system operators through SOPs. If safe to do so, tank and fuel system operators clean up discharged oil. Repairs or replacement of commercial ASTs are by qualified contractors. Deficiencies observed and corrected, and remedial actions taken are recorded and kept on file with the EMD.

6.14 Mobile or Portable Oil Storage Containers [40 CFR 112.8 (c)(11)]

§112.8(c)(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b). Except for mobile refuelers and other non-transportation-related tank trucks, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

When an FRC or SIXCON is loaded onboard a vehicle, it is considered a mobile refueler that is exempt from sized secondary containment requirements; however, bulk storage containers not transported on a vehicle must have secondary containment sufficient to contain the capacity of the largest container plus sufficient freeboard to contain precipitation.

Other portable containers, such as 55-gallon drums of oil or fuel, are typically stored in designated areas or storage lots, inside buildings, or under a covered shelter. The drums are normally stored on containment pallets or other types of sized secondary containment structures to prevent a discharge.

Mobile or portable oil storage tanks and containers are used in daily operations at MCAS Miramar. They are used to support a variety of operations, including defueling aircraft at the Flightline and fueling ancillary ASTs throughout the Facility. Major mobile oil storage areas at MCAS Miramar are described in the site descriptions in OHS SPCC Plan Volume II. No mobile or portable oil storage tanks are used at MCAS Miramar in areas subject to flooding or washout.

6.15 Corrosion Protection and Testing of Buried Piping [40 CFR 112.8(d)(1)]

§112.8(d)(1) Facility transfer operations, pumping, and facility process. Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.

Underground Fuel Pipelines to Flightline

In 2011, MCAS Miramar discovered a 1,000-gallon JP-5 jet fuel release in a section of the underground distribution pipeline from Building 7931 to the in-line fueling stations at the Flightline. The underground jet fuel pipelines from Fuel Farm Area G to the Flightline are shown in Figure 4. To monitor the long-term integrity of the pressurized underground pipelines, MCAS Miramar initiated quarterly testing of the pipeline segments using volumetric leak detection equipment and annual pump deadhead pressure testing.

A pipeline integrity test is performed using the Vista Research Inc. Modified Fixed HT 100 monitoring system (Vista HT-100). The Vista HT-100 is a volumetric leak detection system certified for use on underground pipelines and hydrant fuel piping, and it is an equivalent alternative method to API Standard RP 1110 for hydrostatic testing. The leak test is capable of detecting a fuel release of 0.2 gallon per hour with at least a 95 percent probability of detection and no more than a 5 percent false alarm rate.

The system is mounted on a skid and consists of a measurement cylinder, storage cylinder, differential pressure sensor to electronically measure level changes, pump for transferring fuel from the cylinders to the pipeline to increase line pressure to a specified level, and assorted valves for removing fuel from the pipeline.

The Vista HT-100 is connected to a section of the underground pipeline that is completely isolated by valves. All fuel transfer operations must be suspended during the test. The measurement cylinder pressurizes the pipeline segment to a specified pressure. The storage cylinder maintains the constant pressure in the pipeline segment and measures the volume changes during the test. The Vista HT-100 compensates for thermal expansion and contraction of the fuel within the pipeline by measuring volume changes at two different but constant pressures.

In addition to the volumetric leak detection testing, an annual pressure test is conducted on the aboveground and underground piping segments of the jet fuel distribution system. The Fuels Division operates the system at a pump deadhead for a minimum of 2 hours to determine potential pressure leaks in the system.

The pipeline testing records are maintained by the Fuels Division and are readily accessible for review.

Burn Pit Underground Fuel Pipelines

Other than the underground jet fuel supply pipelines from the Fuel Farm Area G to the Flightline, MCAS Miramar has one additional set of buried oil pipelines at Building 9743, the burn pit. ARFF personnel use an open burn pit for firefighting training exercises. The facility includes two ASTs containing salvaged JP-5 jet fuel, an aboveground OWS, a recovered water holding/storage pond, fuel distribution pumps, aboveground and underground piping, and a burn pit.

The site has two underground fuel supply pipelines from the ASTs to the burn pit, an underground fuel return pipeline, and an oily water drain line from the burn pit to the OWS. All underground pipelines were installed in 1990 and have not been replaced. The pipelines were constructed of schedule 40 carbon steel and were "protectively coated" per the as-built drawings.

Although the underground pipelines at Building 9743 were installed before 2002 and are not technically required to meet the requirements of 40 CFR 112.8(d) and 112.12(d), the system is protected by an impressed current cathodic protection system and an underground high-density polyethylene (HDPE) liner for secondary containment. On 3 August 2017, a subcontractor, Corrpro Corporation, tested the cathodic protection system at Building 9743 in accordance with National Association of Corrosion Engineers (NACE) International TM0497-2012 standards. The rectifier output was adjusted, and the potential measurements of the buried pipelines satisfied operational requirements. Additional evaluations of the cathodic protection system are conducted by Corrpro Corporation until the existing Building 9743 burn pit is planned to be demolished and rebuilt.

All other buried pipelines are constructed of steel with fusion bonds and coated to reduce corrosion. If a section of buried pipeline is exposed for any reason, it is examined for deterioration. If corrosion damage is found, additional examination and corrective action are taken as indicated by the magnitude of the damage.

Buried piping associated with USTs at MCAS Miramar is subject to regulation under 40 CFR 280 and CCR Title 23.

6.16 Terminal Connections [40 CFR 112.8(d)(2)]

§112.8(d)(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

When a pipeline associated with an AST is not in service, or is in a standby service for an extended period of time, valves are kept closed, and lines are ball-plugged or blank-flanged, and marked as to their tie-in connection.

6.17 Pipe Supports [40 CFR 112.8(d)(3)]

§112.8(d)(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

Pipelines associated with ASTs are installed with adequate support to minimize the likelihood of failure resulting from metal fatigue from excessive movement, abrasion, and corrosion, while allowing for expansion and contraction.

Based upon visual inspections, piping supports appear to have been designed and constructed in accordance with good engineering practice to minimize the potential for abrasion and corrosion, and to allow for expansion and contraction.

6.18 Piping, Aboveground Valves, and Appurtenances [40 CFR 112.8(d)(4)]

§112.8(d)(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

Aboveground piping and valves are inspected routinely as part of the monthly AST inspections. All aboveground valves, piping, and appurtenances are inspected to assess the general condition of flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, and metal surfaces. Routine pressure testing of aboveground piping is not warranted, unless the condition of the piping changes, repairs are made, or leaks are observed. Any deficiencies observed are recorded in the STI SP001 inspection forms included in Appendix B.

6.19 Vehicle Warning [40 CFR 112.8(d)(5)]

§112.8(d)(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

See deviation from this regulation in Section 5.2.4. All aboveground piping associated with AST operations is generally located away from any vehicular traffic within separate fenced or masonry block wall enclosures surrounded by traffic bollards.

7.0 Discharge Countermeasures, Response, Notification, Cleanup, and Disposal Procedures

This section describes the discharge countermeasures, response, notification, cleanup, and disposal procedures in the event of an oil spill incident at MCAS Miramar.

7.1 Discharge Countermeasures

§112.7(a)(3)(iv) …You must also address in your plan: Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor).

Countermeasures for discharge discovery include immediate action to control, contain, remove, and dispose of discharged oil products. MCAS Miramar conducts frequent inspections of ASTs per industry standards to detect potential spills or releases. Storage tanks are equipped with high level alarms and leak detection devices to monitor operation. Oil storage locations also have secondary containment provisions to limit the environmental impact of a spill. Once a spill is detected, written response procedures are in place to effectively isolate, clean up, and dispose of the recovered materials.

7.2 Spill Response Procedures

§112.7(a)(5) Unless you have submitted a response plan under §112.20, organize portions of the Plan describing procedures you will use when a discharge occurs in a way that will make them readily usable in an emergency, and include appropriate supporting material as appendices.

The immediate response and reporting of oil discharges are paramount to minimizing possible damage to the environment, human health, and property. An oil discharge includes any type or amount of oil spilled, leaked, pumped, poured, emitted, emptied, or dumped from its primary containment. This includes oil discharges that are captured within secondary containment structures.

Spill response procedures, including the spill discoverer actions, are described in the ERAP.

7.3 External Spill Notification Procedures [40 CFR 112.7(a)(4)]

§112.7(a)(4) Unless you have submitted a response plan under §112.20, provide information and procedures in your Plan to enable a person reporting a discharge as described in §112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in §112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who have also been contacted.

Spill reporting and notification requirements are described in ERAP.

In the event of a major OHS release, the EPA Regional Administrator may require the Facility to amend the OHS SPCC Plan after review of the information submitted in response to a spill, after an onsite review of the Plan, or if the Regional Administrator finds that an amendment is necessary to prevent and contain discharges from the Facility.

The Regional Administrator must specify the terms of such proposed amendment to the OHS SPCC Plan by certified mail or by personal delivery to the Facility. If the owner or operator is a corporation, the corporation must also notify by mail the registered agent of such corporation, if any and if known, in the state in which the Facility is located.

Within 30 days of receipt of this notice, the Facility may submit written information, views, and arguments on the proposed amendment requirement. After considering all material presented, EPA notifies the Facility of the amendment required or rescinds the notice. The required amendment becomes a part of the OHS SPCC Plan 30 days after such notice unless the Facility appeals. As required by 40 CFR 112.4, the amendment must be implemented as soon as possible, but no later than 6 months after the amendment becomes a part of the OHS SPCC Plan.

7.3.1 Contact Lists [40 CFR 112.7(a)(3)(vi)]

§112.7(a)(3)(vi) You must also address in your Plan: Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom you have an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in case of a discharge as described in §112.1(b).

In all cases, 911 is called first when an emergency or large spill occurs. Internal emergency response and notification contacts are listed in Table 11. The external local, state, and federal regulatory agency contacts are listed in Table 12.

7.3.2 Communications

MCAS Miramar has two types of communication systems, portable handheld radios and commercial telephones. Handheld radios are carried by Fuels Division operators while at the bulk storage or transfer sites. The radio network can be monitored by the Security Department, MFD, and Facility and Flight Operations for emergencies.

Commercial telephones with full off-base capability are in all offices. The phones generally are not manned at all times, and particularly not after normal working hours. Key personnel have cellular telephones.

7.4 Spill Cleanup, Decontamination, and Methods of Disposal

For small non-emergency OHS spills, the responsible unit or activity conducts the cleanup and is responsible for collecting the spilled material for disposal. Once the spill has been contained and isolated and nearby storm drains and drainage swales have been protected, the spill may be cleaned up. Spills that are limited to impervious surfaces should be collected and cleaned up using appropriate absorbent materials. A spill kit with a sufficient supply of absorbent material should be available for responding to small spills. Collected materials (i.e., free product, contaminated soil, spent cleanup materials) should be placed in proper containers and managed as a hazardous waste.

For OHS spills, the IC may direct MFD, ARFF, and/or Fuels Division personnel to contain and clean up the spill. The main objective in the spill cleanup is to collect all contaminated materials while keeping the volume of the contaminated materials to a minimum. If possible, free liquids are pumped into appropriate containers. Any remaining liquid is absorbed, and the spill area decontaminated by additional removal and cleaning. The volume of water used for dilution of the waste is minimized during cleanup.

After a significant OHS spill or release has been mitigated, control may be transferred by the IC to a HAZMAT contractor to conduct the post-emergency cleanup. Members of the HAZMAT contractor complete the recovery, cleanup, disposal, and restoration activities.

7.4.1 Spill Cleanup Procedures

The approach to the oil spill cleanup should consider previous experiences in handling the spilled material, the size of the spill, and the location of the spill. Special considerations are also applied to environmentally sensitive areas containing vegetation, fish, game, or wildlife within the immediate area of a spill that could be exposed to toxic substances.

Specific cleanup procedures for OHS spills at MCAS Miramar include the following:

- For oil and pesticide spills, soak up the liquid into absorbents and containerize in drums for disposal;
- For solvent spills such as lacquer thinner, paint stripper, trichloroethane, methyl chloride, and fuels, collect and pump any free liquids into a suitable drum. Soak up the remaining material with absorbent materials and drum separately;
- For spilled acids and bases, handle similarly to solvent spills. Take care to use containers made of the proper material (i.e., non-metallic). If proper containers are not available, neutralize the acid with sodium bicarbonate or sodium carbonate. Most plastic materials can store caustics without neutralization; and
- For PCB spills, which can occur from such sources as electrical transformers, electrical switching gear, capacitor banks, or old fluorescent light ballasts, the following containment and countermeasure actions should be used:
  - Lock-out/tag-out any leaking oil-filled electrical equipment before conducting containment and countermeasure actions;
  - Wear appropriate PPE, such as respirators, gloves, and coveralls;
  - Prevent further leakage by repositioning with a crane, if necessary, the leaking container or transformer, or by overpacking, or by applying a temporary seal to the leak using epoxy or a fiberglass patch kit. If not available, other materials on hand may be used. If possible, close valves or petcocks;
  - Place absorbent around the outside of the spill. Work the absorbent into the spill, using a broom to force the absorbent into the spilled PCBs.
  - Prevent the spill from spreading by trenching or encircling the area with a dike, sand, absorbent materials, or, as a last resort, dirt, or rags; and
  - If rain is imminent, cover the spill area with a polyethylene or plastic tarpaulin.
- Collect all spent absorbent material and place in properly labeled DOT-approved drums. Remove contaminated soil to a depth at least 6 inches below the wet surface line and place in properly labeled, DOT-approved drums. Collect all contaminated equipment (e.g., PPE, including coveralls and gloves) and also place them into properly labeled, DOT-approved drums.

The ability to contain, recover, and clean up OHS spills that spread beyond the Facility is affected by variables such as weather and storm water flow. Actions focus on preventing environmentally sensitive areas from becoming contaminated.

Additional spill response resources should be directed to areas where containment and recovery of spilled OHS can be best achieved. Protection strategies are devised for environmentally sensitive areas. Commercial oil spill response contractors are trained in operating the latest containment and recovery equipment, planning removal operations, and preparing recovered material for disposal.

If site decontamination is required after an OHS spill, certain procedures and guidelines must be followed. Depending on the type of material spilled, the decontamination methods can vary. Use minimal amounts of solvents such as kerosene or trichloroethane for PCB spills, water for acid spills, bleach solution for caustic spills, and diesel fuel for pesticide spills.

When required, decontaminate the spill area as follows:

1. Apply an absorbent over the contaminated surface.
2. Remove the spent liquid and absorbent using a broom and plastic scoop or non-sparking shovel, and place the material into drums.
3. Repeat these two steps until all traces of the spilled material are removed, if possible.
4. Decontaminate clothing and equipment by washing. Decontaminate personnel by showering in a small plastic pool. A common solution used for decontaminating equipment is water with 5 percent sodium carbonate or 5 percent tri-sodium phosphate. Contaminated clothing and equipment may need to be disposed of as a hazardous waste after decontamination.
5. Restore any emergency equipment used in the spill cleanup to good working order. Return the equipment to the storage space for future use.

Any contaminated materials that are recovered, including absorbents, cloth, soil, wood, and PPE that cannot be decontaminated, should be placed into properly labeled leak-proof containers suitable storage of the material. DOT-approved 55-gallon drums are used for storage and disposal of hazardous waste. A designated area should be provided for temporary storage of recovered hazardous materials until they can be disposed of properly.

Long-term remediation actions may be required, if necessary, after emergency cleanup has been conducted and a damage assessment has been performed. The FIC must coordinate with state and federal officials on any MCAS Miramar plan to clean up environmentally sensitive areas. Certain cleanup and remediation efforts can be more intrusive and can do more harm to the affected area than the spill itself. Environmental specialists, biologists, and a geologist should be consulted for input on follow-up cleanup and restoration actions.

A large OHS spill that affects wildlife may also require the establishment of bird or animal cleaning stations. Additional support can be obtained through the Oiled Wildlife Care Network (OWCN).

7.4.2 Methods of Disposal [40 CFR 112.7(a)(3)(v)]

§112.7(a)(3)(v) Methods of disposal of recovered materials in accordance with applicable legal requirements.

Any contaminated materials that are recovered, including absorbents, cloth, soil, wood, and PPE that cannot be decontaminated, are placed into properly labeled, leak-proof containers suitable for the material. DOT-approved 55-gallon drums are used for storage and disposal of hazardous waste. A designated area is also be provided for temporary storage of recovered hazardous materials until they can be disposed of properly. Contaminated materials may be temporarily stored at a local SAA, or at Fuel Farm Areas D, E, or G, if space is available, or an alternate area designated by the QI in coordination with the HAZMAT contractor responsible for final cleanup and disposal.

The EMD ensures that all contaminated materials and hazardous waste collected from the OHS spill cleanup and site decontamination are disposed of properly. All hazardous waste generated in the spill cleanup and site decontamination are ultimately transferred to the 90-Day Hazardous Waste Accumulation Areas (Building 6687) within MCAS Miramar. The EMD ensures that all recovered OHS or hazardous waste is properly packaged or containerized for transportation and disposal. Only approved waste haulers and disposal sites are used.

The EMD also coordinates the testing and disposal of contaminated cleanup materials at Building 6687 with the hazardous waste section, which processes the materials in accordance with applicable hazardous waste regulations. Federal regulations for the classification and disposal of hazardous substances are provided in 40 CFR 261. Recovered products are subjected to laboratory analysis to identify potential hazardous waste and determine appropriate and acceptable disposal methods. Laboratory tests are conducted for hazardous waste constituents, including volatile organic compounds and heavy metals, if applicable. The tests on an oil phase include analysis for flash point, lead, arsenic, chromium, cadmium, total organic halogens, and PCBs. The tests on the water phase may include analysis for toxicity characteristics.

California regulates used oil, recovered oil, or oily debris as a hazardous waste under 22 CCR 66261.101 unless it meets certain purity standards, and is not mixed with other hazardous waste. Used oil must be recycled or disposed of at an approved site. Note that used oil regulations exclude fuels such as jet fuel, diesel fuel, and gasoline. If the used oil or debris is contaminated with another substance, the recovered material must be treated as a hazardous waste, and may have to be characterized before it can be transported to an approved treatment or disposal site.

All hazardous waste generated by the oil spill response are shipped off site to a Treatment, Storage, and Disposal Facility (TSDF). The TSDF must hold a current state and federal permit, which can be verified through the California Department of Toxic Substances Control (DTSC). The TSDF permit numbers should be provided with the oil spill incident records.

If possible, fuel that is not contaminated is returned to a storage tank or other suitable containers at or near the spill site for transfer back into the inventory. Fuel that is determined to be contaminated is shipped to a TSDF to be disposed of as a hazardous waste.

A significant amount of water may be collected with the recovered petroleum product; this water quickly decreases the storage capacity for the recovered product. It may be possible to drain the water from the bottom of a spill recovery tank, and a portable OWS may be used for disposal of the treated water to the sanitary sewer system, if available. If the water from the recovery operations is not acceptable, then it must be transported off site to a qualified facility for treatment or disposal.

Cleanup operations can also be expected to generate a considerable amount of contaminated solid PPE and cleanup equipment. Protective clothing is cleaned for reuse at a decontamination site or packaged for disposal. Based on the contaminant, showers for response personnel may be required, and water used for decontamination must be retained and tested before treatment or discharging. It may be possible to dispose of the collected water to the Facility’s sanitary sewer system if there is no significant contamination requiring treatment. Otherwise, the water must also be transported off site to a qualified facility for treatment or disposal.

The EMD ensures that all emergency equipment and supplies used during the spill response operation are cleaned or replaced so they are available for normal operations. The Facility's spill response equipment must also be restored to original inventory levels.

Hazardous waste disposal arrangements include the intended method of disposal and the final destination of the waste. Prospective contractors that conduct hazardous waste disposal at MCAS Miramar must be in full compliance with the regulations. To that end, the selected contractor is required to provide the EMD with disposal documentation in the form of a Certificate of Destruction. This documentation and the laboratory analysis are kept on file by the EMD with other important documentation related to the OHS spill response actions.

7.5 Documentation and Cost Recovery

Economic impacts of an OHS spill and resultant cleanup operations range from the direct cost of product loss, spill containment, cleanup, disposal, and restoration to indirect costs associated with the spill (i.e., personal injury). These costs vary considerably. Cleanup costs, for example, may reflect the use of Facility protective gear and cleanup equipment. Alternatively, additional emergency services, such as HAZMAT contractors, may be used. Costs of this alternative vary with the level of service provided. It is vital to record and document costs when the response involves cleanup of OHS spills caused by tenants or contractors. The MCAS Miramar Comptroller Office assists in cost recovery calculations and recovery.

For a spill of less than 25 gallons of oil that does not impact the waters of the state or is below the RQ, a short written report prepared by the Unit Manager or Site Supervisor concerning the circumstances and mitigation efforts is forwarded to the EMD for informal review and appropriate action.

Post-incident analysis is performed and documented for all major spills. The IC or QI documents all reportable spills using the MCAS Miramar Spill Response Notification Form in Appendix D to assist in cost recovery. Within 7 days after a reportable OHS spill, the completed form is forwarded to the EMD.

Using this form, the EMD conducts a Post Discharge Review. The review includes:

(1) Further investigation, if necessary, to determine the exact cause of the discharge.

(2) An examination of operations to determine whether changes are necessary to prevent similar discharges in the future.

(3) An examination of the actions taken during the incident response.

(4) The availability and suitability of response materials, equipment, and personnel.

As part of the review, recommendations are made concerning the modification of operating procedures at the site and any changes to the OHS SPCC Plan. When the Post Discharge Review is completed, a written report, with appropriate attachments, is submitted to the CO for final high-level management review.

As appropriate, the Post Discharge Review Report should address the following planning areas:

- Detection and Discovery;
- Response Actions;
- Notifications;
- Team Organization;
- Resources Used;
- Response Effectiveness;
- Public Relations;
- Containment and Cleanup;
- Mitigation Results; and
- Follow-up Tasks.

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Facility Response Plan (FRP)

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8.0 Response Plan Applicability and Determination of Substantial Harm

Under 40 CFR Part 112, owners are required, through a self-determination process, to evaluate the potential of their Facilities to cause substantial harm to the environment based on a potential WCD of oil and to determine whether a Response Plan is required. The assessment considers various factors such as facilities that transfer oil over water, store in excess of 1 million gallons of oil, have significant previous reportable oil spills, or have the potential to impact public drinking water intakes or sensitive environments in the case of a major spill.

The determination of the applicability of the substantial harm criteria for MCAS Miramar is as follows:

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity than or equal to 42,000 gallons?

   MCAS Miramar is an inland facility that does not transfer oil over water or to or from vessels.

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons, and does the facility lack secondary containment sufficiently large to contain the capacity of the largest AST plus sufficient freeboard to allow for precipitation?

   The current maximum oil storage capacity at MCAS Miramar is approximately 5,728,328 gallons. The large ASTs within the MCAS Miramar Fuel Farm Area G are provided with sufficient secondary containment.

3. Is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

   MCAS Miramar is located within a distance where a significant discharge of oil could cause injury to a sensitive environmental area. Based upon this assessment, the flowchart indicates that an FRP must be prepared for MCAS Miramar.

8.1 Plan Purpose and Regulatory Requirements

This FRP demonstrates the facility's preparedness to respond to a worst-case oil discharge at the MCAS Miramar. This FRP meets the requirements of 40 CFR 112.20 and 40 CFR 112 Appendix F. A regulatory cross-reference is provided as Table 2. The

FRP is also consistent with the requirements of the NCP (40 CFR Part 300) and Area Contingency Plans.

The FRP describes the applicable federal regulations for spill prevention and control, and provides the proper agency notifications, possible impacts on surrounding areas, and available response resources for MCAS Miramar. This FRP also serves as a guide for all personnel and Marine Corps units that are responsible for the response, control, and reporting of small, medium, and a WCD as defined by 40 CFR 112 Appendix F.

The FRP is maintained at the Facility and is submitted to the EPA Regional Administrator. The Facility provides a copy of the FRP to the local emergency planning committee or state emergency response commission upon request. A copy of the FRP is also available on site for review by the local CUPA representative during normal working hours.

This FRP is reviewed, as required, by the EMD. HAZMAT contractors are included in the FRP review whenever changes are made to the spill response capabilities and/or equipment to be provided by the contractors. The EMD is responsible for reviewing all Facility changes and determining whether such changes may affect the potential scenarios for a discharge of oil and/or available response resources that would require an amendment to the FRP.

In addition, the EMD incorporates into the FRP any changes that may affect the Facility's potential for oil discharge that may be determined during revision of the MCAS Miramar OHS SPCC Plan.

The FRP is reviewed when changes or modifications are made at the Facility, which include, but are not limited to:

- MCAS Miramar-specific information;
- HAZMAT contractor-specific information;
- Categories and volumes of oils for the discharge scenarios (EPA small, medium, and WCD);
- Disposal plans;
- MCAS Miramar personnel;
- Notification list contact names and/or telephone numbers;
- MCAS Miramar spill response equipment lists and records;

- Spill response, spill mitigation, communications, training, and drill procedures; and
- Environmentally sensitive and economically important areas.

Additionally, the EMD reviews relevant portions of the NCP and applicable Area Contingency Plans annually, and if necessary, revises the FRP to ensure consistency with these plans.

The EMD revises and resubmits portions of the FRP to the EPA Regional Administrator within 60 days of each Facility change that may materially affect the response to a WCD, including:

- A change in the Facility's configuration that materially alters the information included in the FRP;
- A change in the type of oil handled, stored, or transferred that materially alters the required response resources;
- A material change in capabilities of the additional support service or HAZMAT contractors that may provide equipment and personnel to respond to discharges of oil;
- A material change in the Facility's spill prevention and response equipment or emergency response procedures; and
- Any other changes that materially affect the implementation of the FRP.

Amendments to personnel and telephone number lists included in the FRP and changes in the HAZMAT contractors that do not result in a material change in support capabilities are not required to be submitted to the EPA Regional Administrator.

8.2 Plan Implementation

This FRP has been prepared by the EMD and has been reviewed by the designated MCAS Miramar QIs as listed in Table 13. The EMD retains the master copy of this FRP and makes necessary revisions. Copies of this FRP are distributed to the MFD, Fuels Division, and other MCAS Miramar departments. An additional copy is submitted to EPA Region IX. The Facility has the capability to fully implement this FRP, including conducting training, practice drills, inspections, and required exercises.

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9.0 Hazard Evaluation

This section provides the information that examines the oil storage and handling operations at MCAS Miramar, predicts where potential oil discharges could occur, and identifies potential hazards that could result.

9.1 Hazard Identification

MCAS Miramar has the responsibility for management of all OHS storage areas at the Facility, including ASTs, USTs, electrical OFOE, and portable containers. Oil is stored and handled at several locations at MCAS Miramar. Bulk storage sites for JP-5 jet fuel, diesel fuel, E-85, and gasoline provide fuels for the various military units and activities at the Facility. MCAS Miramar has several ASTs that store petroleum products used for equipment testing, emergency generator support, and vehicle and aircraft fueling.

The primary oil storage areas at MCAS Miramar are described in the Section 2.2. The ASTs currently in operation at MCAS Miramar are listed in Table 3 and their locations are shown in Figure 2. Additional information on OHS storage areas, including photographs and maps, is provided in the site descriptions in OHS SPCC Plan Volume II.

9.2 Loading and Unloading Operations

MCAS Miramar operates several tanker truck loading and off-loading areas. Operations to transfer of oil products to and from tanker trucks have a significant potential to spill large amounts of hazardous material. Proper operating techniques minimize this potential. All tanker truck drivers are required to comply with DOT regulations in 49 CFR Part 177 and standard operating procedures developed by the Fuels Division. Contractors providing tanker truck services to the Facility are also required to follow the written procedures in the MCAS Miramar OHS SPCC Plan.

The Facility has two 1,000-gallon-capacity, one 4,000-gallon, four 5,000-gallon, four 6,000-gallon, and two 10,000-gallon JP-5 jet fuel mobile tanker trucks that are owned and operated by the Fuels Division. Transfers of jet fuel from bulk storage tanks to tanker trucks generally occurs several times every day.

Fuel Farm Area D contains five ASTs that store salvaged JP-5 jet fuel collected across the Facility. Adjoining Fuel Farm Area E contains four additional ASTs that store jet fuel, diesel fuel, and gasoline. The ASTs are accessed by a surface road parallel to Miramar Way. Two bermed loading and off-loading areas within the access road have spill collection drains that discharge to a large OWS in the northeastern portion of the site.

The OWS removes potential fuel that may be released during tanker truck loading or off-loading operations at the site. The OWS has a capacity of 5,000 gallons, is constructed of concrete, and was installed below surface grade. The OWS discharges to Rose Canyon. The approximate daily volume of fuel transfers into and out of the storage tanks at Fuel Farm Areas D and E varies from 8,000 to 25,000 gallons.

Tanker Truck Unloading Stations Nos. 7935 and 7936 are also at Fuel Farm Area G. They are used only in the event of an emergency to provide replacement JP-5 jet fuel into pipelines that supply Tank Nos. 7932-1, 7933-2, and 7934-3 if the main supply pipeline fails. The two tanker truck unloading stations are a limited secondary source of fuel supply and can receive fuel from commercial and military tanker trucks. The tanker truck unloading stations are also used to return on-specification JP-5 jet fuel that is removed from MCAS Miramar aircraft back into the ASTs during an operation.

Other fuel transfer operations at MCAS Miramar include tanker truck filling of diesel to small ASTs at individual activity sites throughout the Facility; receipt of JP-5 jet fuel, gasoline, diesel, and bio-diesel from commercial vendors; and issue of fuel to vehicles at three filling stations.

Fuel Farm Area G consists of three 1.6-million-gallon JP-5 jet fuel ASTs. The primary source of aviation jet fuel to the ASTs originates from a 16-inch diameter underground multi-product commercial pipeline from KMEP, Los Angeles, California. The KMEP pipeline connects to a Fleet and Industrial Supply Center Point Loma Fuel Facility (i.e., Fleet Logistics Center [FLC] Point Loma) 8-inch-diameter pipeline at a pipeline spur in the San Clemente Canyon known as Miramar Station, approximately 6 miles from MCAS Miramar. The FLC Point Loma pipeline connects to MCAS Miramar at a receipt pipeline valve vault on the southern edge of Rose Canyon adjacent to Pless Road. In addition, the ASTs at Fuel Farm Area G can also be supplied with aviation jet fuel from tanker trucks, if necessary.

Pipeline instructions and operational responsibilities have been delineated among FLC Point Loma, KMEP, and MCAS Miramar. The most likely spill prediction during a pipeline evolution would be a valve misalignment resulting in fuel being pumped against a closed valve and causing a rupture in the line. The piping supply system is monitored 24 hours per day/7 days per week by a SCADA system that limits the likelihood of a release occurring during the fuel transfers. In the event of a sudden drop in pipeline pressure or a large discrepancy of over 1,000 gallons in hourly gauge readings, alarms would sound and the pipeline operation would cease until all parties check their operations to ensure that no product is being lost.

Each AST at Fuel Farm Area G is mounted within an individual concrete secondary containment structure. Storm water is gravity drained from each AST secondary containment structure through an OWS that consists of two 1,075-gallon spill control pits. The two tanker truck unloading stations were also designed with bermed spill containment that drains to an additional OWS. The secondary containment capacity of the bermed areas and interconnection piping at the tanker truck unloading areas is approximately 10,550 gallons, adequate to contain a tanker truck's largest compartment. The second OWS has a capacity of 5,000 gallons. Both OWSs discharge to Rose Canyon through manual control valves that are normally in a closed and locked position. The daily volume of fuel transferred into these ASTs is up to 1.2 million gallons based on the Facility's flight operations.

Marine Corps aircraft are supplied jet fuel through four fueling stations (Fuel Farm Area I fuel pits) along the northeastern side of the Flightline, between the Quebec and Papa Taxiways. In addition, in-line rotary wing fueling stations Nos. 5–8 are at the northwestern side of the Flightline. Each fuel pit consists of a concrete pad with two 600-gpm aircraft refueling stations. The fuel pits are also supplied with fuel from underground pipelines from the ASTs in Fuel Farm Area G. Each fuel pit contains an in-line filter separator, aboveground piping, valves, and pantograph arm connections. Each fuel pit is also surrounded by concrete pavement and has a storm drain catch basin that is connected to an OWS with a capacity of approximately 5,000 gallons that discharges to the industrial sewer

9.3 Daily Operations Presenting a Risk of Discharging Oil

The primary mission of MCAS Miramar is to maintain and operate Marine Corps facilities, and to provide services and materials to support operations of Marine Corps aircraft units designated by the Commandant of the Marine Corps in coordination with the Chief of Naval Operations. Daily operations that pose a risk of discharging oil include jet engine and equipment testing, support of emergency generators, and vehicle and military aircraft fueling.

9.4 Normal Daily Throughput at the Facility

Average normal daily throughput of the Facility is approximately 120,000 gallons per day of JP-5 jet fuel. Variations occur approximately once every 60 days, when quantities of 8,000 to 25,000 gallons of gasoline, diesel, and bio-diesel fuels are delivered to the ASTs in Fuel Farm Areas D and E.

10.0 Vulnerability Analysis

The vulnerability analysis addresses the potential effects on human health, property, or sensitive environments. MCAS Miramar has several sensitive areas within the Facility, as shown on Figure 5. Most of the sensitive areas are associated with Rose Canyon, a large watershed drainage feature in the center of MCAS Miramar. The canyon contains coastal sage scrub and chaparral, oak woodland along the north-facing hillsides, and a riparian habitat that runs the length of the canyon. The canyon also contains Rose Creek, a small tributary that naturally meanders along the canyon floor. Wildlife species in Rose Canyon include raccoons, skunks, rabbits, coyotes, foxes, and mule deer.

A WCD scenario at MCAS Miramar may potentially originate from AST Nos. 7932-1, 7933-1, or 7934-1, the three 1.6-million-gallon JP-5 jet fuel ASTs at Fuel Farm Area G. The three ASTs were constructed on a plateau adjacent to Rose Canyon and the sensitive areas, as shown on Figure 6. The predicted spill direction from each of these ASTs outside of the secondary containment structures is shown on Figure 7. The figure is based on direct measurements of the site topography around each AST. The shortest relative drainage pathway from the ASTs to the sensitive area boundary in Rose Canyon is approximately 241 feet from AST No. 7934-1. A WCD from this tank would drain north into Rose Canyon if the existing secondary containment structure were breached.

Once entering a steep grade into Rose Canyon, the natural drainage is toward the southwest, as shown on Figure 8. The initial drainage area is across a wide expanse of coastal sage scrub. Rose Creek is approximately 8 to 12 feet wide. As it drains west, Rose Creek travels through two manmade structures, a culvert bridge at Obregon Road and another culvert bridge at Pless Road on the western side of the MCAS Miramar property. These two locations have been indicated as potential pinch points for possible containment of a WCD.

As Rose Creek travels farther west toward the western boundary of MCAS Miramar, it widens and forms several large vernal pools that connect to a man-made reservoir, the Fish Pond. The wash area becomes a broad expanse of rock and pebbles adjoining a rail line prior to passing under a tall concrete bridge overpass for Interstate 805. As Rose Creek flows between the Interstate 805 overpass and Interstate 5, the terrain changes to heavy brush and trees and then to a large, wide expansive canyon. The creek then enters a concrete channel that flows south of and parallel to Interstate 5. The channel curves west into a residential area before entering the Rose Inlet at Mission Bay and the Pacific Ocean.

Under the San Diego ACP, Geographic Response Area 3 has three environmentally sensitive sites with prescribed onsite boom strategies located in and around Mission Bay. The Kendall-Frost Reserve, site No. 6-306-A, is in proximity to the concrete channel that could discharge the WCD from MCAS Miramar into Mission Bay. The site is a least tern nesting site from March through November each year. Recommended response actions include deployment of a harbor boom across the outboard side of the shoal marker buoys from the western to the eastern end of the reserve as shown in Figure 9 and in sections of the San Diego ACP provided in Appendix E.

Major properties and land use along the WCD drainage route are described on Figure 10. There are commercial and light industrial facilities on the western side of MCAS Miramar along the northern ridge of Rose Canyon. The drainage area directly east of Interstate 805 is open space. The land use of the drainage area between Interstate 805 and 5 is generally residential. The drainage area along Interstate 5 also consists of commercial and light industrial facilities followed by a residential area before entering Mission Bay.

10.1 Human Health

The threat to human life and health depends on the amount of oil discharged, its location and exposure potential, and post-spill effects such as fire or explosion. The toxicity effects and persistence of various oil products stored and used at MCAS Miramar are listed in the SDSs for each product.

JP-5 jet fuel is a kerosene-based fuel used in military aircraft. JP-5 jet fuel is characterized as a volatile light petroleum product with a flash point greater than 140°F. It is considered a combustible liquid that is toxic to human health and aquatic life. It has an NFPA rating of 2 for health, 2 for flammability, and 0 for reactivity.

10.2 Property

Major features along the WCD drainage route are described in Figure 10. Areas or facilities that could be affected by a WCD from MCAS Miramar are as follows:

- **Schools** – The following five schools are identified in the vicinity of the drainage pathway:
    - University City High School, 4 miles west;
    - Gateways Summer School, 5.8 miles west/southwest;
    - Mission Bay Montessori Academy, 6 miles west/southwest;

  - Mission Bay High School, 10.5 miles southwest; and
  - Ocean Discovery Institute, 10.5 miles southwest.
- **Medical Facilities** – No medical facilities are identified in the vicinity of the drainage pathway.
- **Residential Areas** – Residential areas are located along the southern side of Rose Canyon starting west of the MCAS Miramar property line as the drainage pathway turns south along Interstate 5.
- **Recreational Areas** – Recreation areas include the following:
  - Rose Canyon Park, 4.5 miles west;
  - Rose Creek Trail, 10 miles southwest;
  - Mission Bay Athletic Area and Golf Course, 10.2 miles southwest; and
  - Recreational water ski areas within Mission Bay, 10.5 miles southwest.
- **Businesses** – Light Industrial and commercial property is identified on the eastern side of the drainage pathway along Interstate 5. Major industries include the following:
  - Miramar Wholesale Nurseries, 2.5 miles west;
  - In-N-Out Burger, 9 miles southwest; and
  - Action Sports Rentals at Paradise Point Resort, 12.3 miles southwest.
- **Transportation Routes** – Major transportation routes, such as Interstate 8 south of MCAS Miramar, are located at a significant distance and would not be affected by a WCD at the Facility. Small or medium oil spills may require temporary closure of roads within the Facility or local traffic restrictions. Secondary farming roads that border the Facility may also be affected by an oil spill and by multiple response vehicles that arrive at the site for spill cleanup and recovery operations.

10.3 Environmentally Sensitive Areas and Planning Distance

Endangered, threatened, rare, or species of special concern are known to exist in areas near MCAS Miramar and could be affected by a WCD. Sensitive wildlife habitats are located both on the Facility and within a 5-mile radius. Within these areas, threatened and endangered or sensitive species of wildlife are known to occur or potentially to occur.

Rose Canyon and Mission Bay are considered sensitive environments. Rose Canyon contains a small tributary named Rose Creek. Rose Creek enters Mission Bay through the Rose Inlet. Mission Bay connects to the Pacific Ocean. Endangered flora and fauna in the area could include the California gnatcatcher, least Bell's vireo, and least tern.

As part of the self-determination process to evaluate the Facility's potential for causing substantial harm to the environment, a planning distance is calculated on the basis of the appropriate formula in Attachment C-III of 40 CFR 112 Appendix C. The total planning distance calculation was used to assess the vulnerability of downstream entities during a potential WCD scenario.

The total planning distance is estimated at 15.69 miles, and the calculation is provided in Appendix G. Because the total drainage distance from AST No. 7934-1 at Fuel Farm Area G to the outlet of the Rose Inlet at Mission Bay is approximately 11.8 miles, the total planning distance exceeds this drainage distance. Thus, the calculations estimate that, in the event of a WCD from MCAS Miramar, the released jet fuel would reach the Pacific Ocean through Rose Canyon. However, these calculations provide only a rough approximation and do not include any ground adsorption effects, which may be significant.

10.4 Facility Reportable Oil Spill History

Oil spills associated with activities at MCAS Miramar have resulted from personnel error during tank overfilling operations, tank or pipeline ruptures, equipment leaks, accidents at storage sites, and aircraft fuel system ruptures or leaks. As an active military base with a high volume of flight activity, MCAS Miramar experiences small spills of jet fuel, generally less than 10 gallons, from the maintenance and servicing of military aircraft. These minor spills are quickly isolated, contained, cleaned up, and properly disposed of.

In addition to minor spills from aircraft maintenance and servicing operations, MCAS Miramar had three significant oil spill events since 2001 that had potential harmful impacts on the environment and were reported to the DEHQ. However to date, MCAS Miramar has not had a recordable spill that meets the following criteria under 40 CFR 110.3:

> *…discharges of oil in such quantities that the Administrator has determined may be harmful to the public health or welfare or the environment of the United States including discharges of oil that: (a) Violate applicable water quality standards; or (b) Cause a film or sheen upon or dis-coloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.*

The following spill events occurred at MCAS Miramar:

- On 8 March 2001, MCAS Miramar personnel notified local and state agencies that approximately 1,300 gallons of JP-5 fuel spilled from UST No. 9441-2. The spill was reported to have infiltrated and to have flowed northward from the source entering a storm sewer that flows into Rose Canyon. The spill was attributed to overfilling of the UST by the tank operator.
- On 9 September 2011, MCAS Miramar personnel notified local and state agencies that approximately 1,000 gallons of JP-5 jet fuel may have leaked under the Flightline parking apron from an underground fuel supply pipeline from Fuel Farm Area G to Fuel Farm Area I. A Supplemental Compliance Inspection Report was issued by the DEHQ. The DEHQ report required an update of the MCAS Miramar OHS SPCC Plan.
- On 4 August 2018, a refueling tanker truck parked within a rubber pop-up containment pad had a mechanical malfunction that resulted in the release of 60 gallons of diesel fuel. The containment pad had a hole that allowed the release of less than 60 gallons of diesel fuel to enter a storm drain approximately 70 feet from the tanker truck. The slow release was quickly identified, stopped, and contained with absorbent materials. A downstream storm drain was opened and verified to be dry. No hazardous material drained offsite or water was impacted.

10.5 Analysis of the Potential for an Oil Discharge

Because MCAS Miramar is well managed and maintained, and has good security, the likelihood and probability of a major oil spill event is considered low. The personnel who administer and operate the fuel storage and transfer systems for MCAS Miramar are well trained, experienced, and skilled, and provide first-rate support to the Facility. The Fuels Division has supplied fuel for the airfield and Facility activities over several years with little, if any, adverse impact on the surrounding community, either environmentally or economically.

An analysis of the potential for an oil discharge is based on the following factors:

- **Tank Age** – The age of the ASTs and transfer equipment can influence the potential for an oil spill. The large bulk storage tanks, pipelines, control valves, and transfer sites are of recent construction with the oldest tank built in 1991. The bulk ASTs are also equipped with automatic level monitoring systems that reduce the potential for a WCD at MCAS Miramar.

- **Control and Oversight** – The potential for spills is highest in areas where fuel transfer operations frequently occur. Portions of the bulk fuel storage and transfer systems are generally operated daily. Although the quantity of fuel stored in these ASTs and transferred is relatively large, the systems are well engineered and closely controlled. Direct oversight of all operations by supervisory personnel minimizes the likelihood of a major discharge and increases the ability to control a spill should one occur. Secondary containment and drainage control valves help prevent a discharge from leaving the Fuel Farm areas, thereby reducing the potential impact. Strict adherence to safe operating procedures, combined with equipment testing and inspection programs, further reduces the likelihood of an oil spill.
- **Oil Spill History** – Past spills at MCAS Miramar have occurred mostly because of operator error or equipment failure. These spills caused soil contamination, may have generated a hazardous waste, and resulted in a loss of usable product. The spills primarily involved small quantities; however, the potential for much larger oil spills during operations still exists.
- **Inspections** – To reduce the potential for oil spills and releases, ASTs and transfer equipment are routinely checked and inspected; these practices should lead to timely discovery of a leak before it develops into a large spill.
- **Automated Discharge Detection Systems** – Discharge detection generally relies upon the vigilance of operating personnel present during all fuel transfer operations. Daily checks of transfer pumps, pipelines, valves, and storage tanks by operators, combined with scheduled rounds by Security Department personnel, add to the ability to detect an OHS discharge. Discharges can occur during fuel transfer operations or from equipment failure. A designated number of operators are in attendance during any fuel transfer operation and should quickly detect any discharge. A discharge resulting from equipment failure should also be detected quickly by Facility personnel working in the area.
- **Horizontal Range of a Potential Spill** – Secondary containment provided for the ASTs at MCAS Miramar would likely prevent the horizontal migration of a release. Additionally, implementing the spill response procedures in this FRP and OHS SPCC Plan would minimize the extent of a spill if one were to occur.
- **Vulnerability to a Natural Disaster** – Natural disasters may include earthquake shaking and soil liquefaction, wildfire, and severe weather (heavy rains). All storage tanks and associated piping are fabricated in compliance with standard engineering design specifications. These specifications include the recognition of applicable seismic considerations for California with tank foundations and tie-

downs. The vulnerability to damage or a release caused by wildfires in the area is considered a low risk for most of the storage tanks within the Facility because the tanks are generally surrounded by concrete paved areas and are not directly exposed to areas that contain a large amount of flammable brush.

The three ASTs at Fuel Farm Area G are located next to Rose Canyon, which can pose a risk of exposure to fire. In addition to a concrete containment area around each tank, the Facility maintains a clear buffer space to Rose Canyon of approximately 60 feet that would provide a level of protection from a direct impact from a fire. However, depending upon the severity of the wildfire, the ASTs may still be exposed to radiant heat from a large blaze. The Facility has several fire hydrants that could provide fire/heat suppression if needed.

11.0 Discharge Scenarios

EPA regulations in 40 CFR 112.20 require a scenario discussion of spill response planning levels for on-shore facilities. Possible spill scenarios include small discharges, medium discharges, and a WCD. These scenarios do not indicate an order of probability, nor do they include all possible types of oil spill incidents. The scenarios provide guidance by illustrating possible incidents, and stressing the procedures and methodology for effective spill planning and execution of spill response plans.

The discharge planning levels for MCAS Miramar are as follows:

- Small discharge – a discharge of 2,100 gallons or less.
- Medium discharge – a discharge of more than 2,100 gallons and less than or equal to 36,000 gallons, or 10 percent of the design capacity of the largest AST at the Facility (10% x 1,641,539 gallons = 164,153 gallons at MCAS Miramar), whichever is less, provided that this amount is less than the WCD. For MCAS Miramar, a value of 20,000 gallons was selected for the medium discharge planning level.
- WCD – a discharge of the shell capacity of the largest AST within an adequate secondary containment structure. For oil spill response planning purposes, the largest AST at MCAS Miramar is Tank No. 7934-3, with a shell capacity of 1,641,539 gallons of JP-5 jet fuel in Fuel Farm Area G.

Table 14 provides a review of small and medium discharge scenarios at MCAS Miramar.

Federal regulations define the WCD for facilities as the largest foreseeable discharge in adverse weather conditions. Adverse weather means weather conditions that make it difficult for response equipment and site personnel to clean up and remove spilled oil, and that are considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors include significant temperatures, visibility, and wind conditions. Adverse weather and other conditions, such as seismic activity, may affect the ability or time to shut down fuel transfer operations and automatic closure of control valves in pipelines. In determining discharge scenarios and response planning levels, these conditions must be taken into consideration.

Adequate oil storage capacity for recovered material is available at the Facility for small discharges. Temporary storage of recovered oil may occur within secondary containment areas or portable containment structures. HAZMAT contractors are responsible for removing, storing, and disposing of recovered oil.

11.1 Discharge Planning

In the event of a small or medium spill, site personnel take the initial response actions described in the ERAP. The QIs work together as a unified command with other members of the Facility Response Team to direct all spill response activities, including use of additional outside assistance, if necessary. HAZMAT contractors are also used for all spill cleanup and disposal activities.

The Facility has conducted a specific spill potential analyses for both the small and medium discharge scenarios that could occur. The analysis included reviewing the following activities:

- **Loading and unloading operations**

  Small or medium discharges may be caused by tanker trucks delivering fuel to refill various ASTs throughout the Facility. Releases may be due to hose and/or connection failures during loading/unloading operations or overfilling of the tanks during loading operations. Failures are minimized by Fuels Department personnel attending the transfer operations as well as the delivery truck operator overseeing the transfer process.

- **Facility maintenance operations**

  The Facility maintains all ASTs and associated equipment in good condition. Tanks are inspected regularly on a monthly and annual basis. Maintenance operations are conducted on an ongoing basis as needed. Facility aircraft maintenance occurs on the Flightline apron and in the aircraft hangars.

- **Facility piping**

  With the exception of underground piping associated with aircraft fueling operations at the Flightline, AST piping at MCAS Miramar is typically aboveground with short runs and may be located within the secondary containment structures for the ASTs. Aboveground piping associated with the bulk fuel storage ASTs at Fuel Farm Area G is monitored and would signal an alarm if a loss in line pressure occurred.

- **Pumping stations and sumps**

  A pumping station at Fuel Farm Area G is monitored and connected to the alarm system at the control house. The system is alarmed whenever an unscheduled movement of fuel from the tanks is detected. Sumps within a concrete diked secondary containment structures for each of the bulk fuel ASTs are visually inspected for a potential release.

- **Oil storage locations**

  Most of the ASTs at the Facility are provided with passive secondary containment. The tanks are typically double-walled construction or are located within a concrete dike containment structure. Small oil discharges would collect on a concrete surface, where they could be contained quickly before entering the storm drainage system. Under a medium discharge scenario, such as at Tank 8679-2, the release would be contained within the double-walled structure of each tank. If the exterior tank shell were to fail, the discharge could cross asphalt pavement and enter a storm drain culvert east of the tank leading to an OWS. The OWS is not expected to contain a medium spill from this AST, which could lead to an oil discharge into Rose Canyon.

- **Aircraft and vehicle fueling operations**

  Small discharges of jet fuel most commonly occur during aircraft fueling activities on the Flightline apron. Small discharges of gasoline may also occur at the two civilian and three military vehicle fueling stations at MCAS Miramar; however, these spills are usually less than a quart in volume. At each of these locations, operations are manned and the spills could be contained quickly and response efforts would be initiated immediately.

- **Age and condition of Facility components**

  The age and condition of Facility components is a factor that could potentially lead to small- and medium-sized discharges. The ASTs and tanker trucks at MCAS Miramar are of relatively recent construction. The refueling trucks used for fueling the military aircraft on the Flightline apron are inspected regularly to ensure that they are maintained in good condition. The ASTs at the Facility are also inspected monthly and annually in accordance with the accepted industry standards described in the MCAS Miramar OHS SPCC Plan to ensure that they are maintained in good working condition.

Adequate oil storage capacity for recovered material is available at the Facility for both small and medium discharges. Temporary storage may occur within secondary containment areas or portable containment structures. HAZMAT contractors used for spill cleanup activities are responsible for removing, storing, and disposing of recovered material upon initiation of support.

Under federal regulations, the worksheet of 40 CFR 112 Appendix E is used to plan the response resources needed to respond to a WCD. EPA requires that the Facility, in planning for a WCD, provide for the cascading of spill response resources. This tiered response acknowledges that the full complement of required assets may not be immediately needed on scene or readily available. Accordingly, tiered response levels, each with its own volume and time criteria, are determined. The worksheet to plan volume response resources is provided in Appendix G.

The federal worst-case planning volumes are consistent with the EPA Region IX Mainland Oil and Hazardous Substance Pollution Area Contingency Plan. Equipment operability and readiness would not be adversely affected by weather for this area.

11.2 Small Discharge Scenario

The EPA small discharge scenario for MCAS Miramar involves the release of approximately 2,100 gallons of diesel fuel from a tanker truck at the Tanker Truck Transfer Station at Tank No. 7906-1, a 25,000-gallon AST in Fuel Farm Area D. This section describes a potential situation at MCAS Miramar where a small oil discharge could occur.

A tanker truck operator has driven his truck into the access roadway at Fuel Farm Area D. The truck operator grounds the vehicle, attaches the loading hose, and activates the deadman switch to start the fuel transfer from Tank No. 7906-1. Within a few minutes, the operator sees jet fuel leaking from a hose connection under his truck onto the concrete pavement. He leans over and grabs the loading hose to see if it feels loose, when suddenly the hose disconnects from the tanker, spraying him with fuel. The operator is stunned, releases the deadman switch, which stops the fuel transfer, and is briefly incapacitated. After he recovers, he uses his two-way radio to call the Fuels Division Dispatch Office to report the incident. The Fuels Division Dispatch Office immediately reports the spill to 911 Central Dispatch, which contacts the MFD and EMD. Additional Fuels Division personnel also respond to the Tanker Truck Transfer Station.

The entire contents of the tanker truck's compartment leak onto the concrete pad, but stays within the bermed containment area. Based upon the dispensing gauge on the pump and the onboard fuel gauge, approximately 2,100 gallons of JP-5 jet fuel had been in the tanker truck before the spill occurred and the transfer operation was shut down.

After the MFD arrives at the site, the MFD Engine Captain assumes duties as the acting IC and directs response to the spill. While the injured driver is treated by Facility medical personnel, the area around the Tanker Truck Transfer Station is checked by MFD and Fuels Division personnel for signs of seepage, and the drain control valve is inspected and confirmed to be closed. The IC mobilizes ARFF to the site. As a precaution, they place booms and spill absorbent materials inside the containment outflow pipe.

The MFD notifies the EMD that no fuel has escaped from the Tanker Truck Transfer Station to cause any environmental damage. The EMD makes the mandatory notifications to the regulatory authorities as required. The QIs arrive at the spill site and are briefed by the IC. After receiving this briefing, the QIs contact the Executive Officer (XO,) who provides a report on the release incident to the CO.

Although the amount of fuel released is significant, the IC, Fuels Division Manager, and EMD develop a strategy to recover the fuel using MCAS Miramar assets. The MFD stays on scene until the spilled fuel is recovered and fire or explosion hazards from the spill are eliminated. The recovered fuel is collected by a HAZMAT spill response contractor. After all standing fuel is recovered, the contractor uses absorbent materials to recover any remaining spilled fuel.

Under EPA resources requirements for a small discharge, initial containment booms can be deployed by ARFF. Additional booms and oil recovery equipment, such as a vacuum truck, can be provided by the HAZMAT contractors. MCAS Miramar has additional 5,000-gallon ASTs (Tank Nos. 7956-1 through 7960-1) in Fuel Farm Area D that can be used to collect salvaged jet fuel.

11.3 Medium Discharge Scenario

The EPA medium discharge scenario for MCAS Miramar involves the release of approximately 20,000 gallons of JP-5 jet fuel from the failure of a pipeline connected to Tank No. 8679-2, a 20,000-gallon AST. This section describes a potential situation at MCAS Miramar where a medium oil discharge could occur.

Late in the afternoon, Building 8679 is in full operation testing jet engines. A Fuels Division operator has arrived to deliver additional JP-5 jet fuel to Tank No. 8679-2. As he is driving his tanker truck into the building’s parking area, the operator experiences a severe medical emergency that incapacitates him so that he is unable to steer the vehicle. The tanker truck knocks over some bollards, and the front portion of the tanker truck comes to rest on top of the aboveground fuel supply pipeline that runs from Tank No. 8679-2 into the test building. The force of the accident ruptures the pipeline and the under-carriage of the tanker truck, and JP-5 jet fuel pours onto the ground.

No Facility personnel have observed the incident for several minutes until an operator from inside the building notices a significant loss in fuel pressure during the engine test. He runs outside and observes a large amount of fuel collecting on the asphalt pavement next to the building, but sees no one in or around the tanker truck. The operator uses his two-way radio to contact the Fuels Division Dispatch Office to report the incident. The Fuels Division Dispatch Office immediately reports the spill to 911 Central Dispatch, which contacts the MFD and the EMD. Fuels Division personnel also respond to the spill site.

The building operator realizes that the fuel supply pipeline to the building is leaking and returns back into Building 8679 to use controls to stop the fuel pumping operation. Within minutes, the Fuels Division Manager and other site personnel have arrived at the spill site. Although they are able to determine who was driving the vehicle, because of the large volume of fuel around the truck, they are unable to get close enough to look inside.

When the MFD arrives, the Engine Captain is briefed by the Fuels Division Manager on the incident, the actions that have been taken, and the missing employee. Although the pumping operation has been stopped and the control valve has been closed, jet fuel from the aboveground pipeline continues to pour onto the ground.

The MFD Engine Captain assumes duties as acting IC, and based on the severity of the emergency spill, directs 911 Central Dispatch to immediately notify the CO of the incident. Acting on the initial report, the CO directs to CDO to prepare the MCAS Miramar Emergency Operations Center (EOC) and notify members of the MCAS Miramar Incident Management Team to report to the EOC.

Working with the Fuels Division Manager, the IC quickly reviews the scene, requests additional support from ARFF, and directs site and Fuels Division personnel to build earthen dams in the local drainage ditch to limit flow and to check the condition of a downstream OWS. Believing that they see the missing operator slumped over in the truck, the firefighters prepare for a rapid rescue attempt and position a crash truck to deploy fire suppressing foam.

When the MFD Chief arrives at the incident site, the IC briefs him on the situation and he assumes duties as the IC. In estimating the size of the spill, the Fuels Division Manager tells the IC that the discharge of fuel from the pipeline combined with the tanker truck is at least 20,000 gallons, based on up to 15 minutes of pumped flow. The IC realizes that the spill size exceeds MCAS Miramar’s spill recovery capabilities and that additional resources are needed. He directs the EMD QI to contact the HAZMAT contractors to obtain additional support, beginning with vacuum trucks. He also directs that tankage be identified within the Facility for temporary storage of the recovered fuel.

Under EPA resources requirements for a medium discharge, initial containment booms can be deployed by Facility personnel. Earthmoving equipment may be available through a contractor to rapidly construct berms and dams to block oil spill pathways. Additional booms and oil recovery equipment, such as a vacuum truck, can be provided by the HAZMAT contractors. Storage tanks in the Fuel Farm Area D can also be used to collect the recovered oil.

11.4 Worst-Case Discharge Scenario

The WCD volume for MCAS Miramar would be based on a catastrophic failure of Tank Nos. 7932-1, 7933-1 or 7934-1, the three 1.6-million-gallon bulk storage JP-5 jet fuel tanks at Fuel Farm Area G. This scenario is considered to have a low probability because the ASTs were recently constructed, were built to API 650 standards, are maintained in good condition, have adequate secondary containment for the maximum volume stored, and are under high security at the Facility. A WCD at the Facility could potentially occur as a result of an earthquake, an act of vandalism or terrorism, a fire or explosion because of radiant heat from a fire in Rose Canyon, or an aircraft crash into the tank farm. An analysis of the WCD is provided in Table 15.

The following activities have been considered for a WCD at MCAS Miramar:

- **Loading and unloading operations**

  Small or medium spills are more likely to occur from the two mobile tanker truck unloading stations. The ASTs are loaded directly through a KMEP closed piping system that is monitored 24 hours per day/7 days per week. The supply pipeline is monitored by a SCADA system that limits the likelihood of a release occurring during these fuel transfers. If fuel is unloaded at the designated unloading stations from tanker trucks, secondary containment is provided around each station. Unloading operations are also continually manned during transfer; thus, in the event of a leak, the release would be stopped prior to becoming too large.

- **Facility maintenance operations**

  All equipment is inspected on a regular basis. At a minimum, weekly and monthly inspections are conducted on the ASTs, pipelines, valves, pumps, and associated equipment. Fuels Division personnel are responsible for monitoring the 8-inch-diameter receipt pipeline during fuel transfers and for performing maintenance up to the receipt pipeline valve vault. FLC Point Loma has monitoring and maintenance responsibilities for the 8-inch-diameter pipeline that connects into the receipt pipeline valve vault. KMEP is responsible for monitoring and maintenance of the fuel supply pipeline at Miramar Station.

- **Facility piping**

  Because SCADA monitoring systems are in operation at the KMEP Miramar Station and Fuel Farm Area G, a leak from transfer piping would likely be a small discharge. All of the Facility piping is within secondary containment structures or protected by drains that discharge to an OWS.

- **Pumping stations and sumps**

  A 4,000-gallon JP-5 jet fuel product recovery tank within a concrete vault is located adjacent to the control house at Fuel Farm Area G. The AST is used to contain reclaimed fuel from thermal reliefs, drains, and tank bottoms and to prevent pressure surges in the fuel system. The AST is connected to the control house automated detection system and alarms located at Fuel Farm Area G and the main fuels administration building. The site also has six fuel transfer pumps within the control house that are also monitored during operation.

- **Oil storage location**

  The three ASTs are constructed of welded steel and are located within individual concrete secondary containment structures designed to hold the maximum high fill level of JP-5 jet fuel in each tank plus sufficient freeboard for precipitation. The individual containment structures are planned to be interconnected to further reduce the potential of any significant release from entering the environment. High level alarms are installed in each tank to ensure that this level is not exceeded and the AST is not overfilled. The ASTs are located adjacent to Rose Canyon, and if the secondary containment structure were to fail during a discharge, the WCD amount would flow into the Rose Canyon and follow the drainage routes shown on Figures 7, 8, and 10.

- **Vehicle fueling operations**

  No vehicle fueling operations occur at Fuel Farm Area G.

- **Age and condition of Facility components**

  The three ASTs were installed in 2009 to current industry standards. The monitoring and alarms system are of high-technology arrangement using a programmable logic control interface. The Facility, as well as the monitoring and alarm system, is inspected regularly and maintained in good condition.

The following is a summary of a potential WCD scenario for MCAS Miramar:

Approximately 30 minutes after a major earthquake, a MCAS Miramar security patrol driving north along Schilt Avenue reports a strong fuel odor east of Fuel Farm Area G to the 911 Central Dispatch. The 911 Central Dispatcher contacts the MFD and requests that they investigate the report. In addition, the Fuels Division Manager is notified. Within minutes, the MFD arrives at the site. Security forces are also dispatched to the scene to block the roads leading to Fuel Farm Area G.

The MFD Engine Captain assumes duties as the acting IC and directs initial efforts to investigate the spill. Firefighters enter the compound and verify that although Tank Nos. 7932-1 and 7933-2 appear to be sound, Tank No. 7934-3 has collapsed. Because a large amount of fuel is observed outside on the northern and western sides of the containment structure, they are initially unable to determine how far the spill has traveled. The IC sends a team of firefighters to follow the fuel release downstream and they determine that fuel has flowed into the Rose Canyon. The MFD establishes a command post near Building 7931, and directs that 911 Central Dispatch immediately notify the CO and XO of the situation. Central Dispatch also notifies the EMD, QIs, ARFF, and additional departments within MCAS Miramar.

When the CO and the MFD Chief arrive at the field command post, the IC briefs them on the situation and the CO delegates the MFD Chief to assume the duties as the FIC. The CO also directs the XO and CDO to activate the EOC and instructs them to have the MCAS Miramar Incident Management Team report to that location. The FIC directs the MFD and ARFF to take initial actions to contain, if possible, the portion of the fuel spill that has flowed off the site into the Rose Canyon.

Upon his arrival at the EOC, the FIC requests that all available on-Facility resources be mobilized to contain the spill, i.e., dam drainage, block culverts, etc. In addition, he directs the EMD to make the appropriate regulatory notifications and contact HAZMAT contractors to assist in the spill response. The Incident Management Team develops a detailed plan of action to contain and clean up the spill. A Unified Command structure is set up with outside participants in the spill response, (e.g., federal and state regulators, the NOSC, and cleanup contractors), and is directed by the MCAS Miramar Incident Management Team in the EOC.

Under EPA resources requirements for a WCD, Tier 1 assets must have an on-water oil recovery capacity of 24,612 gallons per day (586 barrels per day), and must be on scene within 12 hours of discovery of the spill. The Tier 2 recovery planning volume increases to 41,034 gallons per day (977 barrels per day) and resources must be on scene within 36 hours. The planning volume for Tier 3 is 65,646 gallons per day (1,563 barrels per day) and resources are required to be on site in 60 hours.

Sufficient containment booms and oil recovery equipment would need to be deployed by HAZMAT contractors within 12 hours of discovery of a WCD. Generally, HAZMAT contractors located in the San Diego area can arrive at the site within 4 hours after notification. Earthmoving equipment may also be available to begin constructing berms and dams to block the oil spill pathways. In addition to approximately 25,000 gallons of potential storage in Tank Nos. 7956-1 through 7960-1, Fuels Division tanker trucks may also be used to initially collect the recovered fuel. HAZMAT contractors can also set up temporary large-capacity recovered oil storage tanks at the Facility within 48 hours after notification of a WCD.

12.0 Inspections

Under federal and state regulations, inspections should be in accordance with written procedures developed for the Facility by the owner or operator. Preventive maintenance, testing, and inspection of equipment are performed in compliance with the manufacturer's maintenance procedures and industry standards. For each equipment or system, there are specific maintenance or adjustment checks that must be performed on a regular basis. Fuels Division personnel generally perform the necessary routine maintenance, testing and checks at the fuel transfer and storage equipment at MCAS Miramar. More involved procedures may be performed by a commercial contractor. The records of the inspections, signed by the appropriate supervisor or inspector, are required by 40 CFR 112 to be maintained for a minimum period of 3 years.

12.1 Facility Self Inspection

Each regulated facility is required to conduct self-inspection of tanks, transfer systems, secondary containment structures, and spill response equipment. All inspections are performed in accordance with accepted industry standards. In addition, the Facility maintains a written record of these inspections for each designated location.

12.2 Storage Tank and Secondary Containment Structure Inspections

All ASTs and associated aboveground piping, valves, controls, drainage areas, and secondary containment structures are inspected to ensure that the equipment is properly maintained and that the potential for an oil spill or leak due to a failure is minimized. All ASTs that contain 55 gallons or more of oil at MCAS Miramar are inspected on a monthly and annual basis. Inspections of the ASTs are conducted in accordance with industry standards. Additional descriptions of the storage tank and secondary containment structure inspections are in Section 5.7.

12.3 Tanker Truck Loading and Unloading Station Inspection and Maintenance

The Tanker Truck Loading and Unloading Stations are inspected on a continual basis for the presence of leaks, faulty equipment, loose connections, clogged filters, and any repairs or adjustments required during fuel transfer operations. The stations are kept clean and free of any debris or product residue. When the stations are not in use, they are checked at least once a day by a Fuels Division operator for the presence of any leaks.

Required maintenance for Tanker Truck Loading and Unloading Stations includes the following tasks:

- Check pipeline and grounding cable continuity and resistance;
- Replace grounding wires, cables, clamps, and connections;
- Replace gaskets and O-rings, and overhauling or replacing valves;
- Clean or replace filters and/or strainers;
- Inspect, test, and service transfer hoses and deadman controls;
- Inspect, service, and calibrate fill stand meters and gauges;
- Check drain valves from the containment basin; and
- Monitor use and status of sump tank.

12.4 Oil Pipelines, Pumps, and Manifolds Inspection and Maintenance

All oil transfer pipelines, pumps, manifolds, and valves are monitored to prevent a discharge or fuel contamination. Valves at the storage tanks in the Fuel Farm areas are kept closed, and in most cases, locked, except during receipt or issue of fuel. Control valves on fuel transfer pipelines are normally kept closed when not in use. Valves and piping are marked consistently with Military Standard Number 161.

Power switches for transfer pumps are located at each Tanker Truck Loading and Unloading Station and at additional locations within the Fuel Farm areas. All power to the transfer pumps is secured unless fuel transfer operations are in progress.

Buried fuel pipelines are cathodically protected at MCAS Miramar. In addition, the exterior surfaces of all buried piping are wrapped with coal tar, an asphalt-saturated felt, or a polyvinyl plastic material to reduce corrosion. Aboveground piping is supported on steel I-beams and tees embedded in concrete piers or in concrete cradles to permit pipeline thermal expansion and contraction.

The pumping and pipeline systems at MCAS Miramar are checked by Fuels Division personnel daily for any leakage, abrasion, or corrosion. When a pipeline is in use for a fuel issue or receipt, the pipeline pressure and fuel flow rate are constantly monitored. The Fuels Division Supervisor or designee conducts a pressure check and valve operation check on the system prior to any fuel transfer operations. Any malfunction or deficiency found is repaired and tested as soon as possible. A pressure check of a repaired system is also conducted prior to placing it back in service.

Routine maintenance of fuel transfer pipelines, pumps, manifolds, and valves includes the following:

- Paint all exposed piping and systems;
- Inspect coating underground piping when uncovered;
- Keep manifolds clean and free of debris;
- Replace gaskets and reconditioning/replacing valves and expansion joints;
- Replace pump seals, adjusting packing, and stuffing glands;
- Polish, reset, and lubricate valves; and
- Keep valve pits clean and free of water and debris.

12.5 Spill Response Equipment Inspection, Testing and Deployment

MCAS Miramar maintains equipment that is required for initial OHS spill response actions and cleanup of small spills as described in the ERAP. Additional small amounts of spill absorbents are also provided in remote portable spill kits at various OHS storage locations and in the aircraft hangars at MCAS Miramar. This spill response equipment is ready for use by the individual site operators and supervisors.

Spill response equipment should be reviewed on a quarterly basis at each individual OHS storage location. Spent absorbents are replaced as necessary to provide adequate support materials. The QIs also conduct annual inspections and review kit inventory following spill incidents when the equipment is used.

The inspections must include the following items:

- Inventory (item and quantity);
- Storage location;
- Accessibility (time to access and respond);
- Operational status/condition;
- Actual use/testing (last test date and frequency of testing);
- Shelf life (present age, expected replacement date); and
- Inspector name, signature, and date

The inspection must note discrepancies between this list and the available response equipment. The Spill Response Equipment Inventory Form is provided in Appendix H.

Spill response equipment is required to be tested and deployed at MCAS Miramar each year. Response equipment testing and deployment exercises are conducted to ensure that the response equipment is operational and that the personnel who operate the equipment in a spill response are capable of deploying and operating it. If appropriate, response equipment may be tested while it is being deployed. Equipment may also be deployed during quarterly exercises as part of the standard training conducted by the Fuels Division.

13.0 Emergency Response Information

Emergency response information, including spill discoverer actions, initial notifications for an emergency OHS spill or release, MCAS Miramar initial response actions, and OHS spill containment and control are described in the ERAP.

13.1 Description of Qualified Individual Duties

Federal regulations require that a QI be designated in an FRP. MCAS Miramar QI personnel are listed in Table 13. The regulations require that the QI must have written authority to activate and contract with HAZMAT contractors, serve as liaison with the FOSC, and obligate funds required for carrying out response activities. In the event of a WCD, the FIC may delegate the fulfillment of spill response activities to the QI as necessary. The QI's responsibilities include the following:

- Activate internal alarms and hazard communication systems to notify all Facility personnel;
- Notify spill response personnel as needed;
- Identify the character, exact source, amount, and extent of the release, as well as the other items needed for notification;
- Notify and provide information to appropriate federal, state, and local authorities with designated response roles;
- Assess the interaction of the discharged OHS with water and/or other substances stored at Facility and notify on-scene response personnel of the assessment;
- Assess the possible hazards to human health and the environment from the release, considering both the direct and indirect effects of the release;
- Assess and implement prompt removal actions to contain and remove the OHS released;
- Coordinate rescue and response actions as previously arranged with all response personnel;
- Use authority to immediately access funding to initiate cleanup activities; and
- Direct cleanup activities.

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14.0 Drills, Exercises, and Response Training

Oil storage facilities requiring a FRP are obligated under the Oil Pollution Act of 1990 (OPA 90) to conduct annual training, exercises, and drills related to the execution of their response plan. Drills and exercises are designed to test the readiness of the Facility's response personnel to address an oil discharge incident, and to ensure that the personnel understand this FRP, its implementation, and their roles and responsibilities. MFD, EMD, and Fuels Division personnel are required to take part in the drills and exercises, which include participation in post-drill critiques to review the activities and lessons learned. Facility drills and exercises improve readiness and provide additional training that is not available in the classroom. Drills and exercises also test the functionality of the established procedures, equipment, and capabilities of the MCAS Miramar spill response organization, and meet regulatory requirements.

Safety training sessions are held for all MCAS Miramar operations personnel on an annual basis. The safety training programs may include hazard communication, confined space entry, PPE, HAZWOPER First Responder Awareness and First Responder Operations level training (and/or refresher), fire prevention and suppression, safe transportation of hazardous materials, and hazardous waste management.

All personnel who handle fuels and those associated with such operations at MCAS Miramar complete a site-specific annual training program that encompasses federal and state training requirements for oil spill prevention and control. The level of training for other MCAS Miramar personnel depends upon their job title or position. Training programs and topics include person-in-charge responsibilities, operating procedures, monitoring and leak detection, preventive maintenance, pollution prevention procedures, environmental protection priorities, emergency notification and response procedures, components of the OHS ICP, and drug and alcohol awareness. The FIC and QIs also receive additional training beyond that of other members of the Facility Response Team.

Following the guidelines in the Training Reference for Oil Spill Response and the National Preparedness for Response Exercise Program (PREP), the EMD coordinates a site-specific triennial training program and develops an annual training schedule that exercises the FRP training components described in Table 16.

In accordance with the PREP Guidelines, the MCAS Miramar program consists of internal, Facility-specific scheduled and unscheduled drills and exercises, which include the following exercises conducted at the frequencies shown:

- A Notification Drill is conducted once per quarter by the QIs;
- A Facility Equipment Deployment Drill is conducted on a semi-annual basis; and
- An Incident (Spill) Management Team Tabletop Exercise is conducted on an annual basis.

The Facility conducts a minimum of one unannounced exercise per year. The EMD plans and initiates the exercise with equipment deployment. A spill scenario is provided to Facility personnel and appropriate response actions are taken. The exercise is evaluated at its conclusion, and a report is made part of the Facility's training records. Credit for the unannounced exercise may be taken if the Facility experiences an actual spill incident that requires personnel and equipment response during the year. In addition, HAZMAT contractors should confirm that they conducted at least one response contractor equipment drill annually in accordance with PREP guidelines.

During each triennial cycle, the 15 components of the FRP in Table 16 are exercised at least once. Individual components need not be exercised at one time and may be exercised in portions through the required exercises in each cycle.

MCAS Miramar may also be requested or required to participate in an external area- or region-wide exercise. In accordance with the PREP Guidelines, external scheduled and unscheduled drills and exercises may include the following:

- Area Exercises; or
- Government-Initiated Unannounced Exercises.

External drills and exercises are evaluated and certified by the initiating organization or agency, which provides documentation to the Facility. MCAS Miramar may take credit for an external exercise instead of an internal exercise, provided that the response activities meet the objectives of the exercise, and they are properly evaluated and documented.

Under OPA 90 and state regulations, training and exercise records are required and should be maintained as a separate attachment to the contingency or response plan, or in a file readily available to regulators. Records must be maintained for at least 3 years according to the regulations. The blank forms used to document the drill and exercise activities are provided in Appendix I. The records of annual FRP spill drills and exercises at MCAS Miramar are provided in Appendix J.

The EMD is responsible for the following aspects of the FRP drills and exercises program:

- Adherence to the program;
- Scheduling of drills and exercises;
- Assignment of the roles for the drills and exercises;
- Post-drill evaluation/debrief/improvements; and
- Maintenance of records (documentation).

14.1 Notification Exercise

The Notification Drill (also known as the QI Notification Drill) includes the Primary and Alternate QIs, as well as those individuals (by title) most likely to detect a discharge and be involved in the notification process. Personnel involved in this drill review and become familiar with the Facility notification requirements. This drill helps Facility personnel determine and practice the best procedures to use to implement the notification. During these drills, consideration is also given to what obstacles could hinder such notification. One of the four notification drills conducted each year must be conducted during "non-regular work hours" (e.g., weekend or night).

The QI notification exercise is conducted to assess whether the QIs are able to be reached by the Facility in the event of a spill response emergency so they can carry out the required duties. Contact must be made with each Primary and Alternate QI, and confirmation must be received from each of them to satisfy the requirements of this exercise. In addition, personnel may randomly test selected telephone numbers on the notification list (other than 911) to assess that these contact numbers are correct.

A record of the Notification Drill using the QI Notification Drill Log in Appendix I is completed to document observations on the drill, any difficulties in notification or use of telephone numbers on the notification list, and changes to be implemented, as necessary. The record indicates the persons, agencies, and/or HAZMAT contractors notified, the time required to contact them, and their response capabilities. This record is maintained for a minimum of 3 years in the EMD.

14.2 Incident (Spill) Management Team Tabletop Exercise

The Incident (Spill) Management Team Tabletop Exercise is conducted annually at MCAS Miramar. Participants in this exercise include primary members of the MFD, EMD, ARFF, and Fuels Division, and may include local response agencies, HAZMAT contractors, federal and state agencies, and others, as appropriate.

The agenda for the Tabletop Exercise is developed to focus on one or more phases of a spill response (e.g., immediate response, establishment of the Unified Command, transition of command, and completion of Incident Command System [ICS] forms). In addition, during each 3-year cycle, the Tabletop Exercises incorporates each of the 15 core components in Table 18 of a response action at least once.

An annual Incident (Spill) Management Team Tabletop Exercise may be in conjunction with an equipment deployment drill where such equipment is deployed as part of a facility or an area exercise. The Tabletop Exercise consists of one or more of the following topics:

- WCD scenario (once every 3 years);
- Evacuation incidents (such as fire, explosion);
- Small discharge scenario;
- Medium discharge scenario;
- Other potential discharge incidents as the management team deems advisable to review;
- Temporary storage requirements;
- Recovery and waste disposal;
- Onsite equipment deployment for transferring spills;
- Offsite equipment deployment for area protection;
- Onsite equipment maintenance; and
- Liaisons with HAZMAT contractors (update and review the capability of contractors to respond).

During the 3-year cycle, the Tabletop Exercise accounts for any shift changes so that all personnel who serve as part of the Incident Management Team during an actual spill participate in at least one Tabletop Exercise.

The Incident (Spill) Management Team Exercise Tabletop Record in Appendix I is completed to document observations made during the exercise. This form is also used to conduct a self-evaluation at the completion of the exercise and to document changes to be implemented, as necessary. This record is maintained for a minimum of 3 years by the EMD.

14.3 Equipment Deployment Exercise

The equipment deployment exercise is conducted semi-annually at MCAS Miramar. This exercise primarily involves MFD, Fuels Division and the ARFF, the organization most likely to participate in the coordination or deployment of Facility-owned response equipment. The following are the two primary requirements for the equipment deployment exercise, as presented in the PREP Guidelines:

- Personnel who would normally operate or supervise the operation of the response equipment participate in this exercise. Personnel demonstrate their ability to deploy and operate the equipment, while wearing appropriate PPE. All personnel involved in equipment deployment and operation must be involved in a training program; and
- Response equipment is in good operating condition. The equipment is appropriate for the intended-operating environment and operates during the exercise. All response equipment is included in a maintenance program.

MCAS Miramar is responsible for including Facility-owned response equipment described in this FRP in this exercise. In conducting this exercise, Facility personnel participants practice deployment of Facility-owned containment and response equipment that MCAS Miramar personnel may normally deploy in the event or threat of a discharge. The HAZMAT contractors may also participate in this exercise. The Equipment Deployment Exercise may consist of the following procedures:

- Activation of the FRP;
- Initial response to emergency spill scenarios;
- Participation by one or more HAZMAT contractors, if possible;
- Deployment of selected emergency response equipment by ARFF;
- Retrieval and decontamination of equipment; and
- Record of observations and follow-up discussion

During the exercise, personnel should determine the best procedures to activate the response and remediate a potential spill, and consider obstacles that may hinder a response. A critique after the exercise includes deficiencies in response times of personnel and equipment, deficiencies in equipment capabilities, and discussion of corrective actions.

The Spill Response Equipment Deployment Exercise Record in Appendix I is completed to document the observations. This form is also used to conduct a self-evaluation at the completion of the exercise and to document issues identified during the critique and the associated corrective actions, as necessary. This record is maintained for a minimum of 3 years by the EMD. In addition, the EMD obtains adequate documentation from HAZMAT contractors on an annual basis to demonstrate that they have met the PREP Equipment Deployment Exercise requirements. This documentation is also kept with the EMD.

14.4 Area Exercises

The purpose of an Area Exercise is to provide the opportunity for members of the response community (i.e., federal, state, and local government) to work together using the response management system identified in the Area Contingency Plan and, to the extent possible, the Unified Command with the appropriate participants. Specifically, area exercises are designed to exercise the government and MCAS Miramar interface for spill response and conducted so that key elements of the Unified Command know whom to call in the event of a discharge within the area.

At a minimum, the scenario for an area exercise is to exercise the WCD capability. The primary purpose of the area exercise is to activate and observe the response infrastructure in the area, and the ability of the response community to effectively conduct a spill response. The focus is typically on the interaction between the MCAS Miramar and the federal, state, and local government agencies to exercise the Area Contingency Plan and the MCAS Miramar FRP.

An area exercise consists of a tabletop exercise with some amount of spill response equipment deployment. Area exercise equipment deployment typically includes testing the adequacy of various response strategies contained in the Area Contingency Plan, such as protective booming for fish, wildlife, and sensitive environments; shallow water containment and collection; and in situ burn operations. Note that the equipment deployment does not need to be conducted simultaneously with the tabletop portion of the exercise.

When the Facility participates in an area exercise it is not be required to participate in another area exercise for a minimum of 6 years. The lead agency conducts the evaluation at the completion of the exercise and documents changes to the Area Contingency Plan, as necessary. A copy of this record is maintained for a minimum of 3 years by the EMD.

14.5 Government-Initiated Unannounced Exercises

EPA may conduct a government-initiated unannounced exercise at the Facility. The frequency is determined by EPA. Facilities that have successfully completed a government-initiated unannounced exercise are not required to participate in an additional exercise for at least 36 months from the original date of the exercise.

These exercises are limited to approximately 4 hours in duration and involve response to a small discharge scenario, as described in this FRP. The exercise typically involves deployment of response equipment identified within this FRP to respond to the spill scenario.

The objectives of an unannounced exercise are to conduct proper notifications to respond to the discharge scenario and to demonstrate that the response is timely, conducted with the adequate amount of equipment for the scenario, and conducted properly. An evaluation of the exercise is conducted by EPA. The Unannounced Spill Response Exercise Record in Appendix I is completed to document the observations. A copy of this record is maintained for a minimum of 3 years by the EMD.

14.6 Response Training

MCAS Miramar personnel are provided adequate training and orientation to allow them to perform their jobs safely and to treat and respond to small spill scenarios. MFD, EMD, ARFF, and Fuels Division personnel are informed of the potential hazards related to oils and fuels at the Facility. Facility assignments are delegated to individuals and written instructions for specific procedures are posted. Formal training received by MFD, EMD, ARFF, and Fuels Division personnel is documented, and training records are maintained in their personnel files.

Training may be conducted via computer-based training courses, classroom or seminar instruction, and/or on-the-job training. MCAS Miramar personnel also receive required periodic refresher training as needed.

14.6.1 Qualified Individual Training

QI training consists of a two-phase instructional program incorporating both classroom instruction and "hands-on" instruction, so the designated individuals are competent to perform their tasks. Classroom instruction includes the contents and execution of the FRP, and may utilize outside consultants, computer-based training courses, and classroom or seminar instruction. Hands-on instruction includes various drills and exercises designed to simulate emergency incidents. The training reviews the QI's responsibilities and enhances their ability to work with other members of the Incident Management Team.

14.6.2 MCAS Miramar Fuels Division Personnel Training

Training of MCAS Miramar Fuels Division personnel is primarily the responsibility of the Fuels Division supervisors. Personnel are required to receive the new hire training, including the OSHA First Responder Operations Level or Hazardous Materials Technician course; review of the OHS SPCC Plan of this OHS ICP; and review of the SWPPP. Competence is maintained and improved by refresher training (i.e., 8-Hour OSHA HAZWOPER Annual Refresher, SPCC discharge prevention meetings, etc.) and new operations training, as needed. Additional training courses provided by Fuels Division may include, but are not limited to, spill response equipment training (e.g., drills and exercises) and basic fire protection. The Fuels Division also conducts quarterly spill drills.

New hire training is conducted while on-the-job under the direct supervision of senior personnel. Personnel that transfer from other facilities may also receive this training. New hire training includes the following:

- SDS instruction required by OSHA;
- Site Health and Safety Plan instruction;
- Valve and transfer piping familiarization: proper sequence for handling fuel transfer, which includes the proper valve manipulation and tracing product lines;
- Location of firefighting equipment (e.g., extinguishers) and their operation;
- Instruction in the proper gauging and sampling techniques for tanks;
- Familiarization with the documentation relating to facility operations;
- Familiarization with various pollution abatement equipment (e.g., absorbents, pumps, etc.) and the use of available spill containment equipment; and

- Training in general maintenance schedules and procedures.

The training also includes hazard awareness and techniques to prevent or recognize existing or potential oil spills, spill containment, spill remediation, and appropriate notification required in the event of an oil spill or other emergency. Facility personnel are trained that care and good judgment are the best means of preventing an oil spill. Training includes the proper way to conduct daily inspections, identify leaks, and respond if a leak is observed. Personnel are instructed in the following:

- Exercise care in the delivery of products;
- Never leave a fuel transfer operation unattended;
- Closely observe product levels in storage tanks during transfers;
- Perform preventive maintenance on fuel handling equipment;
- As a general rule, do not wait for problems to occur; anticipate problems and take precautionary measures to prevent them; and
- When in doubt, call a supervisor or senior technician.

Appropriate MCAS Miramar Fuels Division personnel receive Hazardous Material Training (First Responder Operations Level or Hazardous Materials Technician) as required by 40 CFR 1910.120(q)(6) within 6 months of their hire date. This training provides specialty training, including response to spills and leaks, hazard communication, hazardous materials, PPE, and personal and public safety. These personnel receive annual refresher training of sufficient content and duration to maintain their competencies or to demonstrate competency in those areas.

In addition to familiarization with pollution abatement equipment, part of the new hire training is the spill discover training described in the ERAP. This training includes a discussion of spill notification and initial actions to contain a spill.

As new operations require procedure modifications, Fuels Division personnel are familiarized with the new procedures through new operations training. Training is conducted by a supervisor or senior technician, who is responsible for determining whether each person understands the new operations procedures and is competent to perform them.

14.6.3 MCAS Miramar Fire Department Training

MFD personnel receive semi-annual HAZMAT decontamination training and conduct limited decontamination scenario training sessions. These personnel receive the appropriate Hazardous Material Training required by 40 CFR 1910.120(q)(6) within

6 months of their hire date. This training provides specialty training, including response to spills and leaks, hazard communication, hazardous materials, PPE, and personal and public safety. MFD personnel also receive annual refresher training of sufficient content and duration to maintain their competencies, or demonstrate competency in those areas at least yearly.

14.6.4 Other MCAS Miramar Personnel Training

Appropriate EMD personnel receive Hazardous Material Training as required by 40 CFR 1910.120(q)(6) within 6 months of their hire date. This training provides specialty training, including response to spills and leaks, hazard communication, hazardous materials, PPE, and personal and public safety. EMD personnel receive annual refresher training of sufficient content and duration to maintain their competencies, or demonstrate competency in those areas at least yearly.

Additionally, separate units at MCAS Miramar conduct internal training exercises specific their spill response duties. The ARFF conducts internal training exercises with the City of San Diego Fire-Rescue Department HAZMAT team.

14.6.5 HAZMAT Contractor Personnel Training

MCAS Miramar trains only their own personnel that respond in the event of a spill or discharge. The Facility does not provide response training to non-agency personnel and relies on the HAZMAT contractors to provide fully trained personnel for the response to spills where assistance is needed. HAZMAT contractors that furnish personnel provide the labor with the necessary spill response training in accordance with OSHA regulations (29 CFR 1910.120). Only persons known to have the minimum required response training to perform a spill response task, or who can show certified proof of having received such training, are permitted to assist with a response to an OHS discharge at MCAS Miramar. .

15.0 Aqueous Film Forming Foam Release Response

Aqueous film forming foam (AFFF) is water-based compound used to create foam to supress aircraft fuel fires. It frequently contains hydrocarbon-based surfactants such as sodium alkyl sulfate, and fluorosurfactants such as fluorotelomers, perfluorooctanoic acid (PFOA), or perfluorooctanesulfonic acid (PFOS). Although not considered an oil, AFFF has become a special chemical of concern in the event of an accidental discharge at the aircraft hangars at MCAS Miramar. Frequent inadvertent activations of foam-dispensing systems at military facilities have resulted in significant costs for cleanup because of restricted discharge to the environment and have caused injuries and damage to aircraft.

In an effort to provide instructions to Facility personnel to rapidly terminate AFFF nozzle dispensing systems that may have been activated in error, an AFFF Emergency Action Plan has been developed and is provided in Appendix K. The plan includes information for each MCAS Miramar hangar including the number and type of spray nozzles, pull stations, alarms, and valve controls; visual instructions to terminate AFFF operations; and specific notification and reporting requirements in the event of an AFFF release.

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Tables

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Table 1: OHS ICP Review and Amendment Schedule

Name	Amendment Date	Change to SPCC Plan
Unknown	2004	Two additional sections added.
Riaz Chaudhary, PE	May 2008	Revision with 8 sections removed and 13 additional sections added.
Steven Kummerfeldt, PE	December 2010	Revision of Plan with additional site descriptions in Volume II.
Steven Kummerfeldt, PE	June 2011	Revision of Section 7.19 to incorporate construction of general containment earthen berms for aboveground piping.
Steven Kummerfeldt, PE	October 2011	Update of Volume I and II including AST inventory, Appendix A and B, and integrity testing requirements for underground fuel supply pipelines at Fuel Farm G.
Steven Kummerfeldt, PE	February 2012	Revision of inspection requirements for oil-filled transformers and update of AST data sheets.
Steven Kummerfeldt, PE	November 2015	Revision and update of all site-specific descriptions in Volume II.
Steven Kummerfeldt, PE	November 2016	Revision and update of Volume I.
Roy Hauger, PE	March 2018	Five-year review and evaluation, and as a result revision and update of Volume I Sections 1.4, 4.2, 4.4, 4.5, and 6; Table 8, Volumes II, and III.
Steven Kummerfeldt, PE	October 2020	Revision and update of Volume II.
Steven Kummerfeldt, PE	June 2022	Revision and incorporation of SPCC Plan and FRP into an OHS ICP.

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Table 2: Regulatory Cross References

40 CFR Rule Citation	Description of Rule	Page or Section
§112.3(d)	Professional Engineer certification	Page iii
§112.3(e)	Copy of SPCC Plan maintained at the facility and available to EPA	1.0, 4.3
§112.4	Amendment of SPCC Plan Required by Regional Administrator	1.4, 4.3, 4.5, Table 1
§112.5(a) and §112.5(b)	Amendment of SPCC Plan by Facility Owners or Operators	1.4, 4.4, Table 1
§112.7	General requirements	5.0
§112.7(a)	Discussion of facility's conformance with rule requirements	5.0.1; Tables 7, 8, and 9 OHS SPCC Plan Volume II
	Discussion of deviation from applicable requirements	5.1
	Facility characteristics that must be described in the Plan (including facility diagram)	2.0, Figures 1–4
	Spill reporting information in the SPCC Plan	A.4, 7.3, Table 10, Appendix D
	Emergency response procedures	ERAP, 7.0
§112.7(b)	Discharge analysis	2.2, 5.4, OHS SPCC Plan Volume II
§112.7(c)	Secondary containment	5.5, OHS SPCC Plan Volume II
§112.7(d)	Contingency planning for facilities where installation of containment and/or diversionary structures is "not practicable"	5.6
§112.7(e)	Inspections, tests, and records	5.7, Appendix D
§112.7(f)(1)	Employee training and discharge prevention procedures	5.8
§112.7(f)(2)	Person accountable for discharge prevention	4.1
§112.7(f)(3)	Discharge prevention briefings	5.8.2
§112.7(g)	Security	5.9
§112.7(h)	Loading/unloading	5.10
§112.7(i)	Brittle fracture evaluation requirements for field-constructed aboveground storage tanks	5.11
§112.7(j)	Conformance with state requirements	5.12
§112.8(a)	General and specific discharge prevention and containment requirements	5.3
§112.8(b)(1)	Drainage from diked storage areas	6.1
§112.8(b)(2)	Valves used on diked area storage	6.1
§112.8(b)(3)	Facility drainage systems from undiked areas	6.2
§112.8(c)(1)	Container compatibility with its contents	2.3, 6.4
§112.8(c)(2)	Secondary containment for bulk storage	6.5

Table 2: Regulatory Cross-References (continued)

40 CFR Rule Citation	Description of Rule	Page or Section
§112.8(c)(3)	Bulk storage area drainage of rainwater	6.6
§112.8(c)(4)	Corrosion protection of buried metallic storage tanks	6.7
§112.8(c)(5)	Corrosion protection of partially buried metallic storage tanks	6.7
§112.8(c)(6)	Aboveground container periodic integrity testing	6.8, Table 15
§112.8(c)(7)	Control of leaks through internal heating coils	6.9
§112.8(c)(8)	Engineered fail-safe features	6.10, 6.11
§112.8(c)(9)	Observation of disposal facilities for effluent discharges	6.12
§112.8(c)(10)	Visible oil leak corrections from tank seams and gaskets	6.13
§112.8(c)(11)	Appropriate position of mobile or portable oil storage containers	2.2.1, 6.14
§112.8(d)	Facility transfer operations, pumping, and facility process	5.5.3
§112.8(d)(1)	Buried piping protection and installation	6.15
§112.8(d)(2)	Not-in-service and standby service terminal connections	6.16
§112.8(d)(3)	Pipe support design	6.17
§112.8(d)(4)	Valve and pipeline examination	6.18
§112.8(d)(5)	Aboveground piping protection from vehicular traffic	6.19
§112.20	Facility Response Plans	8.0 – 14.0
§112.21	Facility response training and drills/exercises	14.0, Appendix J
§112.20 (h)(1)	Emergency Response Action Plan separate section of Facility Response Plan	ERAP
§112 Appendix F Section 1.2	Facility information	2.1,iii
§112 Appendix F Section 1.3.1	Emergency response notification Phone list Spill Response Notification Form	ERAP, Table 11, Appendix D
§112 Appendix F Section 1.3.2	Response equipment information Response Equipment List	ERAP, Table 11
§112 Appendix F Section 1.3.3	Response equipment testing and deployment	12.5, Appendix H
§112 Appendix F Section 1.3.4	Emergency response personnel information Emergency response contractor information Facility response team information	ERAP, Tables 6 to 9
§112 Appendix F Section 1.3.5	Evacuation Plans	ERAP
§112 Appendix F Section 1.3.6	Description of Qualified Individual duties	13.1, Table 7

Table 2: Regulatory Cross-References (continued)

40 CFR Rule Citation	Description of Rule	Page or Section
§112 Appendix F Section 1.4.1	Hazard identification Aboveground and underground tanks	2.2, 9.1, OHS SPCC Plan Volume II
§112 Appendix F Section 1.4.2	Vulnerability analysis	10.3, Figures 5-7, Appendix F
§112 Appendix F Section 1.4.3	Analysis of the potential for an oil discharge	10.5, OHS SPCC Plan Volume II
§112 Appendix F Section 1.4.4	Facility reportable oil spill history	10.4
§112 Appendix F Section 1.5.1	Small and medium discharge scenarios Factors that affect the response efforts	11.2, 11.3, Table 16
§112 Appendix F Section 1.5.2	Worst-case discharge scenario Factors that affect the response efforts	11.4, Table 17, Figures 7, 8 and 10, Appendices F and G
§112 Appendix F Section 1.6.1	Discharge detection by personnel	12.0
§112 Appendix F Section 1.6.2	Automated discharge detection	10.5
§112 Appendix F Section 1.7.1	Plan implementation Description of response actions	8.2
§112 Appendix F Section 1.7.2	Disposal Plans	7.4.2
§112 Appendix F Section 1.7.3	Containment and drainage planning	11.1
§112 Appendix F Section 1.8.1	Facility self-inspection Tank inspection Secondary containment inspection Response equipment inspection	12.0, Table 15, Appendix A and B
§112 Appendix F Section 1.8.2	Facility drills/exercises QI Notification Drill Log Spill Management Team Tabletop Drill Log	14.0, Appendix I and J
§112 Appendix F Section 1.8.3	Response training	14.0, Table 18, Appendix I and J
§112 Appendix F Section 1.9	Site Plan Site Drainage Plan Diagram Site Evacuation Plan Diagram	Figures 1-8, and 10, OHS SPCC Plan Volume II

Table 2: Regulatory Cross-References (continued)

40 CFR Rule Citation	Description of Rule	Page or Section
§112 Appendix F Section 1.10	Security	5.9
§112 Appendix F Sections 2.0 and 2.1	Response Plan Cover Sheet	Page ii
§112 Appendix F Section 2.2	Applicability of substantial harm determination	Page v, 8.1

Notes: CFR = Code of Federal Regulations

Table 3: MCAS Miramar Aboveground Storage Tanks

MCAS Miramar Building/AST Number	Shell Capacity (Gallons)	Contents	Tank Type	Function	Secondary Containment
1686-1	147	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
2130-1	89	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
2273-1	628	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
2496-1	150	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
2661-1	235	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
2682-1	89	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
3426-1	480	Diesel	Fixed Horizontal Rectangular	Greens Equipment	Double Wall
3426-2	500	Gasoline	Fixed Horizontal Rectangular	Greens Equipment	Double Wall
4266-1	5,000	Diesel	Fixed Vertical Cylinder	Emergency Generator	Double Wall
4266-2	5,000	Diesel	Fixed Vertical Cylinder	Emergency Generator	Double Wall
4266-3	400	Diesel	Fixed Vertical Rectangular	Day Tank	Double Wall
4266-4	400	Diesel	Fixed Vertical Rectangular	Day Tank	Double Wall
4266-5	100	Lubricating Oil	Fixed Oil-Filled Operational Equipment	Emergency Generator	Active Measures
4266-6	100	Lubricating Oil	Fixed Oil-Filled Operational Equipment	Emergency Generator	Active Measures
4266-7	100	Lubricating Oil	Fixed Oil-Filled Operational Equipment	Emergency Generator	Active Measures
4266-8	100	Lubricating Oil	Fixed Oil-Filled Operational Equipment	Emergency Generator	Active Measures
5500-1	200	Waste Cooking Oil	Portable Horizontal Rectangular	Waste Disposal	Pop-Up Rubber Berm
6001-1	65	Diesel	Fixed Horizontal Cylinder	Fire Pumps	Concrete Berm

Table 3: MCAS Miramar Aboveground Storage Tanks (continued)

MCAS Miramar Building/AST Number	Shell Capacity (Gallons)	Contents	Tank Type	Function	Secondary Containment
6010-1	528	Used Oil	Fixed Vertical Cylinder (Blue Betty)	Hazardous Waste Disposal	Double Wall
6017-1	115	Diesel	Fixed Horizontal Cylinder	Fire Pumps	Concrete Berm
6017-2	115	Diesel	Fixed Horizontal Cylinder	Fire Pumps	Concrete Berm
6018-1	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6018-2	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6018-3	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6018-4	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6018-5	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6018-6	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6018-7	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6018-8	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6018-9	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6018-10	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6018-11	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm

Table 3: MCAS Miramar Aboveground Storage Tanks (continued)

MCAS Miramar Building/AST Number	Shell Capacity (Gallons)	Contents	Tank Type	Function	Secondary Containment
6018-12	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6018-13	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Pop-Up Rubber Berm
6018-14	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Pop-Up Rubber Berm
6018-15	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Pop-Up Rubber Berm
6018-16	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Pop-Up Rubber Berm
6018-17	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-18	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-19	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-20	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-21	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-22	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-23	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-24	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-25	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-26	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-27	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-28	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-29	900	JP-5 Jet Fuel	Mobile Horizontal Square (SIXCON)	Fuel Delivery	Concrete Berm
6018-30	2,500	JP-5 Jet Fuel	Flatrack Refueling Capability (FRC)	Fuel Delivery	Pop-Up Rubber Berm

Table 3: MCAS Miramar Aboveground Storage Tanks (continued)

MCAS Miramar Building/AST Number	Shell Capacity (Gallons)	Contents	Tank Type	Function	Secondary Containment
6018-31	2,500	JP-5 Jet Fuel	Flatrack Refueling Capability (FRC)	Fuel Delivery	Pop-Up Rubber Berm
6018-32	2,500	JP-5 Jet Fuel	Flatrack Refueling Capability (FRC)	Fuel Delivery	Pop-Up Rubber Berm
6018-33	2,500	JP-5 Jet Fuel	Flatrack Refueling Capability (FRC)	Fuel Delivery	Pop-Up Rubber Berm
6018-34	2,500	JP-5 Jet Fuel	Flatrack Refueling Capability (FRC)	Fuel Delivery	Pop-Up Rubber Berm
6025-1	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6025-2	5,000	JP-5 Jet Fuel	Mobile Refueler (M970 Tanker Trailer)	Fuel Delivery	Pop-Up Rubber Berm
6214-4	285	Used Oil	Fixed Horizontal Rectangular	Hazardous Waste Disposal	Double Wall
6214-5	250	Virgin Lube Oil	Fixed Vertical Cylinder	Vehicle Service	Double Wall
6214-6	250	Virgin Lube Oil	Fixed Vertical Cylinder	Vehicle Service	Double Wall
6218-1	150	Diesel	Fixed Horizontal Cylinder	Fire Pumps	Concrete Berm
6218-2	150	Diesel	Fixed Horizontal Cylinder	Fire Pumps	Concrete Berm
6239-1	79	Diesel	Mobile Horizontal Rectangular Base	Emergency Generator	Double Wall
6239-2	103	Diesel	Mobile Horizontal Rectangular Base	Emergency Generator	Double Wall
6317-1	528	Used Oil	Fixed Vertical Cylinder (Blue Betty)	Hazardous Waste Disposal	Double Wall
6319-1	10,000	E-85 Ethanol	Fixed Horizontal Cylinder	Vehicle Fueling	Double Wall
6655-1	60	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
6673-1	396	Used Oil	Fixed Vertical Cylinder (Blue Betty)	Hazardous Waste Disposal	Double Wall

Table 3: MCAS Miramar Aboveground Storage Tanks (continued)

MCAS Miramar Building/AST Number	Shell Capacity (Gallons)	Contents	Tank Type	Function	Secondary Containment
6754-1	1,000	Spilled Hazardous Waste	Fixed Horizontal Cylinder	Secondary Containment	Below-Grade Vault
6754-2	528	Used Oil	Fixed Vertical Cylinder (Blue Betty)	Hazardous Waste Disposal	Double Wall
7117-1	214	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
7122-1	115	Diesel	Fixed Horizontal Cylinder	Fire Pumps	Concrete Berm
7207-1	82	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
7210-1	214	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
7224-1	78	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
7494-1	500	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
7683-1	1,464	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
7684-1	200	Waste Cooking Oil	Portable Horizontal Rectangular	Waste Disposal	Rubber Berm and Tent
7684-2	2,644	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
7777-1	10,563	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
7906-1	25,000	Diesel	Fixed Vertical Cylinder	Bulk Fuel Storage	Double Wall
7907-1	25,000	Gasoline	Fixed Vertical Cylinder	Bulk Fuel Storage	Double Wall
7908-1	25,000	JP-5 Jet Fuel	Fixed Vertical Cylinder	Bulk Fuel Storage	Double Wall
7909-1	25,000	JP-5 Jet Fuel	Fixed Vertical Cylinder	Bulk Fuel Storage	Double Wall
7931-1	400	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
7932-1	1,639,659	JP-5 Jet Fuel	Fixed Vertical Cylinder	Bulk Fuel Storage	Concrete Wall
7933-2	1,637,526	JP-5 Jet Fuel	Fixed Vertical Cylinder	Bulk Fuel Storage	Concrete Wall

Table 3: MCAS Miramar Aboveground Storage Tanks (continued)

MCAS Miramar Building/AST Number	Shell Capacity (Gallons)	Contents	Tank Type	Function	Secondary Containment
7934-3	1,641,539	JP-5 Jet Fuel	Fixed Vertical Cylinder	Bulk Fuel Storage	Concrete Wall
7937-1	4,000	Salvaged JP-5 Jet Fuel	Fixed Horizontal Cylinder	Product Recovery	Below-Grade Vault
7956-1	5,000	Salvaged JP-5 Jet Fuel	Fixed Vertical Cylinder	Bulk Fuel Storage	Double Wall
7957-1	5,000	Salvaged JP-5 Jet Fuel	Fixed Vertical Cylinder	Bulk Fuel Storage	Double Wall
7958-1	5,000	Salvaged JP-5 Jet Fuel	Fixed Vertical Cylinder	Bulk Fuel Storage	Double Wall
7959-1	5,000	Salvaged JP-5 Jet Fuel	Fixed Vertical Cylinder	Bulk Fuel Storage	Double Wall
7960-1	5,000	Salvaged JP-5 Jet Fuel	Fixed Horizontal Cylinder	Engine Test Cell	Double Wall
8117-1	1,000	JP-5 Jet Fuel	Fixed Horizontal Cylinder	Engine Test Cell	Concrete Berm
8119-1	396	Used Oil	Fixed Vertical Cylinder (Blue Betty)	Hazardous Waste Disposal	Double Wall
8125-1	100	JP-5 Jet Fuel	Fixed Horizontal Rectangular	Engine Test Cell	Concrete Berm
8128-1	1,000	JP-5 Jet Fuel	Fixed Horizontal Cylinder	Engine Test Cell	Concrete Berm
8200-1	528	Used Oil	Fixed Vertical Cylinder (Blue Betty)	Hazardous Waste Disposal	Double Wall
8402-1	800	Hydraulic Fluid	Fixed Oil-Filled Operational Equipment	Flight Simulator	Active Measures
8461-1	602	Virgin Lube Oil	Fixed Horizontal Cylinder	Aircraft Equipment Testing	Concrete Berm
8461-3	150	Hydraulic Fluid	Fixed Oil-Filled Operational Equipment	Engine Test Stand	Active Measures
8461-4	150	Hydraulic Fluid	Fixed Oil-Filled Operational Equipment	Engine Test Stand	Active Measures
8461-5	150	Hydraulic Fluid	Fixed Oil-Filled Operational Equipment	Engine Test Stand	Active Measures

Table 3: MCAS Miramar Aboveground Storage Tanks (continued)

MCAS Miramar Building/AST Number	Shell Capacity (Gallons)	Contents	Tank Type	Function	Secondary Containment
8461-6	150	Hydraulic Fluid	Fixed Oil-Filled Operational Equipment	Engine Test Stand	Active Measures
8545-1	850	Virgin Lube Oil	Fixed Horizontal Cylinder	Engine Test Cell	Concrete Berm Roof Cover
8656-1	150	Hydraulic Fluid	Fixed Oil-Filled Operational Equipment	Flight Simulator	Active Measures
8660-1	1,825	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
8671-1	150	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
8672-1	143	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
8679-1	850	Virgin Lube Oil	Fixed Horizontal Cylinder	Engine Test Cell	Concrete Berm
8679-2	20,000	JP-5 Jet Fuel	Fixed Horizontal Cylinder	Engine Test Cell	Double Wall
9170-1	285	Used Oil	Fixed Horizontal Rectangular	Hazardous Waste Disposal	Double Wall
9181-1	132	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9211-1	100	Diesel	Fixed Vertical Rectangular Day	Emergency Generator	Double Wall
9213-1	200	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9213-2	200	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9222-1	260	Used Oil	Fixed Horizontal Rectangular	Hazardous Waste Disposal	Double Wall
9222-2	500	JP-5 Jet Fuel	Mobile Horizontal Rectangular	Vehicle Fueling	Double Wall
9226-1	500	Diesel	Fixed Horizontal Rectangular	Emergency Generator	Double Wall
9227-1	112	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9255-2	396	Used Oil	Fixed Vertical Cylinder (Blue Betty)	Hazardous Waste Disposal	Double Wall

Table 3: MCAS Miramar Aboveground Storage Tanks (continued)

MCAS Miramar Building/AST Number	Shell Capacity (Gallons)	Contents	Tank Type	Function	Secondary Containment
9266-1	408	Diesel	Fixed Horizontal Rectangular	Emergency Generator	Double Wall
9268-1	408	Diesel	Fixed Horizontal Rectangular	Emergency Generator	Double Wall
9270-1	416	Diesel	Fixed Horizontal Rectangular	Emergency Generator	Double Wall
9270-2	416	Diesel	Fixed Horizontal Rectangular	Emergency Generator	Double Wall
9270-3	118	Hydraulic Fluid	Fixed Oil-Filled Operational Equipment	Building Elevator	Active Measures
9276-1	209	Used Oil	Fixed Horizontal Rectangular	Hazardous Waste Disposal	Double Wall
9369-1	113	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9441-1	150	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9452-1	440	Diesel	Fixed Horizontal Cylinder	Emergency Generator	Double Wall
9452-2	150	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9470-1	124	Hydraulic Fluid	Fixed Oil-Filled Operational Equipment	Building Elevator	Active Measures
9470-2	260	Used Oil	Fixed Horizontal Rectangular	Hazardous Waste Disposal	Double Wall
9470-3	119	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9470-5	1,272	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9470-6	260	Used Oil	Fixed Horizontal Rectangular	Hazardous Waste Disposal	Double Wall
9500-1	100	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9500-2	528	Used Oil	Fixed Vertical Cylinder (Blue Betty)	Hazardous Waste Disposal	Double Wall

Table 3: MCAS Miramar Aboveground Storage Tanks (continued)

MCAS Miramar Building/AST Number	Shell Capacity (Gallons)	Contents	Tank Type	Function	Secondary Containment
9500-3	528	Used Oil	Fixed Vertical Cylinder (Blue Betty)	Hazardous Waste Disposal	Double Wall
9570-1	451	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9611-1	395	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9651-1	162	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9653-1	79	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9680-1	89	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9681-1	89	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9702-1	65	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
9705-1	1,000	JP-5 Jet Fuel	Fixed Horizontal Cylinder	Vehicle Refueling	Double Wall
9743-1	5,000	Salvaged JP-5 Jet Fuel	Fixed Horizontal Rectangular	Open Burn Pit	Double Wall
9743-2	365	Salvaged JP-5 Jet Fuel	Fixed Vertical Cylinder	Open Burn Pit	Concrete Berm
9744-1	1,000	Salvaged JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures
9744-2	1,000	JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures
9744-3	4,000 (2,000 + 2,000)	JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures
9744-4	5,000	JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures
9744-5	5,000	JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures
9744-6	5,000	JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures
9744-7	5,000	JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures
9744-8	6,000	JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures

Table 3: MCAS Miramar Aboveground Storage Tanks (continued)

MCAS Miramar Building/AST Number	Shell Capacity (Gallons)	Contents	Tank Type	Function	Secondary Containment
9744-9	6,000	JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures
9744-10	6,000	JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures
9744-11	6,000	JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures
9744-12	10,000	JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures
9744-13	10,000	JP-5 Jet Fuel	Mobile Refueler (Tanker Truck)	Fuel Delivery	Active Measures
9770-1	118	Hydraulic Fluid	Fixed Oil-Filled Operational Equipment	Building Elevator	Active Measures
9770-2	1,959	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
20301-1	2,000	JP-5 Jet Fuel	Fixed Horizontal Rectangular	Bulk Fuel Storage	Double Wall
21134A-1	209	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
22103-1	78	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
22111-1	89	Diesel	Fixed Horizontal Rectangular Base	Emergency Generator	Double Wall
Bowser-1	600	JP-5 Jet Fuel	Mobile Defuelers (Bowser)	Salvaged Fuel Collection	Active Measures
Bowser-2	600	JP-5 Jet Fuel	Mobile Defuelers (Bowser)	Salvaged Fuel Collection	Active Measures
Bowser-3	600	JP-5 Jet Fuel	Mobile Defuelers (Bowser)	Salvaged Fuel Collection	Active Measures
Bowser-4	600	JP-5 Jet Fuel	Mobile Defuelers (Bowser)	Salvaged Fuel Collection	Active Measures
Bowser-5	600	JP-5 Jet Fuel	Mobile Defuelers (Bowser)	Salvaged Fuel Collection	Active Measures
Bowser-6	600	JP-5 Jet Fuel	Mobile Defuelers (Bowser)	Salvaged Fuel Collection	Active Measures

Table 3: MCAS Miramar Aboveground Storage Tanks (continued)

MCAS Miramar Building/AST Number	Shell Capacity (Gallons)	Contents	Tank Type	Function	Secondary Containment
Bowser-7	600	JP-5 Jet Fuel	Mobile Defuelers (Bowser)	Salvaged Fuel Collection	Active Measures

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Table 4: MCAS Miramar Underground Storage Tanks

Tank No.	DEHQ Permit No.	Tank ID No.	Installation Date	Contents	Capacity (gallons)	Tank Material	Tank Containment	Piping Leak Detection	UDC	Striker Plate	Drop Tubes	Tank Leak Detection System
2662-1	215491	388076	5/17/2012	87 Octane Unleaded Gasoline	30,000	FRP	Double-walled	Yes	Yes	Yes	Yes	Incon TS-5000 with ATG
2662-2		388073	5/17/2012	87 Octane Unleaded Gasoline	30,000	FRP	Double-walled	Yes	Yes	Yes	Yes	
2662-3		388077	5/17/2012	91 Octane Premium Gasoline	30,000	FRP	Double-walled	Yes	Yes	Yes	Yes	
2662-4		388070	5/17/2012	Diesel	15,000	FRP	Double-walled	Yes	Yes	Yes	Yes	
6021-1	181142	31063	10/5/1998	JP-5 Jet Fuel	40,000	FRP	Double-walled	Yes	Yes	Yes	Yes	Veeder Root TLS-350 with ATG
6021-2		31064	10/5/1998	Bio-Diesel (B20)	40,000	FRP	Double-walled	Yes	Yes	Yes	Yes	
6214-1	180620	30606	01/03/1996	91 Octane Premium Gasoline	15,000	FRP	Double-walled	Yes	Yes	Yes	Yes	Veeder Root TLS-350 with ATG
6214-2		30607	01/03/1996	89 Octane Unleaded Gasoline	15,000	FRP	Double-walled	Yes	Yes	Yes	Yes	
6214-3		30608	01/03/1996	87 Octane Unleaded Gasoline	20,000	FRP	Double-walled	Yes	Yes	Yes	Yes	
8483-1	181127	31047	7/21/1998	Diesel	10,000	FRP	Double-walled	Yes	Yes	Yes	Yes	Veeder Root TLS-350 with ATG
8483-2		31046	7/21/1998	87 Octane Unleaded Gasoline	15,000	FRP	Double-walled	Yes	Yes	Yes	Yes	
8545-2	180004	29612	9/8/1998	JP-5 Jet Fuel	20,000	FRP	Double-walled	Yes	NA	Yes	Yes	Veeder Root TLS-300C with ATG
8676-1	003944	11831	2/2/2018	87 Octane Unleaded Gasoline	30,000	FRP	Double-walled	Yes	Yes	Yes	Yes	Incon TS-5000 with ATG
8676-2		11832		Diesel	10,000							
8676-3		11833		91 Octane Premium Gasoline	20,000							

Table 4: MCAS Miramar Underground Storage Tanks (continued)

Tank No.	DEHQ Permit No.	Tank ID No.	Installation Date	Contents	Capacity (gallons)	Tank Material	Tank Containment	Piping Leak Detection	UDC	Striker Plate	Drop Tubes	Tank Leak Detection System
9211-2	180004	29613	9/24/1998	Diesel	5,000	FRP	Double-walled	Yes	NA	Yes	Yes	Veeder Root TLS-300C with ATG
9441-2	180004	29611	8/3/1998	Diesel	600	FRP	Double-walled	Yes	NA	Yes	Yes	Veeder Root TLS-300C with ATG

Notes:
ATG = automatic tank gauging; DEHQ = County of San Diego Department of Environmental Health and Quality (Certified Unified Program Agency [CUPA]); FRP = fiberglass reinforced plastic;
NA = not applicable; UDC = under-dispenser containment

Table 5: Oil-Filled Operational Equipment (Electrical Transformers)

Building No.	Capacity (Gallons)	Pad Number	KVA	Manufacturer	Spill Containment
1406	68	B4-PS11T82A	100	Cooper	Below Grade Sump
1408	86	B4-PS11T82	75	ABB	Below Grade Sump
1413	86	B4-PS11T83	75	ABB	Below Grade Sump
1417	68	B4-PS11T84	75	ABB	Below Grade Sump
1424	68	B4-PS11T85	75	Cooper	Below Grade Sump
1427	80	B4-PS11T80	75	ABB	Below Grade Sump
1430	86	B4-PS11T81	75	ABB	Below Grade Sump
1446	165	B4-PS10T76 (C26-2)	167	ABB/Cutler Hammer	Active Measures
1455	165	B4-PS10T78 (B26-1)	167	ABB/Cutler Hammer	NONE
1464	165	B4-PS10T79 (B25-1)	167	ABB/Cutler Hammer	NONE
1502	118	B5-PS6T19	100	ABB	Below Grade Sump
1505	118	B5-PS6T18	100	ABB	Below Grade Sump
1521	118	B5-PS6T15	100	ABB	Below Grade Sump
1525	118	B5-PS6T16	100	ABB	Below Grade Sump
1531	73	B4-PS11T81A	100	Cooper	Below Grade Sump
1539	118	B5-PS6T17	100	ABB	Below Grade Sump
1544	73	B5-PS6T19A	100	Cooper	Below Grade Sump
1555	165	B5-PS5T10 (B27-2)	167	ABB/Cutler Hammer	NONE
1565	165	B5-PS5T13 (B28-2)	167	ABB/Cutler Hammer	NONE
1574	165	B5-PS5T14 (B29-1)	167	ABB/Cutler Hammer	Active Measures
1590	165	B5-PS5T12 (B27-3)	167	ABB/Cutler Hammer	Active Measures
1727	165	B5-PS5T11 (B27-4)	167	ABB/Cutler Hammer	NONE
1732	165	B4-PS10T77 (C26-1)	167	ABB/Cutler Hammer	Active Measures
2001	250	B5-PS10T27	300	Cooper	Below Grade Sump
2002	198	B5-PS12T32	300	Cooper	Active Measures
2110	187	B5-PS12T31	150	ABB	Below Grade Sump
2242	345	B5-PS8T23	750	ABB	Below Grade Sump
2257	247	B4-PS8T72	500	ABB	Below Grade Sump
2274T		B3-PS12T37	75		Active Measures

Table 5: Oil-Filled Operational Equipment (Electrical Transformers) (continued)

Building No.	Capacity (Gallons)	Pad Number	KVA	Manufacturer	Spill Containment
2264	240	B4-PS7T70	150	ABB	Below Grade Sump
2340	187	B5-PS13T33	150	ABB	Below Grade Sump
2471	194	B4-PS7T69	225	ABB	Below Grade Sump
2495	230	B5-PS3T5 (E27-1)	500	RTE Corporation	Active Measures
2495	210	B5-PS3T5A (E27-2)	500	Sierra	Active Measures
2496	510	B5-PS3T6 (E28-5)	1,000	Cooper	Below Grade Sump
2499	195	B4-PS8T71	300	ABB	Below Grade Sump
2507	195	B3-PS8T29	225	ABB	Below Grade Sump
2513	288	B5-PS13T34	500	ABB	Below Grade Sump
2515	321	B5-PS14T36	500	Cooper	Below Grade Sump
2524	195	B4-PS5AT66A	300	ABB	Below Grade Sump
2525	280	B4-PS5T65 (C4-F25-1)	500	General Electric	Active Measures
2570	110	B4-PS5AT65A	150	Cooper	Below Grade Sump
2580	213	B3-PS12T36 Substation No.6 C4-E23 1	2000	ABB	Active Measures
2662	251	B5-PS12AT31A	300	ABB	Below Grade Sump
2686	183	B5-PS5T9	75	ABB	Below Grade Sump
2700	224	B5-PS6T20	500	ABB	Below Grade Sump
2727	184	B5-PS7T21	75	ABB	Below Grade Sump
2727	288	B5-PS7T22	150	ABB	Below Grade Sump
2740	220	B5-PS4T7 (D27-1)	225	Atlantic	Below Grade Sump
2740		B5-PS4T7 (D27-1) HV Switch	600A		Below Grade Sump
2741	392	B5-PS4T8	750	Cooper	Below Grade Sump
2747		B5-PS5AT10A			Below Grade Sump
3322	195	C4-F20-1	225	Westinghouse	Active Measures
3379	195	B3-PS9T30	300	ABB	Below Grade Sump
3426	84	C4-F18-1	150	Niagra	Active Measures
3750	251	B3-PS5T23	300	Cooper	Below Grade Sump
4201	184	B3-PS14T41	75	ABB	Below Grade Sump
4312		C4-D23-2	500	Cooper	Active Measures
4312		C4-D23-3	112.5	Cooper	Active Measures
4325	306	C4-D24-1	225	Atlantic Power Systems	Concrete Berm
4325		C4-D24-1 HV Switch	600A	ESCO	Concrete Berm

Table 5: Oil-Filled Operational Equipment (Electrical Transformers) (continued)

Building No.	Capacity (Gallons)	Pad Number	KVA	Manufacturer	Spill Containment
4472	150	C4-D22-2	225	Vantran	NONE
5305	406	B3-PS3T7	750	Cooper	Below Grade Sump
5500		B3-PS8T28	750	Olsyn	Below Grade Sump
5534	268	B3-PS6T24	750	ABB	Below Grade Sump
5638	233	B3-PS6T25 (B3-PS7T26)	500	ABB	Below Grade Sump
5696	247	B4-PS5T66	500	ABB	Below Grade Sump
6673	288	B5-PS19T46	500	ABB	Below Grade Sump
6008	352	B5-PS18T43	750	Cooper	Below Grade Sump
6012	215	B5-PS16T40	225	ABB	Below Grade Sump
6022	184	B6-PS12T70	75	ABB	Below Grade Sump
6028	272	B5-PS18T44	750	Alstrom	Below Grade Sump
6214	273	B6-PS13T71	300	ABB	Below Grade Sump
6237	215	B5-PS10T28	225	ABB	Below Grade Sump
6274	288	B5-PS9T25	500	ABB	Below Grade Sump
6300	215	B6-PS9T63	225	ABB	Below Grade Sump
6300	281	B6-PS9T64	500	ABB	Below Grade Sump
6310	267	B6-PS15T75	225	Cooper	Concrete Berm
6311/6315	332	B5-PS2T3	500	ABB	Concrete Berm
6317	288	B5-PS1T1	500	ABB	Below Grade Sump
6320	192	B5-PS2T4	500	Cooper	Below Grade Sump
6650	163	B6-PS8T60	75	ABB	Below Grade Sump
6687	215	B6-PS10T65	225	ABB	Below Grade Sump
6705	334	B6-PS9AT63A	750	ABB	Below Grade Sump
7208	288	B6-PS6T58	500	ABB	Below Grade Sump
7209	279	B6-PS6T57	500	ABB	Below Grade Sump
7210	273	B6-PS5T56	300	ABB	Below Grade Sump
7214	215	B6-PS4T53	225	ABB	Below Grade Sump
7214	277	B9-PS1T2	300	Cooper	Below Grade Sump
7229	184	B3-PS4T21	75	ABB	Below Grade Sump
7490	300	B6-PS1T48 (J27-2)	750	Delta Star	Active Measures
7490	360	B6-PS4T54	750	ABB	Below Grade Sump
7494	244	B6-PS7T60	300	ABB	Below Grade Sump
7494	288	B6-PS8T61	500	ABB	Below Grade Sump
7515	148	B4-PS1T43 C4-I26-2	750	General Electric	Active Measures

Table 5: Oil-Filled Operational Equipment (Electrical Transformers) (continued)

Building No.	Capacity (Gallons)	Pad Number	KVA	Manufacturer	Spill Containment
7515	453	B4-PS2T44	1000	ABB	Below Grade Sump
7515	331	B4-PS2T45 C4-I25-2	750	Atlantic Power Systems	Below Grade Sump
7690	192	B6-PS3T51 (J28-1)	1500	General Electric	Active Measures
7931	215	B10-PS1AT23A (B10-PS1AT1A)	225	ABB	Below Grade Sump
7931	450	B10-PS1AT24A (B10-PS1AT2A)	1500	ABB	Below Grade Sump
8200	300	B10-PS2T26	500	Vantran	Concrete Berm
8218	480	B8-PS7T40 Substation No. 2 (I26-1)	1500	Vantran	NONE
8219	300	B8-PS9T43	500	Vantran	Below Grade Sump
8380	151	B9-PS7T14	75	ABB	Concrete Berm
8456	425	B8-PS3T32	750	Vantran	Below Grade Sump
8460	Not Labeled	B7-PS11T21	300	ABB	Concrete Berm
8461	425	B7-PS1T1	750	Vantran	Concrete Berm
8473		B8-PS7T39	1000	Cooper	Below Grade Sump
8477	200	B7-PS13T26	560	MGM	Concrete Berm
8477	155	B7-PS13T26 HV Switch	600A	G&W	Concrete Berm
8596	644	B9-PS6T12 Substation 5	1500	ABB	Active Measures
8600	300	B9-PS4T7	500	Vantran	Concrete Berm
8630	116	B10-PS4T30 (M18-1)	300	Standard	NONE
8656	233	B8-PS2T30 (L25-4)	2000	General Electric	Active Measures
8656	335	B8-PS3AT32A	750	ABB	Below Grade Sump
8657		B8-PS3AT33A	750	ABB	Below Grade Sump
8671	460	B9-PS11T21 (N21-2)	1500	Westinghouse	Active Measures
8679	Not Labeled	B7-PS11T22 (K29-2)	112.5	Westinghouse	NONE
8745	122	B9-PS6T11 (N22-2)	300	General Electric	Concrete Berm
8745		B9-PS6T11 (N22-2) HV Switch	600A		Concrete Berm
9100	185	B9-PS7T14A	225	ABB	Concrete Berm
9175	245	B9-PS5T10	150	General Electric	Concrete Berm

Table 5: Oil-Filled Operational Equipment (Electrical Transformers) (continued)

Building No.	Capacity (Gallons)	Pad Number	KVA	Manufacturer	Spill Containment
9213	500	B7-PS6T11	1500	Vantran	Concrete Berm
9221	270	B8-PS8T41	300	Vantran	Below Grade Sump
9221	210	B8-PS8T42	150	Vantran	Below Grade Sump
9226		B9-PS10T20	300	Cooper	Below Grade Sump
9265	265	B7-PS1T2	300	Vantran	Concrete Berm
9266		C4-W25-1	300		Active Measures
9266		C4-W25-2	75	Fayetville	Concrete Berm
9268		C4-X20-1	225		Active Measures
9276		C4-S12-1	75	RTE/Cooper	Active Measures
9277	420	B7-PS12T23	1000	Vantran	Concrete Berm
9277	420	B7-PS12T24	1000	Vantran	Concrete Berm
9403	205	B7-PS6T12	112.5	Vantran	Concrete Berm
9417	210	B7-PS13T25	150	Vantran	Concrete Berm
9441	300	B9-PS3T6	500	Vantran	Concrete Berm
9442	215	B9-PS2T3	225	Vantran	Concrete Berm
9470	344	B10-PS9AT40A	750	Square D	Below Grade Sump
9500	430	B9-PS5T9	1500	Vantran	Concrete Berm
9565		B7-PS9T18	500	Vantran	Concrete Berm
9570	453	B10-PS8T38	1500	ABB	Below Grade Sump
9571		B10-PS8T37	500		Concrete Berm
9601		B7-PS10T20	300	Vantran	Concrete Berm
9610	225	B10-PS7T36	150	Vantran	Below Grade Sump
9611	390	B10-PS6AT34A (B10-PS6T34A)	750	General Electric	Concrete Berm
9178	210	B7-PS7T14	150	Vantran	Concrete Berm
9670	500	B10-PS5T31 (N16-2)	2000	Balteau Standard	Active Measures
9670	500	B10-PS5T32 (N17-1)	750	Balteau Standard	Active Measures
9670	164	B10-PS6AT33A	150	ABB	Below Grade Sump
9670	255	B10-PS6T33 (N16-1)	1000	Balteau Standard	Active Measures
9670		B10-PS6T34 (N16-3)	500	Balteau Standard	Active Measures
9715	167	B9-PS10AT19A	112.5	ABB	Below Grade Sump
9770	500	B10-PS6CT33C	1500	Square D	Below Grade Sump
21020	306	D1-PS2T3	150	ABB	Below Grade Sump

Table 5: Oil-Filled Operational Equipment (Electrical Transformers) (continued)

Building No.	Capacity (Gallons)	Pad Number	KVA	Manufacturer	Spill Containment
21133	309	D1-PS3T8 (T-83)	150	Square D	Concrete Berm
21135	280	D1-PS3T9	150	ABB	Below Grade Sump
21138	280	D1-PS3T11	150	ABB	Below Grade Sump
21302	280	D1-PS3T6	150	ABB	Below Grade Sump
22111	264	D1-PS6T16	75	ABB	Below Grade Sump
23100	98	C1-PS1T4 (T-1)	37.5	ABB	NONE
23100	132	C1-PS1T5 (T-2)	112.5	ABB	Below Grade Sump
23101	149	C1-PS1T1 (T5) T-3	100	ABB	NONE
23101	108	C1-PS1T2 (T-6)	100	ABB	NONE
21132A/B	264	D1-PS3T7	75	ABB	Below Grade Sump
21134A	332	D1-PS3T5	225	ABB	Below Grade Sump
21136A	264	D1-PS3T10	75	ABB	Below Grade Sump
21134A (Water Pump St)	264	D1-PS4T12	75	ABB	Below Grade Sump

Table 6: Key MCAS Miramar Personnel Roles and Responsibilities

Unit	Responsibility
MCAS Miramar Commanding Officer (CO)	The CO is ultimately responsible for all spills and spill response actions at MCAS Miramar. Specific responsibilities include the following: • Act as the Facility Incident Commander (FIC) during all major OHS spill or release events. • Manage the oil and hazardous substance (OHS) release as the Incident Commander (IC) or delegate the responsibilities to others, as needed • Establish an incident log and begin recording events and response actions. • Use emergency purchasing authority to procure commercial cleanup services as necessary. Work with the Commander, Navy Region Southwest (CNRSW) Navy On-Scene Commander (NOSC) contracting personnel to formalize contracts for services and equipment to initiate and conduct cleanup activities. Additional financial and contract support may be available through the Defense Energy Support Center (DESC). • Request personnel support and technical assistance from the CNRSW NOSC as needed. • Designate personnel to meet and escort any outside personnel when they arrive at the site. In the event of a large spill, the FIC should expect onsite visits from federal, state, and local officials and the media. • Review and approve all spill reports to federal, state, and local agencies. • Conduct post-discharge review procedures and prepare reports as required. • Ensure development and implementation of the OHS Integrated Contingency Plan (ICP).

Table 6: Key Personnel Roles and Responsibilities (continued)

Unit	Responsibility
MCAS Miramar Environmental Division (EMD)	The EMD is the primary department responsible for OHS spill notification, planning, prevention, response, containment, cleanup, disposal, and reporting. Specific responsibilities include the following: • Provide notifications and submit reports to all federal, state, and local regulatory agencies on the OHS spill or release as required. • Serve as the primary environmental advisor during all OHS spill emergencies. • Participate in the decision-making process concerning situations that may have a negative or adverse impact on the environment. • Provide technical assistance on the classification, management, and disposal of all spilled materials and spill by-products. • Recommend additional support from HAZMAT contractors, initiate emergency purchase order contracts as required, and provide guidance on contracts for disposal of contaminated cleanup materials. • Ensure that all personnel are properly trained at least annually in spill response procedures and implementation of the OHS ICP. • Ensure all required training is documented in appropriate personnel records. • Review plans and drawings for new construction, maintenance, or modification of OHS facilities. • Support the Fuels Division in tank leak monitoring system inspection and maintenance programs, and confirm that monitoring systems are certified annually. • Conduct field surveys to review the OHS ICP annually and incorporate any technical changes within 6 months. • Provide technical assistance on policies and procedures for implementing the OHS ICP and on regulatory requirements related to management of OHS. • Ensure that an up-to-date copy of the OHS ICP is available for access by Facility and regulatory agency personnel at all times.

Table 6: Key Personnel Roles and Responsibilities (continued)

Unit	Responsibility
MCAS Miramar Fire Department (MFD)	The FD is responsible for responding to all spills that unit or activity personnel cannot handle. Specific responsibilities include the following: • Implement the incident command system as required. • Serve as the Qualified Individual (QI) or IC during the initial spill response and control phases of the spill management process, according to guidelines specified in the Emergency Response Action Plan (ERAP). • As the QI or IC, direct the spill response. • Provide equipment and manpower to rescue personnel and provide first aid. • Ensure that all firefighters are aware of safety considerations associated with spill response duties. • Ensure that all FD personnel have received appropriate training to respond to spills, including annual refresher training once certified at the respective level. • Initiate response to all spills. • Work with site personnel on evacuating personnel and establishing an exclusion zone, if required. • Provide information on potential fire and explosive hazards related to all spilled materials. • Obtain information including type of spill material, quantity of material, and packaging. • Determine PPE requirements for the area. • Request the services of the HAZMAT contractor (if authorized) and direct the various support agencies, as required, to mitigate the incident. • Transfer cleanup authority to the HAZMAT contractor, once the spill has been contained and the cleanup and reporting phase of the spill response process begins.
MCAS Miramar Aircraft Rescue and Fire Fighting (ARFF)	The ARFF is a military unit that may be able to provide the following OHS spill response capabilities: • Provide initial spill response personnel and equipment to address small to medium spills up to 300 gallons. • May be able to respond to spills during normal working hours. • Able to contain and isolate the spill with protective gear. • Ensure personnel are trained to use spill cleanup equipment. • Locally store and stock spill response equipment and supplies on the Facility.

Table 6: Key Personnel Roles and Responsibilities (continued)

Unit	Responsibility
MCAS Miramar Security Department	The Security Department is responsible for overall security at the Facility. Security Officer duties include the following: • Provide full-time onsite assistance in securing access to the spill site and areas affected by the spill; responsibilities also include personnel, crowd, and traffic control, evacuation planning and execution, and protection of government property. • Coordinate with local civilian communities and Facility housing area representatives to ensure that proper warnings and protection are provided to avoid effects of the discharge. • Activate the Emergency Operation Center (EOC) and provide administrative support, if needed. • Conduct daily inspections of security systems such as access control, secured storage areas, lighting, fencing, and traffic control areas to prevent spills due to an unauthorized entry. • Upon entry to the Facility, inspect fuel delivery vehicles for leaks and mechanical problems that may cause a spill. • Assist in an evacuation in the event of a large spill.
MCAS Miramar Fuels Division	The Fuels Division is responsible for aircraft fuel-dispensing operations and fuel storage. The Fuels Division's responsibilities include the following: • Conduct fuel system inspections and maintain records for a minimum of 3 years. • Provide support equipment and personnel for a fuel spill response. • Provide leak monitoring, detection system maintenance, and annual leak detection certifications for all fuel storage tanks. • Notify the EMD of any non-compliance issues.

Table 6: Key Personnel Roles and Responsibilities (continued)

Unit	Responsibility
MCAS Miramar Unit or Activities Personnel	All units or activities that have an oil storage tank or container with a capacity of at least 55 gallons or any volume of hazardous substances are responsible for spill prevention, initial spill response and notification, and cleanup if capable in their specific area of responsibility: • Ensure the spill response procedures in the ERAP are understood and followed by personnel in the unit. • Ensure any oil accumulated in secondary containment areas is drained, removed, and disposed of properly. • Following a spill incident, work with management to determine actions to prevent reoccurrence. • Record information regarding the nature, location, and time of the actions, the costs incurred, and unit(s) responsible for the spill and provide to the EMD or reporting purposes. • Notify the EMD of any changes to the Facility or operations that may affect implementation of the OHS ICP (i.e., addition/removal of tank, change in product stored, etc.). • Ensure spill kits are equipped with the proper material to contain spills from the area. • Ensure spill kits are easily accessible and the location of spill kits is known. • Control, stop, and cleanup spills that can be easily handled by personnel in the unit.
HAZMAT Contractor	The HAZMAT contractor is responsible for assisting the MFD in responding to spills that Facility personnel cannot handle alone. Specific responsibilities include the following: • Provide equipment and manpower to contain spills and neutralize hazardous substances. • Construct decontamination areas. • Collect all spilled materials and place into appropriate disposal containers (i.e., drums, vacuum truck, etc.). • Ensure that all HAZMAT personnel have received appropriate training to respond to spills, including HAZWOPER and hazardous communication (HAZCOM). • Ensure that all HAZMAT personnel are aware of safety considerations associated with spill response duties and respond to the site with appropriate safety equipment and personal protective equipment (PPE).

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Table 7: Secondary Containment Capacity Calculations for Below-Grade Sumps
Oil and Hazardous Substance Integrated Contingency Plan
MCAS Miramar, San Diego, California

Buidling	Pad Number	Containment Length (feet)	Containment Width (feet)	Containment Depth (inches)	Area Surrounding Transformer (feet)	Total Containment Capacity (gallons)	Maximum Precipitation at MCAS Miramar (24-hour 25-year Storm Event) (inches)	Total Rainfall Accumulated in Containment from Maximum Precipitation (gallons)	Adjustment Containment Capacity (gallons)	Transformer Volume (gallons)	Adequate Containment (YES/NO)
1406	B4-PS11T82A	7	7	10	1	150	3.26	100	50	25	YES
1408	B4-PS11T82	7	7	9	1	135	3.26	100	35	25	YES
1413	B4-PS11T83	7	7	10	1	150	3.26	100	50	25	YES
1417	B4-PS11T84	7	7	10	1	150	3.26	100	50	25	YES
1424	B4-PS11T85	7	7	10	1	150	3.26	100	50	25	YES
1427	B4-PS11T80	7	7	10	1	150	3.26	100	50	25	YES
1430	B4-PS11T81	7	7	10	1	150	3.26	100	50	25	YES
1502	B5-PS6T19	7	6	11	1	151	3.26	85	65	25	YES
1505	B5-PS6T18	8	6	11	2	274	3.26	98	177	25	YES
1521	B5-PS6T15	6	7	11	1	151	3.26	85	65	25	YES
1525	B5-PS6T16	7	6	11	1	151	3.26	85	65	25	YES
1531	B4-PS11T81A	7	7	10	1	150	3.26	100	50	25	YES
1539	B5-PS6T17	7	7	10	1	150	3.26	100	50	25	YES
1544	B5-PS6-T19A	7	6	10	1	137	3.26	85	52	25	YES
2110	B5-PS12T31	8	9	10	1	187	3.26	146	41	25	YES
2169	B5-PS10T28	8	9	9	2	292	3.26	146	145	25	YES
2242	B5-PS8T23	9	9	9	2	314	3.26	165	150	25	YES
2242	B5-PS7T21	9	9	9	2	314	3.26	165	150	25	YES
2340	B5-PS13T33	8	9	10	1	187	3.26	146	41	25	YES
2496	B5-PS3T6	9	9	12	1	239	3.26	165	75	25	YES
2515	B5-PS14T36	14	12	10	2	549	3.26	341	207	25	YES
2519	B5-PS13T34	9	8	10	1	187	3.26	146	41	25	YES
2686	B5-PS5T9	8	9	10	1	187	3.26	146	41	25	YES
2700	B5-PS6T20	9	8	10	2	324	3.26	146	178	25	YES
2740	B5-PS4T7	7	7	11	1	165	3.26	100	65	25	YES
2741	B3-PS4T8	9	11	11	2	439	3.26	201	238	25	YES
3750	B3-PS5T23	13	12	10	3	711	3.26	317	394	25	YES
4201	B3-PS14T41	8	9	10	2	324	3.26	146	178	25	YES
5305	B3-PS3T7	13	13	10	3	748	3.26	343	405	25	YES
5534	B3-PS6T24	13	11	14	1	384	3.26	291	93	25	YES
5638	C4-G24-1	9	9	12	1	239	3.26	165	75	25	YES
6002	B5-PS19T46	9	9	9	2	314	3.26	165	150	25	YES
6012	B5-PS16T40	9	9	9	2	314	3.26	165	150	25	YES
6022	B6-PS12T70	9	8	10	1	187	3.26	146	41	25	YES
6028	B5-PS18T44	11	11	12	2	539	3.26	246	293	25	YES
6214	B5-PS13T71	9	9	10	2	349	3.26	165	184	25	YES
6274	B5-PS9T25	10	9	10	2	374	3.26	183	191	25	YES
6300	B6-PS9T63	7	7	11	1	165	3.26	100	65	25	YES
6317	B5-PS1T1	9	9	9	2	314	3.26	165	150	25	YES
6650	B6-PS7T60	9	9	9	2	314	3.26	165	150	25	YES

Table 7: Secondary Containment Capacity Calculation for Below-Grade Sumps (Continued)

Oil and Hazardous Substance Integrated Contingency Plan

MCAS Miramar, San Diego, California

Buidling	Pad Number	Containment Length (feet)	Containment Width (feet)	Containment Depth (inches)	Area Surrounding Transformer (feet)	Total Containment Capacity (gallons)	Maximum Precipitation at MCAS Miramar (24-hour 25-year Storm Event) (inches)	Total Rainfall Accumulated in Containment from Maximum Precipitation (gallons)	Adjustment Containment Capacity (gallons)	Transformer Volume (gallons)	Adequate Containment (yes/no)
6687	B6-PS10T65	9	10	9	2	337	3.26	183	154	25	YES
6705	B6-PS9AT63A	11	12	10	2	474	3.26	268	206	25	YES
7208	B6-PS6T58	10	9	10	1	212	3.26	183	29	25	YES
7209	B6-PS6T57	10	9	10	1	212	3.26	183	29	25	YES
7212	B6-PS4T53	9	8	10	1	187	3.26	146	41	25	YES
7214	B9-PS1T2	9.5	12	10	2	436	3.26	232	205	25	YES
7217	B6-PS5T56	9	8	10	1	187	3.26	146	41	25	YES
7229	B3-PS4T21	9	8	9	2	292	3.26	146	145	25	YES
7490	B6-PS4T54	9	9	11	1	219	3.26	165	55	26	YES
7494	B6-PS7T59	9	9	11	2	384	3.26	165	219	25	YES
7494	BS-PS7T60	8	9	10	1	187	3.26	146	41	25	YES
7515	C4-I25-2	11	9	11	1	247	3.26	201	46	25	YES
7931	B10-PS1AT1A	9	9	11	1	219	3.26	165	55	25	YES
7931	B10-PS1AT2A	13	13	12	3	898	3.26	343	554	25	YES
8219	B8-PS9T43	13	12	11	3	782	3.26	317	465	25	YES
8380	B9-PS7T14	8	8	6	2	180	3.26	130	49	25	YES
8456	B8-PS3T32	10	10	11	2	439	3.26	203	236	25	YES
8656	B8-PS3AT32A	11	9	12	2	479	3.26	201	278	25	YES
8656	B8-PS3AT33A	10	9	11	2	411	3.26	183	229	25	YES
9221	B8-PS8T42	8	10	8	2	279	3.26	163	117	25	YES
9221	B8-PS8T41	8	10	8	2	279	3.26	163	117	25	YES
9226	B9-PS10T20	9	11	10	1	224	3.26	201	23	25	NO
9610	B10-PS7T36	9	8	9	2	292	3.26	146	145	25	YES
9611	B10-PS6T34A	10	9	6	2	224	3.26	183	42	25	YES
23100	T2	7	7	13	2	324	3.26	100	225	25	YES

Notes: (1) Stated dimensions for the transformer represent dimensions of concrete pad on which transformer and meter are situated.

Table 8: Secondary Containment Capacity Calculations for Concrete Containment Structures

Oil and Hazardous Substance Integrated Contingency Plan
MCAS Miramar, San Diego, California

Buidling	Pad Number	Containment Length (feet)	Containment Width (feet)	Transformer Length(1) (feet)	Transformer Width(1) (feet)	Meter Length(1) (feet)	Meter Width(1) (feet)	Switching Box Length(1) (feet)	Switching Box Width(1) (feet)	Containment Depth inches	Total Containment Capacity (gallons)	Maximum Precipitation at MCAS Miramar (24-hour 25-year Storm Event) (inches)	Total Rainfall Accumulated in Containment from Maximum Precipitation (gallons)	Adjustment Containment Capacity (gallons)	Transformer Spill Volume (gallons)	Adequate Containment (YES/NO)
2499	C4-E25-2	10	10	5	3	0	0	0	0	4	212	3.26	27	185	25	YES
4325	C4-D24-1	17	35	7	7	5	6	4	6	6	1840	3.26	162	1678	25	YES
6310	B6-PS15T75	8	9	7	8	0	0	0	0	6	60	3.26	20	40	25	YES
6311	B5-PS2T3	22	12	5	6	8	5	0	0	6	726	3.26	72	654	25	YES
8200	B10-PS2T26	17	32	5	5	7	5	4	6	7	2007	3.26	148	1859	25	YES
8460	B7PS11	15	25	5	6	4	8	7	8	2	320	3.26	102	219	26	YES
8461	B7-PS1T1	18	38	8	8	8	6	0	0	7	2496	3.26	186	2310	25	YES
8477	B7-PS13T26	27	13	7	3	4	5	6	8	6	980	3.26	95	885	26	YES
8600	B9-PS4T7	17	32	5	6	6	14	0	0	7	1876	3.26	148	1728	25	YES
8745	B9-PS6T11	26	17	5	10	5	5	0	0	4	915	3.26	120	795	25	YES
9100	B9-PS7T14A(1)	19	14	9	13	0	0	0	0	5	464	3.26	72	392	25	YES
9213	B7-PS6T11	12	8	5	3	7	5	0	0	7	201	3.26	26	175	25	YES
9265	B7-PS1T2	12	9	5	4	7	5	0	0	7	231	3.26	29	202	25	YES
9266	C4-W25-2	6	6	5	3	0	0	0	0	6	79	3.26	10	69	25	YES
9277	B7-PS12T23	33	13	7	7	6	5	7	4	12	2409	3.26	117	2292	25	YES
9277	B7-PS12T24	12	16	5	6	8	5	0	0	9	684	3.26	52	632	25	YES
9403	B7-PS6T12	12	8	5	3	7	5	0	0	7	201	3.26	26	175	25	YES
9417	B7-PS13T25	19	11	5	4	7	5	0	0	7	672	3.26	57	615	25	YES
9417	B7-PS13T25	19	11	5	4	7	5	0	0	7	672	3.26	57	615	25	YES
9441	B9-PS3T6	32	22	7	8	11	5	4	7	6	2113	3.26	191	1922	25	YES
9442	B9-PS2T3	32	25	8	8	11	5	4	6	6	2457	3.26	217	2240	25	YES
9500	B9-PS5T9	36	18	5	9	11	6	0	0	7	2343	3.26	176	2167	25	YES
9500	B9-PS5T10	22	12	5	5	3	2	0	0	6	871	3.26	72	800	25	YES
9565	B7-PS9T18	20	9	4	7	5	3	0	0	7	598	3.26	49	549	25	YES
9571	B10-PS8T37	4.5	4.5	4	3	0	0	0	0	7	36	3.26	6	30	25	YES
9601	B7-PS10T20	19	9	5	7	3	5	0	0	7	528	3.26	46	482	25	YES
9648	B7-PS1T2	13	9	4	5	7	4	0	0	7	301	3.26	32	269	25	YES
21133	T-83	9	9	6	5	0	0	0	0	8	254	3.26	22	232	25	YES
21138	T-81	9	9	5	6	0	0	0	0	7	223	3.26	22	201	25	YES

Notes: (1) Stated dimensions for equipment take into account dimensions of concrete pad on which equipment is situated.

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Table 9: Secondary Containment Capacity Calculations for Single-Wall Aboveground Storage Tanks

Oil and Hazardous Substance Integrated Contingency Plan
MCAS Miramar, San Diego, California

Tank No.	Tank Description	AST Covered (inside building, under roof, or in tent)	Containment Length (feet)	Containment Width (feet)	Containment Depth (inches)	Total Containment Capacity (gallons)	Total Rainfall Freeboard Accumulated in Containment Area (gallons)	Net Available Containment Capacity (gallons)	Tank Volume (gallons)	Adequate Containment (YES/NO)
5500-1	Waste Cooking Oil Tank	YES	10	12	8	598	0	598	200	YES
6001-1	Fire Pump AST	NO	15	23	7	1,505	701	804	65	YES
6017-1 and -2	Fire Pump ASTS	NO	37.5	23	8	4,301	1,753	2,548	115	YES
6018	SIXCONs	NO	61.5	31	5.5	6,536	3,874	2,662	115	YES
6218-1 and -2	Fire Pump ASTs	NO	36	21	8	3,770	1,536	2,234	900	YES
7122-1	Fire Pump AST	YES	19	12	9	1,279	0	1,279	115	YES
7684-1	Waste Cooking Oil Tank	YES	10	12	8	598	0	598	200	YES
7684-2	Boiler Day Tank	YES	33	3	11	679	0	679	175	YES
7932-1	JP-5 Jet Fuel AST	NO	189	189	84	1,870,352	72,587	1,797,764	1,639,659	YES
7933-2	JP-5 Jet Fuel AST	NO	189	189	84	1,870,352	72,587	1,797,764	1,637,526	YES
7934-3	JP-5 Jet Fuel AST	NO	189	189	84	1,870,352	72,587	1,797,764	1,641,539	YES
7937-1	Product Recovery Tank	NO	12	27	156	31,506	658	30,847	4,000	YES
8117-1	Jet Engine Testing AST	NO	31	11	11	2,338	693	1,645	1,000	YES
8125-1	Jet Engine Testing AST	NO	6.75	5.6	8.5	200	77	123	94	YES
8128-1	Jet Engine Testing AST	NO	20	18	9	2,020	732	1,288	1,000	YES
8461-1	Virgin Lube Oil AST	NO	14	9	14	1,100	256	844	602	YES
8545-1	Virgin Lube Oil AST	YES	14	7	18	1,100	0	1,100	850	YES
8679-1	Virgin Lube Oil AST	YES	16	10	12	1,197	0	1,197	850	YES

Note: Rainfall freeboard based on a 25-year, 24-hour rainfall event for MCAS Miramar at approximately 3.26 inches

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Table 10: STI SP001 Inspection Schedule for Shop-Built ASTs

AST Type and Size (United States Gallons)		Category 1	Category 2	Category 3
Shop-Fabricated ASTs	0–1,100	Periodic Visual Inspections only	Periodic Visual Inspections only	Periodic Visual Inspections with External Inspection and Leak Test every 10 years
	1,101–5,000	Periodic Visual Inspections only	Periodic Visual Inspections with External Inspection and Leak Test every 10 years	Periodic Visual Inspections with External Inspection and Leak Test every 5 years and Internal Inspection every 10 years <u>or</u> Periodic Visual Inspections with External Inspection every 5 years and Leak Test every 2 years
	5,001–30,000	Periodic Visual Inspections with External Inspection every 20 years	Periodic Visual Inspections with External Inspection every 10 years and Internal Inspection every 20 years <u>or</u> Periodic Visual Inspections with External Inspection every 5 years and Leak Test every 10 years	Periodic Visual Inspections with External Inspection and Leak Test every 5 years and an Internal Inspection every 10 years <u>or</u> Periodic Visual Inspections with External Inspection and every 5 years and a Leak Test every year
	30,001–50,000	Periodic Visual Inspections with External Inspection every 20 years	Periodic Visual Inspections with External Inspection and Leak Test every 5 years and Internal Inspection every 15 years	Periodic Visual Inspections with External Inspection and Leak Test every 5 years and Internal Inspection every 10 years

Notes:
External inspections, internal inspections, and leak testing to be conducted by an STI-certified Inspector according to STI SP001 guidelines.

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Table 11: Additional MCAS Miramar and Navy Organizations

Organization	Name/Department	Telephone Number
Executive Officer (XO)	MCAS Miramar Office	(858) 307-1141
Command Duty Officer (CDO)	MCAS Miramar Office	(858) 307-1141 (619) 200-7842 (cell)
Provost Marshal's Office (PMO)	MCAS Miramar Office	(858) 307-4068
Installation & Logistics Department (I&L)	MCAS Miramar Office	(619) 307-4536
Explosive Ordnance Disposal Team	MCAS Miramar Office	(858) 307-7699
Aircraft Rescue and Fire Fighting (ARFF)	MCAS Miramar Office	(858) 307-6935 (858) 307-6912
S-3 MCAS Mission Assurance	MCAS Miramar Office	(858) 307-8530 (858) 307-1281
Public Affairs Office	MCAS Miramar Office	(858) 307-6000
Medical Officer	Branch Medical Clinic	(858) 307-4656
Fire Chief	Fire Department	(858) 307-6848
Environmental Director	Environmental Management Division (EMD)	(858) 307-1134
Fuels Division Chief	Fuels Division	(858) 307-2521
Occupational Health and Safety Manager	Occupational Health and Safety Department	(858) 307-2448
Public Works Department Officer	Public Works Department (PWD)	(858) 307-2214
Regional Environmental Division	Naval Facilities Engineering Systems Command Southwest (NAVFAC SW)	(619) 532-2273

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Table 12: Emergency Notification Phone List

Spill Type	ACTION or Agency Contacted	Telephone Number
For an OHS spill <u>less than 25 gallons</u> that is isolated, cleaned up, and removed with spill response materials, and no oil drained outside a tank secondary containment area, absorbed into the soil, or entered a storm drain catch basin (NON-Emergency)	• No external agency reporting is required. • Document the spill. Include as a case study as part of Spill Response Training.	No notification is required
For an OHS spill <u>greater than 25 gallons</u> that is isolated, cleaned up, and removed with spill response materials, and no oil was released outside tank secondary containment areas, absorbed into soil, or entered a storm drain catch basin (NON-Emergency)	**Metro/City of San Diego Fire Rescue Department Non-Emergency Dispatch**	(858) 974-9891
For an OHS spill <u>greater than 25 gallons</u> that is isolated, cleaned up, and removed with spill response materials, but oil entered a storm drain catch basin that was completely captured by an oil/water separator **(NON-Emergency)**	**Metro/City of San Diego Fire Rescue Department Non-Emergency Dispatch**	(858) 974-9891
	County of San Diego Department of Environmental Health and Quality (DEHQ)/County of San Diego Hazardous Incident Response Team (HIRT)	(858) 505-6657 or (858) 505-6673
For an OHS spill <u>with a continuous flow</u> that entered a storm drain catch basin that discharges to the <u>sanitary sewer</u> **(EMERGENCY)**	**Metro/City of San Diego Fire Rescue Department Emergency Dispatch**	911
	DEHQ/HIRT	(858) 505-6657 or (858) 505-6673
	City of San Diego Transportation Department – Storm Drain Hot Line	(619) 235-1000
	City of San Diego Public Utilities Department – Sewer Lines	(619) 527-7663

Table 12: Emergency Notification Phone List (continued)

Spill Type	ACTION or Agency Contacted	Telephone Number
For an OHS spill equal to or greater than 42 gallons that is considered an immediate threat to human health and the environment, and/or any oil that entered a storm drain catch basin that discharges into Rose Canyon or other sensitive areas **(EMERGENCY)**	**Metro/City of San Diego Fire Rescue Department** **Emergency Dispatch**	911
	DEHQ/HIRT	(858) 505-6657 or (858) 505-6673
	DEHQ may contact the following additional Local Agencies:	
	San Diego Air Pollution Control District (SDAPCD)	(858) 586-2600
	County of San Diego Office of Emergency Services	(858) 565-3490
	California Governor's Office of Emergency Services (Cal OES)	(800) 852-7550 or (916) 845-8911
	Cal OES may contact the following additional State Agencies:	
	San Diego Regional Water Quality Control Board (SDRWQCB)	(619) 516-1990
	California Environmental Protection Agency Department of Toxic Substances Control (DTSC)	(619) 516-1982
	California Department of Fish and Wildlife – South Coast Region	(858) 467-4201
	Office of the State Fire Marshall	(916) 445-8200
	California Highway Patrol	(858) 637-3815

Table 12: Emergency Notification Phone List (continued)

Spill Type	ACTION or Agency Contacted	Telephone Number
For an OHS spill of <u>any size discharge</u> that entered a storm drain catch basin that discharges into Rose Canyon or other sensitive areas and creates a sheen, emulsion, or sludge that affects or threatens to affect navigable United States waters or the adjoining shorelines (EMERGENCY); or In accordance with the Superfund Amendment and Reauthorization Act (SARA) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 302.4 regulations, if a hazardous waste release occurs in a quantity equal or exceeding the reportable quantity (RQ) (EMERGENCY)	**IN ADDITION TO CONTACTING ALL AGENCIES ABOVE, CONTACT THE FOLLOWING:**	
	National Response Center (NRC)	(800) 424-8802
	After obtaining Report Number from NRC, also contact:	
	United States Environmental Protection Agency (EPA) Region IX	(800) 300-2193 or (415) 972-3052
	United States Coast Guard (USCG) San Diego 24-Hour Spill Hotline	(619) 683-6470

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Table 13: MCAS Miramar Qualified Individuals (QIs)

MCAS Miramar On-Scene Commander (OSCDR)	
Name:	Joshua Allen
Position:	MCAS Miramar Fire Department (MFD) - Fire Chief
Office Address:	P.O. Box 452001, San Diego, California 92145-2001
Office Phone Number:	(858) 307-6848
Home Phone Number:	(619) 456-5382
Cell Phone Number:	(858) 336-3921
MCAS Miramar Environmental Management Department (EMD) Primary Qualified Individual (QI) Information	
Name:	Mike Corona
Position:	EMD Primary QI – Director of Waste Management Division
Office Address:	MCAS Miramar Building 6022, Shields Drive San Diego, California 92145
Office Phone Number:	(858) 307-1087
Cell Phone Number:	(951) 234-2683
EMD Phone Number:	(858) 307-1108
MCAS Miramar EMD Alternate QI Information	
Name:	Luis Romero
Position:	EMD Alternate QI – Environmental Protection Specialist
Office Address:	MCAS Miramar Building 6022, Shields Drive San Diego, California 92145
Office Phone Number:	(858) 307-1277
Cell Phone Number:	(760) 300-6235
EMD Phone Number:	(858) 307-1108
MCAS Miramar Fire Department Primary QI Information	
Name:	Operations Duty Chief
Position:	Fire Department Primary QI – MFD Fire Chief
Office Address:	MCAS Miramar Building 7117, Gonsalves Avenue San Diego, California 92145
Office Phone Number:	(858) 307-6136
Dispatch Phone Number:	(858) 307-4059
MCAS Miramar Fire Department Alternate QI Information	
Name:	Assistant Fire Chief Brian Cato
Position:	Fire Department Alternate QI – MFD Assistant Fire Chief
Office Address:	MCAS Miramar Building 7224 Fire Station 61 Mitscher Avenue San Diego, California 92145
Office Phone Number:	(858) 307-1956
Cell Phone Number:	(530) 828-1611

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Table 14: MCAS Miramar Small and Medium Oil Spill Scenarios

Response Factor	Small Discharge	Medium Discharge
Size of the discharge	≤ 2,100 gallons	20,000 gallons
Potential applicable oil storage sites or operations	Fueling operations associated with military aircraft and all aboveground storage tanks (ASTs)	Failure or medium discharges from the following ASTs: Tank No. 7906-1 (25,000 gallons) Tank No. 7907-1 (25,000 gallons) Tank No. 7908-1 (25,000 gallons) Tank No. 7909-1 (25,000 gallons) Tank No. 7932-1 (1.6M gallons) Tank No. 7933-2 (1.6M gallons Tank No. 7934-3 (1.6M gallons) Tank No. 8679-2 (20,000 gallons) Leaking Pipeline (2,100-36,000 gallons)
Proximity to downgradient wells, waterways, and drinking water intakes	There are no known downgradient wells or drinking water intakes in close proximity to the ASTs.	There are no known downgradient wells or drinking water intakes in close proximity to the ASTs.
Proximity to fish and wildlife and sensitive environments	The small discharge scenario is not considered to be in close proximity to wildlife and sensitive environments.	The ASTs at the Fuel Farm Area G are located near nesting areas for sensitive wildlife. All other ASTs are in more isolated areas away from sensitive environments.
Likelihood that the discharge will travel offsite	Small discharges occurring on the Flightline apron would be isolated and contained on the concrete pavement. Other small spills from ASTs would be contained within a surrounding concrete containment structure, concrete pad, or within the double-walled shell of the tank.	A medium discharge would remain within the double-walled shell of the AST unless a catastrophic failure of the secondary containment occurred. If the secondary containment fails, the medium discharge would drain into a nearby drainage ditch, roadway, or open area and stay usually within the facilities' boundaries.
Location of the material discharged	Any small discharge would originate from an AST, tanker truck, or from a hose or fitting during transfer operations.	Any medium discharge would originate from the designated ASTs and equipment listed above
Material discharged	JP-5 jet fuel, diesel fuel, E-85, gasoline, used oil, hydraulic fluid, lube oil, and waste cooking oil	JP-5 jet fuel, diesel fuel, gasoline

Table 14: MCAS Miramar Small and Medium Oil Spill Scenarios (continued)

Response Factor	Small Discharge	Medium Discharge
Weather or aquatic conditions	Movement of a small fuel discharge across the Flightline apron would be accelerated if rain conditions were occurring. Rainfall is not expected to impact a small release contained within the concrete containment structure around an AST or within the double-walled shell of the tank.	Rainfall is not expected to impact a medium release within the double-walled shell of an AST or a secondary containment structure. However, rainfall would accelerate the drainage of fuel outside the ASTs into a drainage ditch, roadway, or open area.
Available remediation equipment	The Facility maintains response equipment available on site for initial response efforts to small discharges. In most instances, small discharges are handled by Marine Corps Air Station (MCAS) Miramar personnel.	For spills that exceed available onsite resources and for cleanup efforts, hazardous material (HAZMAT) contractors are used.
Probability of a chain reaction of failures	It is unlikely that a small discharge would cause a chain reaction of failures since it would be contained and quickly removed.	If the medium discharge ignites a fire at the Fuel Farm areas, there is the possibility that addition fuel ASTs and pipelines located in close proximity could fail and also start on fire. This could potentially result in a release of the oil contents of other ASTs within this area.
Direction of discharge pathway	Potential oil discharge pathways for each AST at MCAS Miramar are described in the Oil and Hazardous Substance (OHS) Spill Prevention, Control, and Countermeasure (SPCC) Plan Volume II.	Potential oil discharge pathways for each AST at MCAS Miramar are described in the OHS SPCC Plan Volume II.

Table 15: Analysis of Worst-Case Discharge Scenario for MCAS Miramar

Response Factors	Worst-Case Discharge (WCD) Description
Size of the discharge	1,641,539 gallons (maximum shell capacity of Tank No. 7934-3
Proximity to downgradient wells, waterways, and drinking water intakes	No wells or drinking water intakes downgradient. Mission Bay, part of the Pacific Ocean, is approximately 12 miles southwest of the fuel storage site.
Proximity to fish and wildlife and sensitive environments	Rose Canyon, a sensitive environment which contains Rose Creek that discharges to Mission Bay, is just north of the oil storage site.
Likelihood that the discharge will travel offsite	Low likelihood that the worst-case discharge (WCD) would travel offsite unless a catastrophic failure of the secondary containment structure occurred. If the secondary containment structure should fail, the WCD would drain north downslope into Rose Canyon, and then travel southwest along Rose Creek down a natural gradient toward Mission Bay. The ability of the release to reach Mission Bay would depend on the absorptive capacity of the soils along the route, potential obstructions within the flow path, and the presence of water in the drainage area.
Location of the material discharged	An aboveground storage tank (AST) mounted within a concrete secondary containment structure in Fuel Farm Area G.
Material discharged	JP-5 jet fuel
Weather or aquatic conditions	The WCD would remain within the secondary containment structure during a rain event. If the secondary containment structure fails, a rain event would accelerate the WCD toward Rose Canyon and potentially to Mission Bay. Wind conditions may also affect the movement of the oil spill.
Available remediation equipment	The Facility maintains equipment available onsite for initial response efforts to a WCD. Additional on-call contracts have been set up with hazardous material (HAZMAT) contractors.
Probability of a chain reaction of failures	If the discharge ignites a fire, it is possible that the adjacent bulk AST at Fuel Farm Area G could fail and/or also start on fire. This could potentially result in a release of additional fuel. If the secondary containment areas fail, then the fire could spread into the surrounding community.
Direction of discharge pathway	For a spill to travel offsite, a catastrophic failure of both the tank and the secondary containment structure would have to occur. The WCD would flow southwest down Rose Canyon towards Mission Bay.

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Table 16: Facility Response Plan Basic Training Components

Facility Response Plan Basic Training Component	Description
Organizational Design	
1. Notifications	Test the spill notifications procedures
2. Staff mobilization	Unified Command: Demonstrate the ability of the Facility Response Team organization to work within a unified command
3. Ability to operate within the response management system	Response Management System: Demonstrate the ability of the Facility Response Team to operate within the framework of the response management system in the San Diego Oil Spill Contingency Plan and/or Area Contingency Plan
Operational Response	
4. Discharge control	Demonstrate the ability of the Facility Response Team to control and stop the discharge at the source
5. Assessment	Demonstrate the ability of the Facility Response Team to provide initial assessment of the discharge and provide continuing assessments of the effectiveness of the tactical operations
6. Containment	Demonstrate the ability of the Facility Response Team to contain the discharge at the source or in various locations for recovery operations
7. Recovery	Demonstrate the ability of the Facility Response Team to recover the discharged product
8. Protection	Demonstrate the ability of the Facility Response Team to protect the environmentally and economically sensitive areas
9. Disposal	Demonstrate the ability of the Facility Response Team to dispose of the recovered material and contaminated debris
10. Communications	Demonstrate the ability to establish an effective communications system for the Facility Response Team
11. Transportation	Demonstrate the ability to establish multi-mode transportation both for execution of the discharge and support functions
12. Personnel support	Demonstrate the ability to provide the necessary support of all personnel associated with response
13. Equipment maintenance and support	Demonstrate the ability to maintain and support all equipment associated with the response
14. Procurement	Demonstrate the ability to establish and effective procurement system
15. Documentation	Demonstrate the ability of the Facility Response Team to document all operational and support aspects of the response and provide detailed records of decisions and actions taken

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Figures

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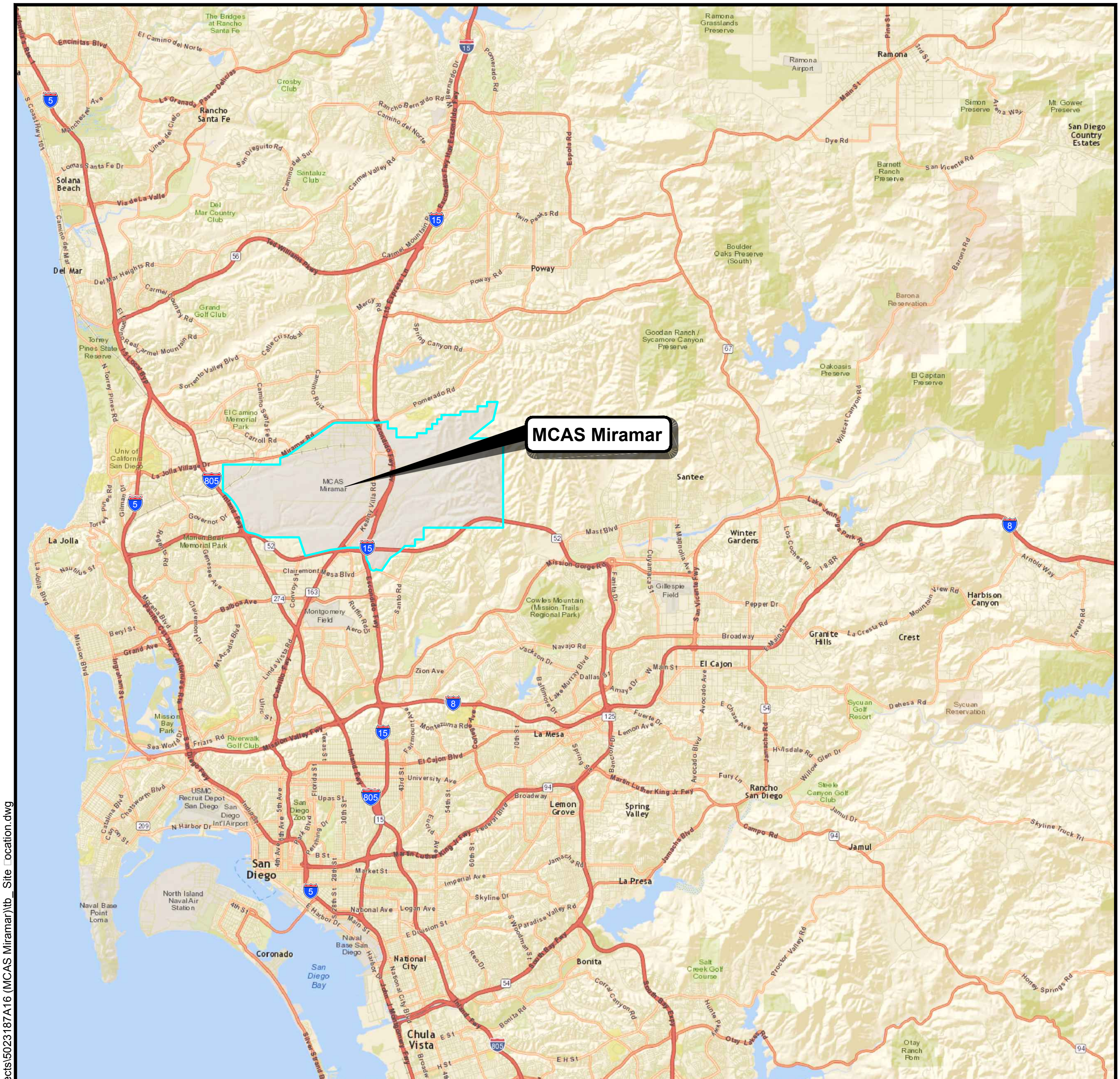

Basemap modified from Esri World Street Map sources: Esri, HERE, De□orme, USGS, □ntermap, □NCREMENT P, OpenStreetMap contributors, and the G□S User Community.

Explanation

Approximate Site boundary

N

0 1 mile 2 miles 4 miles

1 inch = 1 mile

Department of the U.S. Navy
Marine Corps Air Station Miramar
San Diego, California 92145

FACILITY LOCATION MAP

Aboveground Storage Tan□s, Underground Storage Tan□s, Emergency Generators, Ha□ardous Materials Storage □oc□ers and Ha□ardous Waste Accumulation Areas
OHS SPCC P□AN

PROJECT NO.:	2405-7230-0004
DATE:	06/20/2022
DRAWN BY:	JRW
CHECKED BY:	SJK

NAVFAC

FIGURE

1

Plot Date: 2/28/2019 5:14:08 PM, Plotted by: □oanna.wor□er Drawing Path: W:\Pro□ects\5023187A16 (MCAS Miramar)\tb_ Site □ocation.dwg

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Explanation

- Aboveground Storage Tank
- Underground Storage Tank
- Emergency Generator with Base Tank
- Hazardous Material Storage Locker or Hazardous Waste Accumulation Area
- Transfer Station

0 400 800 1,600
1 inch = 400 feet

Department of the U.S. Navy
Marine Corps Air Station Miramar
San Diego, California 92145

SITE MAP

Aboveground Storage Tanks, Underground Storage Tanks, Emergency Generators, Hazardous Materials Storage Lockers and Hazardous Waste Accumulation Areas
INTEGRATED CONTINGENCY PLAN

PROJECT NO.:	2405-7230-0004
DATE:	6/20/2022
DRAWN BY:	JRW/PAH
CHECKED BY:	SJK

NAVFAC

FIGURE

Plot Date: 10/23/2019 10:11:33 AM, Plotted by: pat.herring Drawing Path: W:\Projects\5023187A16 (MCAS Miramar)\tb_005_SITE_Drainage.dwg, SiteMap-Facility_Response

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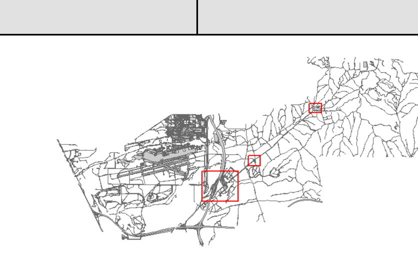
Explanation

- Oil-filled electrical transformer
- At-risk oil-filled electrical transformer



INSET MAP LOCATION

Department of the U.S. Navy
Marine Corps Air Station Miramar
San Diego, California 92145

SITE MAP
Oil-Filled Operational Equipment
(Electrical Transformers)
INTEGRATED CONTINGENCY PLAN

PROJECT NO.:	2405-7230-0004	FIGURE
DATE:	06/20/2022	3
DRAWN BY:	JRW/PAH	
CHECKED BY:	SJK	

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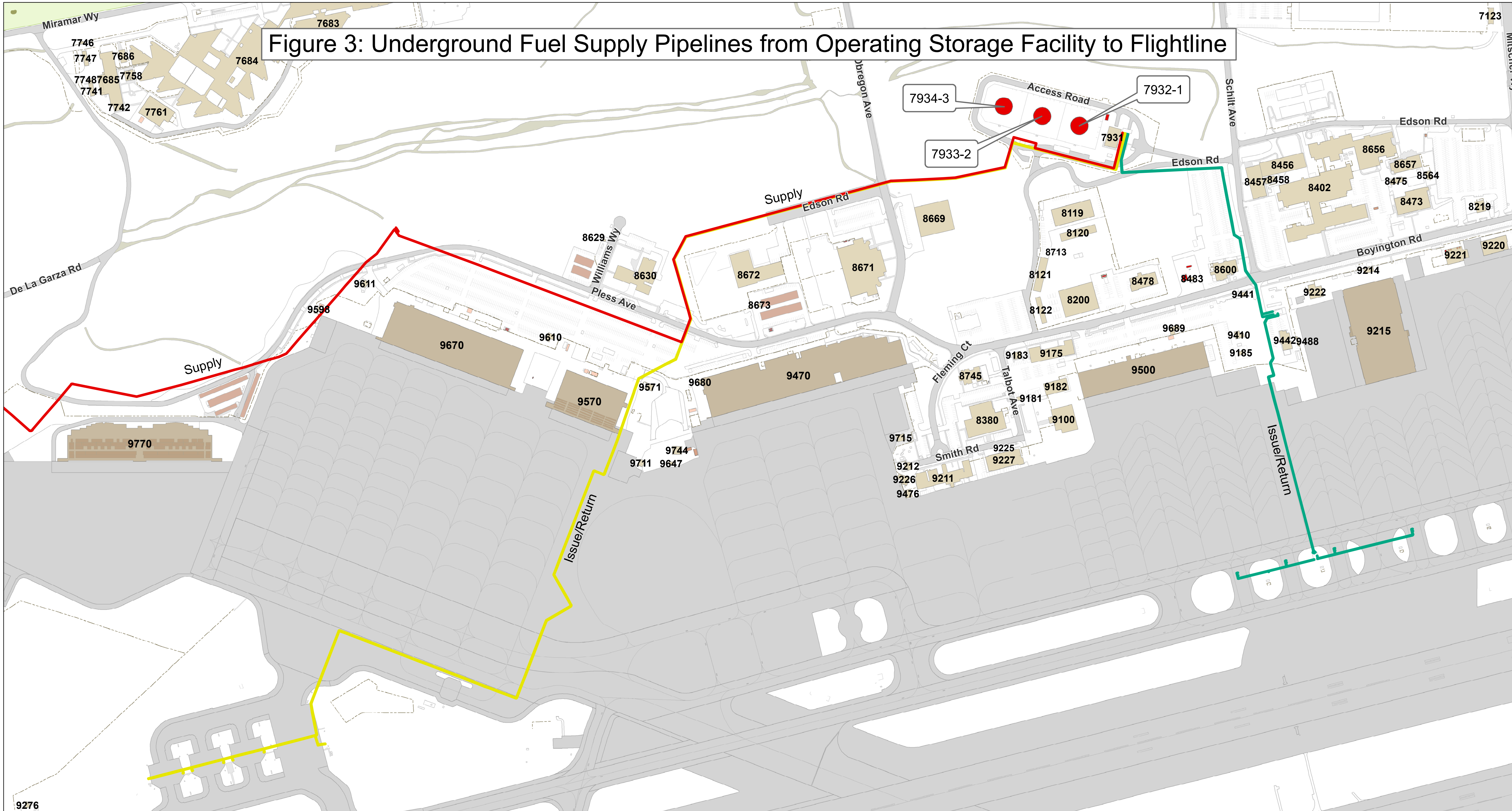

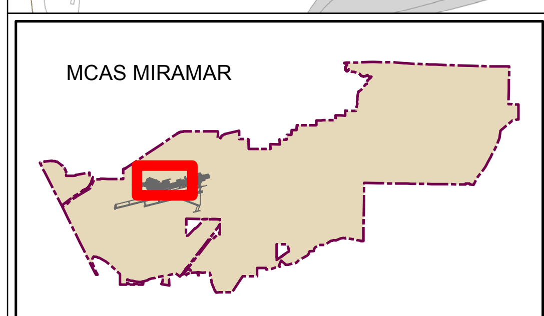

MCAS MIRAMAR
SAN DIEGO, CA

Marine Corps Air Station Miramar
Public Works Department
Public Works Officer - LCDR Travis Brinkman
Phone: 858.577.1085
Email: travis.brinkman@usmc.mil
GIS Section - Colleen Finch
Phone: 858.577.1088
Email: colleen.finch@usmc.mil
GEOFidelis Online:
https://www.geofidelis.usmc.mil

Map Published: 2 NOV 2016

NAD 83 / WGS 84

1 inch = 460 feet

0 187.5 375 750 1,125 Feet

0 62.5 125 250 375 Meters

• For Official Use Only (FOUO) • This Map is for Reference Use Only •

Ellipsoid..Geodetic Reference System 1980
Projection...CA State Plane Zone VI
Horizontal Datum..........North American Datum 1933/World Geodetic System 1984

BOUNDARIES SHOULD NOT BE CONSIDERED AUTHORITATIVE. TELEPHONE AND ELECTRIC SERVICE LINES ARE NOT SHOWN. IN DEVELOPED AREAS ONLY THROUGH-ROADS ARE CLASSIFIED. ROAD CLASSIFICATIONS SHOULD BE REFERRED TO WITH CAUTION. THERE MAY BE PRIVATE INHOLDINGS WITHIN THE BOUNDARIES OF THE NATIONAL OR STATE RESERVATIONS SHOWN ON THIS MAP.

ALTHOUGH EVERY EFFORT HAS BEEN MADE TO ENSURE THE ACCURACY OF THE INFORMATION, ERRORS AND CONDITIONS ORIGINATING FROM PHYSICAL SOURCES TO DEVELOP THE DATABASE MAY BE REFLECTED IN THE DATA SUPPLIES. THE USER MUST BE AWARE OF DATA CONDITIONS AND ULTIMATELY BEAR RESPONSIBILITY FOR THE APPROPRIATE USE OF THE INFORMATION WITH RESPECT TO POSSIBLE ERRORS, ORIGINAL MAP SCALE, COLLECTION METHODOLOGY, CURRENCY OF THE DATA, AND OTHER CONDITIONS SPECIFIC TO CERTAIN DATA. THIS INFORMATION DOES NOT DEPICT ALL POSSIBLE RESOURCES. FIELD VERIFICATION OF ALL DATA IS REQUIRED FOR SITE-SPECIFIC PROJECTS. THIS INFORMATION IS DEEMED RELIABLE, BUT NOT GUARANTEED.

Legend

- Fuel Farm Supply Fuel Line
- Helo Fuel Pits Fuel Lines
- Fixed Wing Fuel Pits Fuel Lines
- Alternative Energy Area
- Canopy or Shelter
- Hangar
- Housing
- Fence
- Paved Road
- Unpaved Road
- Athletic Court
- Athletic Field/Playground
- Fitness Area
- Swimming Pool
- Other Structure
- Water Body

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Explanation

- Aboveground Storage Tank
- Emergency Generator
- Underground Storage Tank
- MCAS Miramar Property Boundaries
- Storm Sewer Inlet
- Storm Sewer Line
- Storm Sewer Open Drainage Line
- Vernal Pools / Ponded Sites with Endangered Species
- Other Ponded Sites Surveyed (No Endangered Species)
- Vernal Pool Survey Watersheds
- CA Gnatcatcher Use Areas (2016)
- CA Gnatcatcher Use Areas Historical (2004, 2007, 2009, 2013)
- CA Gnatcatcher Sightings (2016)
- Historical CA Gnatcatcher Sightings (2004, 2007, 2009, 2013)
- Quino Checkerspot Butterfly Observations
- Least Bell's Vireo Territories (2017)
- Least Bell's Vireo Territories (2011, 2014)
- Native Grassland
- Oak Woodland
- Willowy Monardella (2017 Census)
- Del Mar Manzanita (2006 Census)
- Additional Sensitive Resources

0 500 1,000 2,000
1 inch = 500 feet

Department of the U.S. Navy
Marine Corps Air Station Miramar
San Diego, California 92145

SENSITIVE AREA MAP

INTEGRATED CONTINGENCY PLAN

PROJECT NO.:	2405-7230-0004
DATE:	06/20/2022
DRAWN BY:	JRW/PAH
CHECKED BY:	SJK

FIGURE 5

Path: W:\Projects\5023187A16 (MCAS Miramar)\esri\Fig_4_Sensitive_Area.mxd

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Explanation

- Flow Direction
- 1PPP First Pinch Point
- Creek Drain; Primary Drain
- Potential Drain
- Possible Water Area
- Vernal Pools / Ponded Sites with Endangered Species
- Other Ponded Sites Surveyed (No Endangered Species)
- Vernal Pool Survey Watersheds
- Least Bell's Vireo Territories (2017)
- Least Bell's Vireo Territories (2011, 2014)
- CA Gnatcatcher Sightings (2016)
- Historical CA Gnatcatcher Sightings (2004, 2007, 2009, 2013)
- CA Gnatcatcher Use Areas (2016)
- CA Gnatcatcher Use Areas Historical (2004, 2007, 2009, 2013)

N

0 150 300 600

1 inch = 300 feet

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San Diego, California 92145

SENSITIVE AREA BOUNDARIES

Fuel Farm Area G

INTEGRATED CONTINGENCY PLAN

PROJECT NO.:	2405-7230-0004	FIGURE
DATE:	06/20/2022	6
DRAWN BY:	JRW	
CHECKED BY:	SJK	

NAVFAC

Date: 7/11/2019 Printed by: joanna.worker Path: W:\Projects\5023187A16 (MCAS Miramar)\esri\Fig_5_Sensitive_Area Bndy-FuelFarm G.mxd

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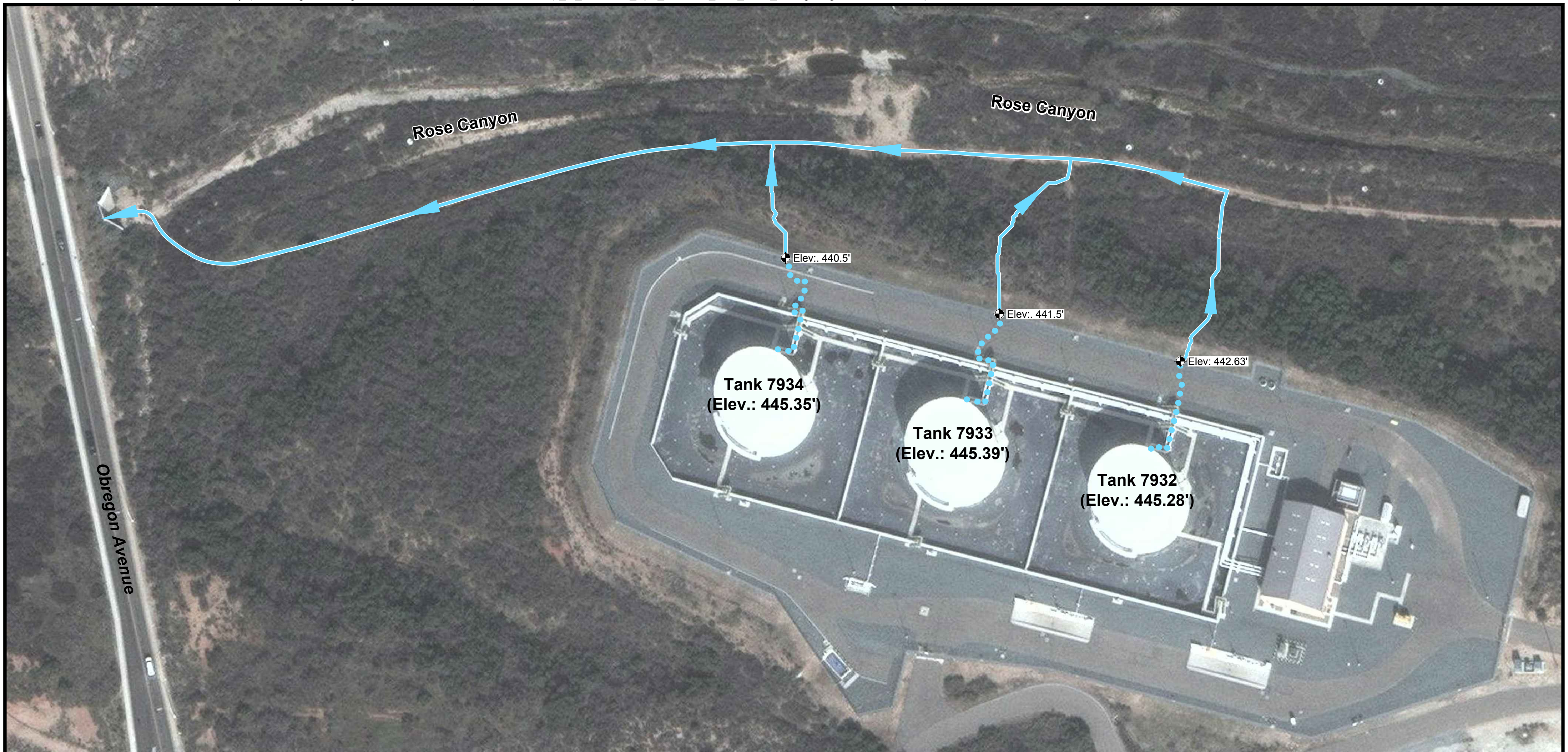
Plot Date: 5/17/2019 6:54:53 PM, Plotted by: pat.herring Drawing Path: Y:\5023187A16 (MCAS Miramar)_tb_Predicted_Spill_Direction_Fuel_Farm_G.dwg, Figure 7-Predicted Spill Direction



Explanation

Elev:. 440.5' Survey elevation in feet above mean sea level

Primary drainage

Potential drainage

Drainage flow direction

Note:

All locations are approximate.

N

0 75 150 300

1 inch = 150 feet

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PREDICTED SPILL DIRECTION
WORST CASE DISCHARGE
Fuel Farm Area G
INTEGRATED CONTINGENCY PLAN

PROJECT NO.:	2405-7230-0004
DATE:	06/20/2022
DRAWN BY:	PAH
CHECKED BY:	SJK

NAVFAC

FIGURE

7

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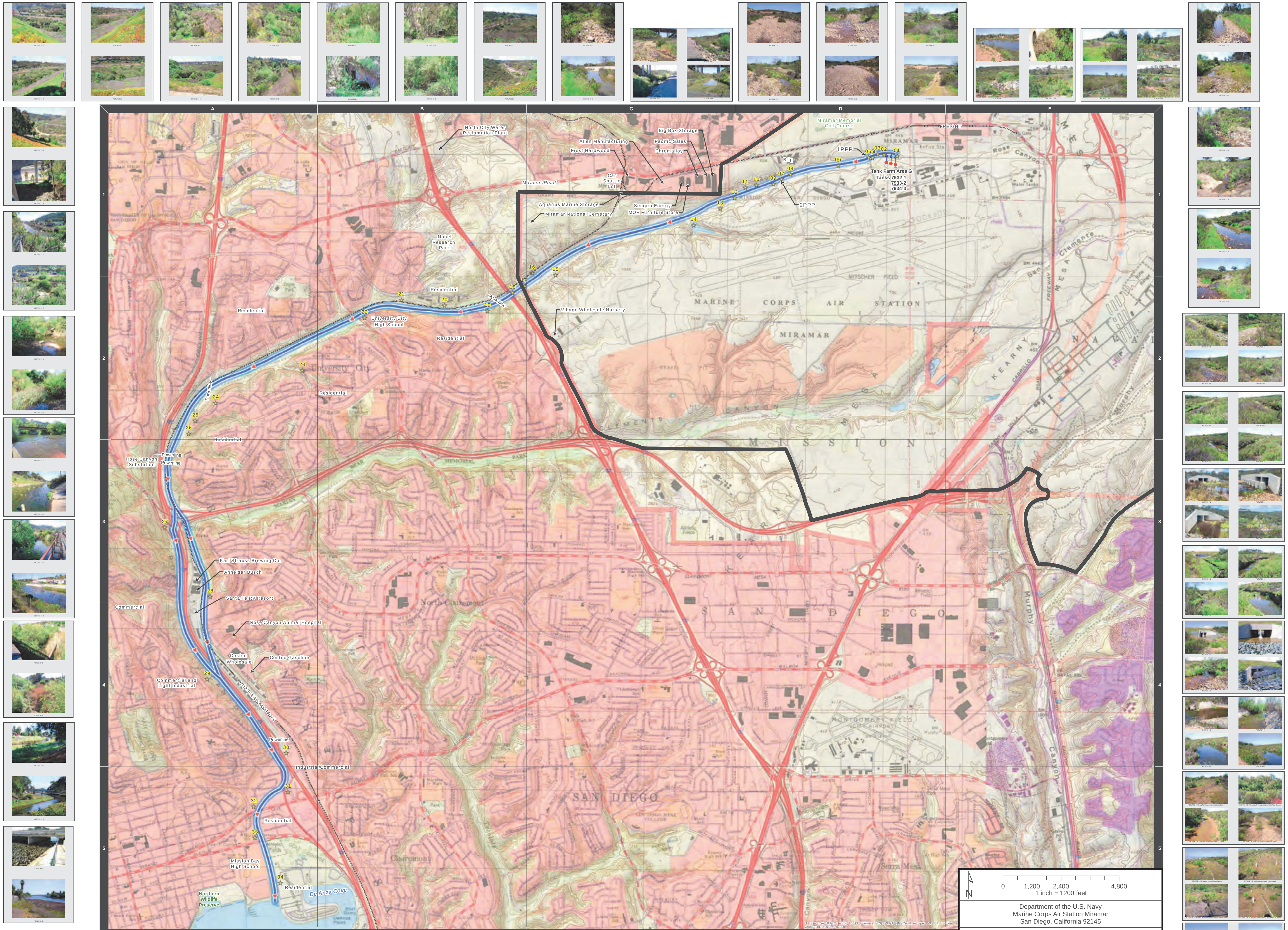

Explanation

☆ Photograph Location

MCAS Miramar Property Boundaries

Flow Direction

Spill Scenario

● Worst Case Discharge

1PPP First Potential Pinch Point

2PPP Second Potential Pinch Point

0 1,200 2,400 4,800
1 inch = 1200 feet

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San Diego, California 92145

WORST CASE DISCHARGE
Topography and Details

INTEGRATED CONTINGENCY PLAN

PROJECT NO.:	2405-7230-0004
DATE:	06/20/2022
DRAWN BY:	PAH
CHECKED BY:	SJK

FIGURE 8

Path: F:\Projects\5023187A16 (MCAS Miramar)\esri\Fig8_WorstCaseDischarge -Topography-Details.mxd   Date Saved: 5/4/2022 4:24:33 PM

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Least Tern Nesting Site. Please refer to ACP site 6-000 before deploying response resources at this sensitive site.

Explanation

- Harbor boom
- Offshore containment recovery

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Strategy Diagram Kendall-Frost Reserve
San Diego Geographic Response Area 3
San Diego Area Contingency Plan

PROJECT NO.	2405-7230-0004
DATE:	06/20/2022
DRAWN BY:	JRW
CHECKED BY:	SJK

NAVFAC

FIGURE 9

Plot Date: 11/06/2019 11:33:37 AM, Plotted by: oanna.wor er Drawing Path: W:\Pro ects\5023187A16 (MCAS Miramar)\tb_StrategyDiagrm_KFrost Reserve.dwg, K-Frost Reserve

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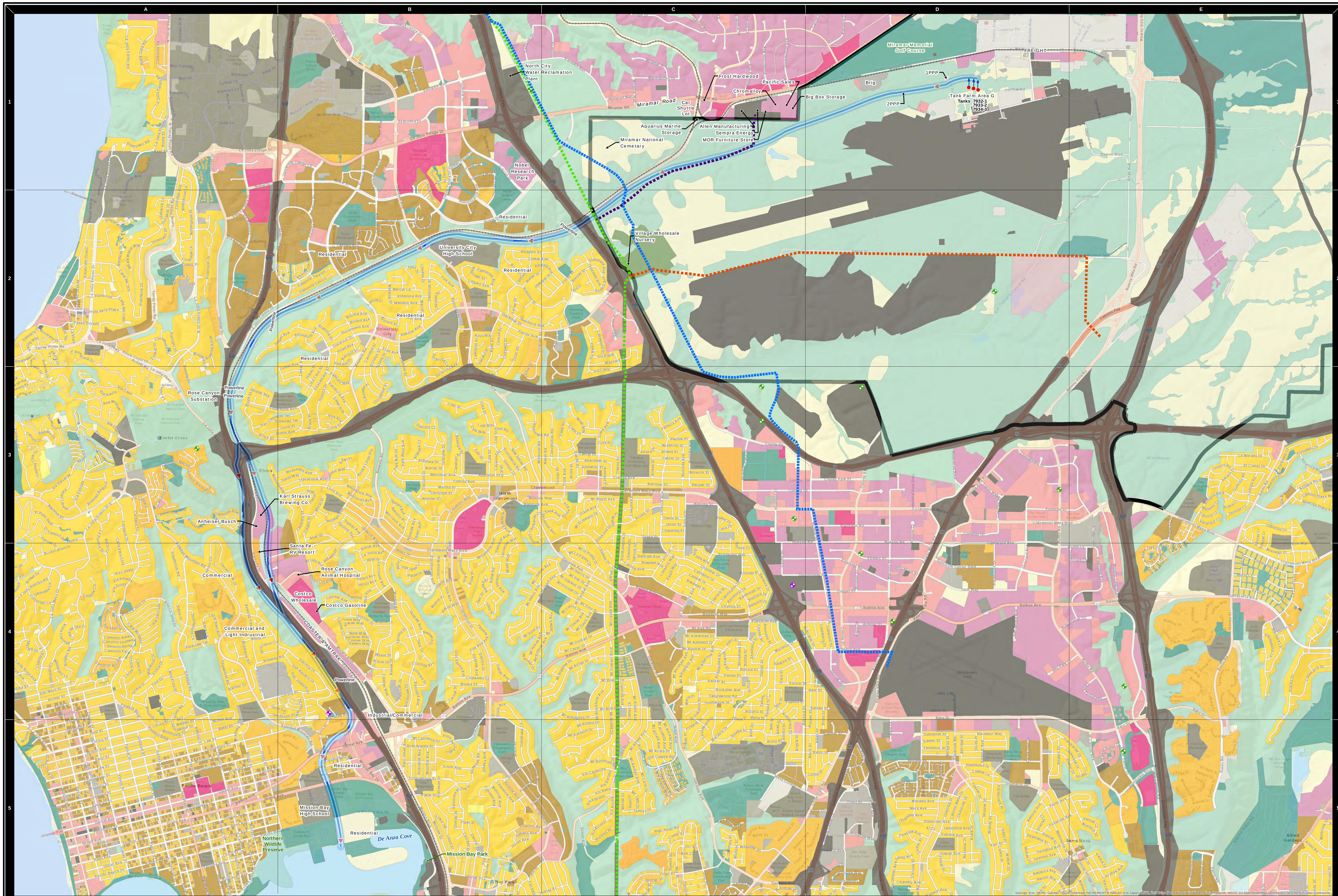

Explanation

MCAS Miramar Property Boundaries

Flow Direction

Worst Case Discharge

1PPP First Potential Pinch Point

2PPP Second Potential Pinch Point

Portable Water Wells

- Approximate location of Department of Water Resources well
- Approximate locations of multiple wells
- Approximate location of USGS well

Non-highly volatile liquid pipeline

Natural gas pipeline (diameter in inches)

- 13-18
- 19-26
- Unknown

Land Use (2018)

- Spaced Rural Residential
- Single Family Detached
- Single Family Attached
- Mobile Homes
- Multiple Family
- Mixed Use
- Shopping Centers
- Commercial and Office
- Heavy Industry
- Light Industry
- Extractive Industry
- Transportation, Communications, Utilities
- Education
- Institutions
- Military
- Recreation
- Open Space Parks
- Intensive Agriculture
- Extensive Agriculture
- Undeveloped
- Water

0 1,200 2,400 4,800
1 inch = 1200 feet

Department of the U.S. Navy
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San Diego, California 92145

WORST CASE DISCHARGE
Land Use
INTEGRATED CONTINGENCY PLAN

PROJECT NO.: 2405-7230-0004
DATE: 06/20/2022
DRAWN BY: JRW
CHECKED BY: SJK

FIGURE 10

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Appendix A:
Used Oil Storage Tank Daily Inspection Checklist

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MCAS MIRAMAR STaO 5090.5B Ch. 1

USED OIL STORAGE TANK
DAILY INSPECTION CHECKLIST

Pursuant to Title 22 California Code of Regulations Article 10 Tank Systems, 40 Code of Federal Regulations

ACTIVITY: ________________ **DEH Permit No**:____________________________

Week Ending: _______________

Tank ID Number: ____________

INSPECTED BY

Y=Yes / N=No

CHECKLIST	M	T	W	Th	F	Sat	Sun	Remarks/ Corrective Action
1. Is Used Oil tank clearly labeled with the words "Hazardous Waste"? *[CCR 66262.34(f)]*								
2. Is the Accumulation Start Date and pump out date clearly marked for each accumulation cycle? *[CCR 66265.34(f)(1)&(2)]*								
3. Is Used Oil accumulated for less than 90 days from the initial point of generation? *[CCR 66262.34(a)]*								
4. Is Monitoring equipment (level sensing device) in good working order? *[CCR 66265.195(a)(3)]*								
5. Is tank in good operating condition and leak free? Check tank for corrosion, cracks, dents, and leaks or releases. *[CCR 66265.195(a)(2)]*								
6. Is the tank and surrounding area free of oil residue, leaks, spills or releases? *[CCR 66265.195(a)(4)]*								
7. Is secondary containment in good operating condition and kept empty and dry? *[DEH:HM-9271 Terms and Conditions]*								
8. Is secondary containment bypass valve closed and the drainage of rainwater supervised by HWC, and recorded in drainage log? *[40CFR 112.8(c)(3)]*								
9. Is the tank location identified on the Business Plan map? *[DEH:HM-9271 Terms and Conditions]*								
10. Is the AST certification & engineering exemption posted at the worksite? *[DEH:HM-9271 Terms and Conditions]*								
11. Is the tank under the control of the operator? Ensure accumulation tank is secured and access is limited to authorized personnel. *[HWMP 3.4]*								

* Only record Saturday and Sunday if on site and using tank. Holidays need not be recorded.

ADDITIONAL COMMENTS OR OBSERVATIONS:

____

____

____

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Appendix B:
STI SP001 AST Inspection Forms

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STI SP001 Monthly Inspection Checklist

General Inspection Information:

Inspection Date: ___________________ Prior Inspection Date: __________________ Retain until date: ___________________

Inspector Name (print): ____ Title: _______________________________

Inspector's Signature ____

Tank(s) inspected ID ____

Regulatory facility name and ID number (if applicable) ____

Inspection Guidance:

- This checklist is intended as a model. Locally developed checklists are acceptable as long as they are substantially equivalent (as applicable). Inspections of multiple tanks may be captured on one form as long as the tanks are substantially the same.
- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector per paragraph 4.1.2 of the standard.
- Upon discovery of water in the primary tank, secondary containment area, interstice, or spill container, remove promptly or take other corrective action. Inspect the liquid for regulated products or other contaminants and dispose of properly.
- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in AST design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for at least 36 months.
- **After severe weather (snow, ice, wind storms) or maintenance (such as coating) that could affect the operation of critical components (normal and emergency vents, valves), an inspection of these components is required as soon as the equipment is safely accessible after the event.**

	ITEM	STATUS	COMMENTS/DATE CORRECTED
Tank and Piping			
1	Is tank exterior (roof, shell, heads, bottom, connections, fittings, valves, etc.) free of visible leaks? **Note**: *If "No," identify tank and describe leak and actions taken.*	□ Yes □ No	
2	Is the tank liquid level gauge legible and in good working condition?	□ Yes □ No □ N/A	
3	Is the area around the tank (concrete surfaces, ground, containment, etc.) free of visible signs of leakage?	□ Yes □ No	
4	Is the primary tank free of water or has another preventative measure been taken? NOTE: Refer to paragraphs 6.10 and 6.11 of the standard for alternatives for Category 1 tanks. N/A is only appropriate for these alternatives.	□ Yes □ No □ N/A	
5	For double-wall or double bottom tanks or CE-ASTs, is interstitial monitoring equipment (where applicable) in good working condition?	□ Yes □ No □ N/A	
6	For double-wall tanks or double bottom tanks or CE-ASTs, is interstice free of liquid? Remove the liquid if it is found. If tank product is found, investigate possible leak.	□ Yes □ No □ N/A	
Equipment on Tank			
7	If overfill equipment has a “test” button, does it activate the audible horn or light to confirm operation? If battery operated, replace battery if needed.	□ Yes □ No □ N/A	
8	Is overfill prevention equipment in good working condition? If it is equipped with a mechanical test mechanism, actuate the mechanism to confirm operation.	□ Yes □ No □ N/A	
9	Is the spill container (spill bucket) empty, free of visible leaks and in good working condition?	□ Yes □ No □ N/A	
10	Are piping connections to the tank (valves, fittings, pumps, etc.) free of visible leaks? **Note**: *If "No," identify location and describe leak.*	□ Yes □ No	

ITEM		STATUS	COMMENTS/DATE CORRECTED
11	Do the ladders/platforms/walkways appear to be secure with no sign of severe corrosion or damage?	□ Yes □ No □ N/A	
Containment (Diking/Impounding)			
12	Is the containment free of excess liquid, debris, cracks, corrosion, erosion, fire hazards, and other integrity issues?	□ Yes □ No □ N/A	
13	Are dike drain valves closed and in good working condition?	□ Yes □ No □ N/A	
14	Are containment egress pathways clear and any gates/doors operable?	□ Yes □ No □ N/A	
Concrete Exterior AST (CE-AST)			
15	Inspect all sides for cracks in concrete. Are there any cracks in the concrete exterior larger than 1/16"?	□ Yes □ No □ N/A	
16	Inspect concrete exterior body of the tank for cleanliness, need of coating, or rusting where applicable. Tank exterior in acceptable condition?	□ Yes □ No □ N/A	
17	Visual inspect all tank top openings including nipples, manways, tank top overfill containers, and leak detection tubes. Is the sealant between all tank top openings and concrete intact and in good condition?	□ Yes □ No □ N/A	
Other Conditions			
18	Is the system free of any other conditions that need to be addressed for continued safe operation?	□ Yes □ No	

Additional Comments:

STI SP001 Annual Inspection Checklist

General Inspection Information:

Inspection Date: ___________________	Prior Inspection Date: _________________	Retain until date: ___________________
Inspector Name (print):____		Title: _______________________________
Inspector's Signature: ____		
Tank(s) inspected ID ____		
Regulatory facility name and ID number (if applicable) ____		

Inspection Guidance:

- This checklist is intended as a model. Locally developed checklists are acceptable as long as they are substantially equivalent (as applicable).
- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector per paragraph 4.1.2 of the standard.
- Remove promptly standing water or liquid discovered in the primary tank, secondary containment area, interstice, or spill container. Before discharge to the environment, inspect the liquid for regulated products or other contaminants and disposed of it properly.
- In order to comply with EPA SPCC (Spill Prevention, Control and Countermeasure) rules, a facility should regularly test liquid level sensing devices to ensure proper operation (40 CFR 112.8(c)(8)(v)).
- Non-conforming items <u>important to tank or containment integrity</u> require evaluation by an engineer experienced in AST design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for at least 36 months.
- Complete this checklist on an annual basis, supplemental to the owner monthly-performed inspection checklists.
- **Note: If a change has occurred to the tank system or containment that may affect the SPCC plan, the condition should be evaluated against the current plan requirement by a Professional Engineer knowledgeable in SPCC development and implementation.**

ITEM		STATUS	COMMENTS/DATE CORRECTED
Tank Foundation/Supports			
1	Free of tank settlement or foundation washout?	□Yes □No	
2	Concrete pad or ring wall free of cracking and spalling?	□Yes □No □N/A	
3	Tank supports in satisfactory condition?	□Yes □No □N/A	
4	Is water able to drain away from tank if tank is resting on a foundation or on the ground?	□Yes □No □N/A	
5	Is the grounding strap between the tank and foundation/supports in good condition?	□Yes □No □N/A	
Tank Shell, Heads, and Roof			
6	Free of visible signs of coating failure?	□Yes □No	
7	Free of noticeable distortions, buckling, denting, or bulging?	□Yes □No	
8	Free of standing water on roof?	□Yes □ No □N/A	
9	Are all labels and tags intact and legible?	□Yes □No	
Tank Manways, Piping, and Equipment			
10	Flanged connection bolts tight and fully engaged with no sign of wear or corrosion?	□Yes □No □N/A	
Tank Equipment			
11	Normal and emergency vents free of obstructions?	□Yes □No	
12	Normal vent on tanks storing gasoline equipped with pressure/vacuum vent?	□Yes □No □N/A	

ITEM		STATUS	COMMENTS/DATE CORRECTED
13	Are flame arrestors free of corrosion and are air passages free of blockage?	□Yes □No □N/A	
14	Is the emergency vent in good working condition and functional, as required by manufacturer? Consult manufacturer's requirements. Verify that components are moving freely (including long-bolt manways).	□Yes □No □N/A	
15	Is interstitial leak detection equipment in good condition? Are windows on sight gauges clear? Are wire connections intact? If equipment has a test function, does it activate to confirm operation?"	□Yes □No □N/A	
16	Are all valves free of leaks, corrosion, and other damage? Follow manufacturers' instructions for regular maintenance of these items. Check the following and verify (as applicable): □ Anti-siphon valve □ Check valve □ Gate valve □ Pressure regulator valve □ Expansion relief valve □ Solenoid valve □ Fire valve □ Shear valve	□Yes □No □N/A □Yes □No □N/A □Yes □No □N/A □Yes □No □N/A □Yes □No □N/A □Yes □No □N/A □Yes □No □N/A	
17	Are strainers and filters clean and in good condition?	□Yes □No □N/A	
Insulated Tanks			
18	Free of missing insulation? Insulation free of visible signs of damage? Insulation adequately protected from water intrusion?	□Yes □No □N/A	

ITEM		STATUS	COMMENTS/DATE CORRECTED
19	Insulation free of noticeable areas of moisture?	□Yes □No □N/A	
20	Insulation free of mold?	□Yes □No □N/A	
21	Free of visible signs of coating failure?	□Yes □No □N/A	
Tank/Piping Release Detection			
22	Is inventory control being performed and documented if required?	□Yes □No □N/A	
23	Is release detection being performed and documented if required?	□Yes □No □N/A	
Other Equipment			
24	Are electrical wiring and boxes in good condition?	□Yes □No □N/A	
25	Has the cathodic protection system on the tank been tested as required by the designing engineer?	□Yes □No □N/A	

Additional Comments:

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Appendix C: Product Recovery Tank Audit Form

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WEEKLY/DAILY PRODUCT RECOVERY TANK (PRT) INSPECTION CHECKLIST

Pursuant to 40 CFR Part 112 and NFPA 30

ACTIVITY: MCAS MIRAMAR FUELS DIV. INPSPECTOR: ____________________________ Week Ending: ____________________

Y=Yes / N=No

CHECKLIST	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Remarks / Corrective Action
1. Is Product Recovery Tank (PRT) clearly labeled "JP-5" and displaying the associated hazard? [NFPA 30]								
2. Is monitoring equipment (level sensing device) in good working order? [40CFR 112.8(c)(8)]								
3. Is the PRT in good operating condition and leak free? Check tank for corrosion, cracks, dents, and leaks or releases? [40CFR 112.8(c)(1)]								
4. Are the PRT foundation and supports free from any corrosion, deformation or weathering? [NFPA 30]								
5. Are the primary and emergency vents clean, clear of debris and functioning properly? [NFPA 30]								
6. Is the PRT and surrounding area, including the area directly beneath the PRT, free of oil residue, leaks, spills or releases? [40CFR 112.8(c)(10)]*								
7. Is secondary containment in good operating condition and kept empty and dry, except when there is a leak or spill at which time the secondary area must be thoroughly cleaned out within 24 hours? [40CFR 112.8(c)(10)]*								
8. Is the drainage of rainwater from secondary containment inspected and performed under the supervision of a qualified person? [40CFR 112.8(c)(3)]								
9. Are drainage events of secondary containment recorded? [40CFR 112.8(c)(3)]								

* Conduct these inspection items daily, all other items weekly. Only record Saturday and Sunday if on site. Holidays need not be recorded.

ADDITIONAL COMMENTS OR OBSERVATIONS:

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Appendix D:
Spill Response Notification Form

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MCAS Miramar Spill Response Notification Form

Initial Reporter's Information (Page 1 to be Completed by Spill Discoverer)

Activity:	**Bldg No:**	**Hangar No:**
Activity Contact:	**Phone Number (day/evening):**	
Reporter's Name and Rank/Rate:		
Facility Name/Address:	**Naval Air Facility El Centro, El Centro, California 92243-5001**	
Incident Description		
Date of Incident:	**Time of Incident:**	
Source/Cause of Incident:		
Incident Address/Location:		
Container Type:	**Container Storage Capacity : ____________** **[ ] Gallons [ ] Pounds [ ] Liquid [ ] Solid**	
Material Description		
Chemical Name of Spilled Material:		
Trade Name / Manufacturer's Name of Spilled Material:		
Hazard: [ ] Flammable [ ] Combustible [ ] Oxidizer [ ] Acid [ ] Base [ ] Poison **Other:**		
Total Amount Spilled: ____________________ **[ ] Gallons [ ] Pounds [ ] Liquid [ ] Solid**	**Amount of Spill that entered a Strom Drain:** ____________________ **[ ] Gallons [ ] Pounds [ ] Liquid [ ] Solid**	
Description of Site Contamination: [ ] Inside Containment [ ] Outside Containment [ ] Storm Drain [ ] Sewer [ ] Soil [ ] Gravel [ ] Asphalt [ ] Concrete [ ] Air Emissions		
Initial Spill Response		
Did you contact 911 Central Dispatch? [ ] YES [ ] NO		
Initial Actions by Spill Discoverer to Stop, Contain, and Isolate the Spill:		

MCAS Miramar Spill Response Notification Form

Spill Response Action (Page 2 to be Completed by Qualified Individual [QI])

DO NOT DELAY MAKING NOTIFICATIONS ON NEXT PAGES WHILE OBTAINING INFORMATION TO COMPLETE THIS PAGE

Date of Incident:	Location of Incident:
Spilled Material:	Chemical Hazards Response Information System (CHRIS) Code:
Facility Name	Naval Air Facility El Centro
City, State, County, Zip	1605 Third Street, Building 504, El Centro, California 92243-5001
Owner's Name	United States Navy
Facility EPA ID Number	CA6170090017
Facility Latitude / Longitude	32°48'40" North / 115°40'20" West
Facility Oil Storage Capacity	1,870,700 gallons
Distance From City	7 miles East to El Centro, California

Did NAFEC Federal Fire and Emergency Services respond to incident?	[ ] YES	[ ] NO
Did NAFEC Security Department respond to incident?	[ ] YES	[ ] NO
Did NAFEC Facility Medical respond to incident?	[ ] YES	[ ] NO
Did NAFEC Environmental Department respond to incident?	[ ] YES	[ ] NO
Did Imperial County Fire Department respond to incident?	[ ] YES	[ ] NO
Did Commercial or other HAZMAT Contractor(s) respond to incident?	[ ] YES	[ ] NO

Actions Taken to Correct, Control, or Mitigate the Spill:

Number of Injuries:	Number of Deaths:
Were There Evacuations? [ ] Yes [ ] No Number Evacuated: __________	Property Damage? [ ] Yes [ ] No Fire/Explosion? [ ] Yes [ ] No Describe:

Economic Impact (Dollars – approximate):

Medium Affected: [ ] Soil [ ] Water (Canal) [ ] Water (New River) [ ] Air Emissions

Describe:

Recommended Safeguards to Prevent Future Spills:

MCAS Miramar Spill Response Notification Form

Spill Response Action (Page 3 to be Completed by Qualified Individual [QI])

Caller Notifications (Federal Agencies)

Date of Incident:	**Location of Incident:**
Name of Notifier:	**Phone Number (day/evening):**

Agency Notified	
Phone Number	
Date	
Time	
Agency Notified	
Phone Number	
Date	
Time	
Agency Notified	
Phone Number	
Date	
Time	
Agency Notified	
Phone Number	
Date	
Time	
Agency Notified	
Phone Number	
Date	
Time	

MCAS Miramar Spill Response Notification Form Spill Response Action (Page 4 to be Completed by Qualified Individual [QI]) Caller Notifications (Federal Agencies)	
Date of Incident:	**Location of Incident:**
Name of Notifier:	**Phone Number (day/evening):**

Agency Notified	
Report Number	
Phone Number	
Date	
Time	
Agency Notified	
Report Number	
Phone Number	
Date	
Time	
Agency Notified	
Report Number	
Phone Number	
Date	
Time	
Agency Notified	
Report Number	
Phone Number	
Date	
Time	
Agency Notified	
Report Number	
Phone Number	
Date	
Time	

MCAS Miramar Spill Response Notification Form Spill Response Action (Page 5 to be Completed by Qualified Individual [QI]) Caller Notifications (BPA HAZMAT Contractors)	
Date of Incident:	Location of Incident:
Name of Notifier:	Phone Number (day/evening):

BPA Contractor Notified	G2RJ DBA: Trevet
Person Notified	
Phone Number	(858) 444-7097
Date	
Time	
BPA Contractor Notified	Black Gold Industries
Person Notified	
Phone Number	(858) 699-3173 / (805) 628-6711
Date	
Time	

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Appendix E:
San Diego Area Contingency Plan:
Mission Bay Sensitive Sites

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Sector San Diego
Area Contingency Plans (ACP)
Volume II: Section 9800 - Area Committee Detail for ACP 6
May 2018

Emergency Spill Notification Numbers
National Response Center 1-800-424-8802
California Office of Emergency Services 1-800-852-7550

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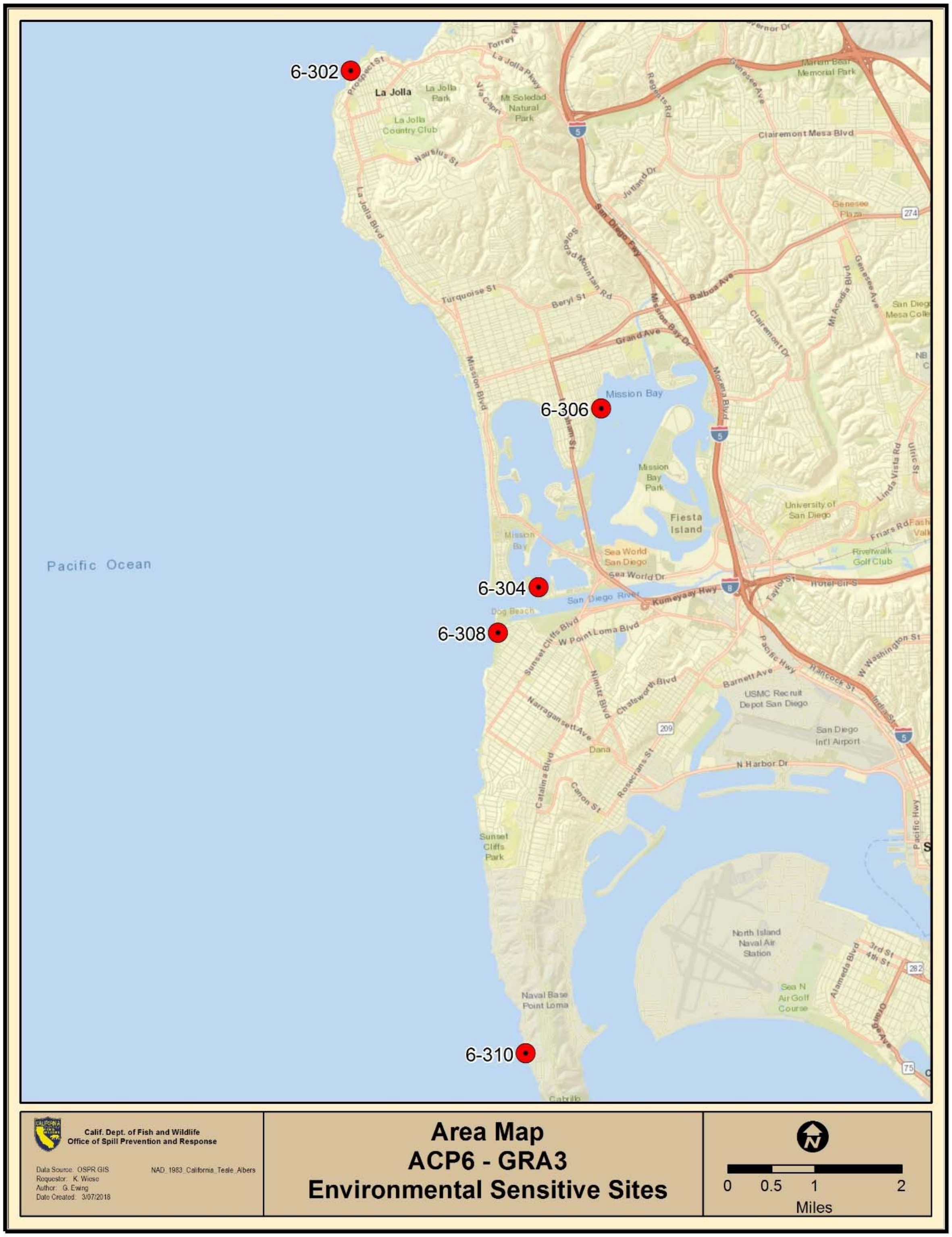
SD-GRA-3 Central San Diego County



Index map to San Diego GRA-3 Environmental Sensitive Sites

San Diego Geographic Response Area 3, Central San Diego County

San Diego Geographic Response Area 3 (SD-GRA-3), Central San Diego County extends from the pier at the Scripps Institution of Oceanography southward along the coastline for 17 miles to the fence line of Naval Base Point Loma (NBPL) at the mouth of San Diego Bay. This heterogeneously distinct shoreline contains sandy beaches, pocket coves, rocky headlands, rocky intertidal headlands, offshore kelp beds, river & bay mouth habitats, and a small restoration area for native sand dune habitat at the mouth of the San Diego River.

SD-GRA-3 has only three response sites with prescribed on-site boom strategies at Mission Bay Entrance, Kendall-Frost Reserve and the San Diego River Mouth. The Kendall-Frost Reserve is deep inside of Mission Bay and is tidally remote from offshore incidents. The remaining SD-GRA-3 sites have protection strategies that call for offshore vessel response actions that will require many hours of lead-time to execute.

The **Cabrillo National Monument Shoreline Response Plan** is included in this geographic area. This plan contains pre-approved response options and restrictions for spill clean-up tactics within the park boundaries.

The narrow roads that wind along the coastline in SD-GRA-3 can complicate vehicular shore side access to these sites. Equipment staging is very limited around La Jolla Peninsula and Point Loma Sensitive Sites. Good staging is available around Mission Bay Entrance, Kendall-Frost Reserve, and the San Diego River Mouth.

The beaches and fenced nesting sites adjacent to Mission Bay and at the mouth of the San Diego River provide excellent habitat for wildlife. Further information on beach-nesting bird concerns is provided at site 6-000 ACP 6 Sandy Beaches.

ACP 6 San Diego Area Committee

SD-GRA-3 Table of Contents

Summary of ACP 6 GRA 3 Response Resources by Site and Sub-Strategy

Site / Sub-Strategy	Site Name / PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT			
	Equipment	Sub-Type	Size/Unit	QTY/Unit
6-302	***La Jolla Peninsula***			
.1 -	**Collect oil offshore before it arrives on the beach.**			
	Vessel	Boom Boat		2
	Boom	Harbor Boom		500 feet
	Staff	Staff to Deploy		6
6-304	***Mission Bay Entrance***			
.1 -	**Boom across the channel to prevent movement of oil into the bay.**			
	Staff	Staff to Deploy		4
	Boom	Harbor Boom		900 feet
	Anchor	Danforth	25 lb	2
	Skimmer			1
.2 -	**Boom across the channel to prevent oil movement up-river.**			
	Boom	Harbor Boom		500 feet
	Staff	Staff to Deploy		3
	Anchor	Danforth	25 lb	2
	Skimmer			1
.3 -	**Boom across the channel to prevent movement of oil into the bay.**			
	Anchor	Danforth	25 lb	1
	Skimmer			1
	Staff	Staff to Deploy		2
	Boom	Harbor Boom		1200 feet
.4 -	**Boom across the channel to prevent movement of oil into the bay.**			
	Anchor	Danforth	25 lb	1
	Staff	Staff to Deploy		2
	Boom	Harbor Boom		1200 feet
.5 -	**Boom across the channel to prevent oil movement into Quivera Basin.**			
	Anchor	Danforth	25 lb	1
	Skimmer			1
	Staff	Staff to Deploy		2
	Boom	Harbor Boom		500 feet
.6 -	**Boom across the channel to prevent oil movement into Mariner's Basin.**			
	Boom	Harbor Boom		700 feet
	Anchor	Danforth	25 lb	1
	Staff	Staff to Deploy		2
6-306	***Kendall-Frost Reserve***			
.1 -	**Keep oil out of the Kendall-Frost Reserve.**			
	Boom	Harbor Boom		3000 feet
	Staff	Staff to Deploy		5
	Vessel	Boom Boat		1
	Anchor	Danforth	25 lb	4
.2 -	**Prevent oil from entering Kendall-Frost Reserve's tidal channels.**			
	Sandbags			250
	Staff	Staff to Deploy		10
.3 -	**Boom across Rose Creek to prevent oil from entering Mission Bay.**			
	Staff	Staff to Deploy		2
	Vessel	Boom Boat or Skiff		1
	Anchor	Danforth	22 lb	2
	Boom	Harbor Boom		400 feet
6-308	***San Diego River Mouth***			
.1 -	**Close the river mouth by constructing a berm across the flow channel.**			
	Heavy Equipment	Front Loader		1
	Staff	Staff to Deploy		1
.2 -	**Close the river mouth by constructing a berm across the flow channel.**			
	Heavy Equipment	Front Loader		1
	Staff	Staff to Deploy		1
.3 -	**Close tidal gates that feed San Diego's Famosa Slough Wildlife Preserve.**			

Site	Site Name			
Sub-Strategy	PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT			
	Equipment	Sub-Type	Size/Unit	QTY/Unit

6-310 Point Loma

.1 - Collect oil offshore before it arrives on the beach.

Equipment	Sub-Type	Size/Unit	QTY/Unit
Boom	Harbor Boom		500 feet
Vessel	Boom Boat		2
Staff	Staff to Deploy		6

County : San Diego **ACP Division/Segment :**

NOAA Chart : ***Map Book :*** ***Decimal Degrees***

Site Description:

Western snowy plover and California least tern nesting sites are seasonally occupied at various coastal beach sites. Western snowy plovers also maintain a year round presence with nesting from April to August. Beach nesting birds may have active nests, or chicks may be actively moving about the described area. All responders should be careful to minimize disturbance and to avoid causing injury to nests and chicks. Response activities must be planned and monitored to prevent injury to both birds and habitat.

Resources at Risk:

ESI and Habitat: 3A Fine to medium-grained sand beaches

List of Resources at Risk:

	Resource Name	Status	Presence
Birds	California least tern	FE, SE	Feb - Sep
Birds	Western snowy plover	FT	Year-round

FT-Federally Threatened, FE-Federally Endangered, FP-Federally Protected, SE-State Endangered, ST-State Threatened, SP -State Protected SR-State Rare, SSC-Species of Special Concern, BGEPA-Bald and Golden Eagle Protection Act, SSSP-State Special Status Species

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	Dr. Seth Mallios/	South Coastal Information Center	(619) 594-5682
O	Jonathan Bishop/	California Coastal Commission	(415) 693-8375
T	Nancy Frost/CA least tern Survey	CA Dept of Fish and Wildlife	(858) 467-4208
T	/Southern Comms. Center (SURCOM) 24-hr	CA State Parks	(951) 443-2944
T	Joe Dillon/	NMFS	(707) 575-6093
T	On Call/Spill Coordinator	US Fish Wildlife Service Carlsbad 24 hour	(760) 607-9768

C – Cultural, Historic, Archaeological; E – Entry/Owner/Access; O – Other; S – Safety; T – Trustee; X – Exclusion or Security

Additional Site Summary Comments:

Western snowy plovers are small, sparrow-sized white and tan colored shorebirds. California least terns are small, gull-like, gray, white, and black colored diving birds. Western snowy plovers conceal their nests in the upper rack line above the high tide line while California least terns generally nest on open beaches and/or along estuary shorelines. Nests are usually constructed on loose sand, and are easily stepped on due to their very cryptic nature. Chicks are known to run between nests and the waterline. Western snowy plover adults forage while wading along the shoreline. California least tern adults dive into the water to forage in shallow, nearshore areas of the open coast, embayments, estuaries, and dune lakes.

Concerns and Advice to Responders:

Western snowy plover and California least tern bird-nesting sites are typically shallow depressions scratched out from the sand surface on sandy beaches above the highest tide line. The nest sites are typically very well disguised and difficult to see. Nest sites may contain either eggs, or chicks which are potentially vulnerable to trampling by vehicles or foot traffic. Western snowy plover adults and chicks, and California least tern chicks are known to move between the nest sites and the active water line. Over-wintering Western snowy plover adults may be foraging throughout the response area. To aid in avoiding damage to nests, consider delineation of nesting areas and designating responder "pathways" in discussion with Trustee Agencies and/or the local land manager and their biological monitors. Monitors should be present to observe and prevent any disturbance to birds/nests caused by operations. Vehicle travel on beach should be restricted to wet sand if possible; and should be slow enough to avoid and minimize impacts to wildlife (not to exceed 15 MPH).

Hazard and Restrictions:

Watch weather and sea conditions. Strong surf.

Site Strategies:

Strategy:* 6-000.1** ***Objective: Shoreline pre-cleaning only under the supervision of a resource specialist.

Strategy: After approval only, pre-clean beach with hand crews to move and store kelp, driftwood, and vegetative debris above high-tide line. Collect and properly dispose of trash. Redistribute wrack after response efforts are completed. The areas to be protected should be monitored by an assigned biological monitor. Heavy equipment and 4WD vehicles may be used pending approval.

Table of Response Resources

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Staff	Natural Resource Specialist					

Strategy:* 6-000.2** ***Objective: Removal of eggs to reduce injury.

Strategy: In consultation with USFWS and CDFW, Western snowy plover or California least tern eggs may be removed from nests by authorized and qualified personnel and taken to an approved facility to reduce injury.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit	Last Page Update
Staff	Natural Resource Specialist					

Logistics:

Directions: Refer to the beach nesting bird maps to identify known habitat in San Diego County. Incident specific

Land Access: Refer to coastal access mapping information to describe the best access point for response and natural resource protection. Access by crews and equipment should occur only through areas specifically designated by authorized monitoring personnel. Access points shall be minimized by size and number to reduce impacts. Site specific

On-Water Limitations:

Facilities, Staging Areas, Command Posts, Available Equipment: All facilities should be selected to minimize disturbances

Communications Problems: None.

Additional Operational Comments: Beaches may be pre-cleaned if given prior authorization. Some beaches have designated fenced areas for nesting. Individual environmentally sensitive sites may have additional Western snowy

6-304-A **Site Summary - Mission Bay Entrance** **6-304-A**

County : San Diego **ACP Division/Segment :** SD - E - S009

NOAA Chart : 18765 ***Map Book :*** 1267 H4 ***Decimal Degrees*** 32.76 -117.244

Site Description:

The bay entrance is approximately 800 feet wide. Mission Bay entrance and San Diego River complex is approximately three-quarters mile long. The entire channel is constructed of large boulder riprap. The south jetty has been engineered with a "notch" about one-half mile in to aid in movement of storm water flow from the San Diego River located immediately adjacent to the entrance channel south jetty. These two channels are integrated into a single response strategy with several prioritized components. Numerous species of birds, intertidal invertebrates, and wetland vegetation are present in this complex environmental setting.

Resources at Risk:

ESI and Habitat: 8C Sheltered riprap
3A Fine to medium-grained sand beaches

List of Resources at Risk:

	Resource Name	Status	Presence
Birds	Belding's savannah sparrow	SE	Year-round
Birds	light-footed Ridgway's rail	FE, SE	Year-round
Birds	California least tern	FE, SE	Feb - Sep
Birds	Western snowy plover	FT	Year-round
Plants	Nutall's lotus		Variable

FT-Federally Threatened, FE-Federally Endangered, FP-Federally Protected, SE-State Endangered, ST-State Threatened, SP -State Protected SR-State Rare, SSC-Species of Special Concern, BGEPA-Bald and Golden Eagle Protection Act, SSSP-State Special Status Species

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	Dr. Seth Mallios/	South Coastal Information Center	(619) 594-5682
O	/	Mission Bay Harbor Patrol/Lifegaurds	(619) 224-2708

C – Cultural, Historic, Archaeological; E – Entry/Owner/Access; O – Other; S – Safety; T – Trustee; X – Exclusion or Security

Additional Site Summary Comments:

The City of San Diego and Mission Bay Harbor Patrol control access to the parking and staging areas on the north side of the San Diego River Channel.

Concerns and Advice to Responders:

Refer to ACP Site 6-000-A for important information on beach nesting birds that use this site. Be prepared to use site monitors to evaluate and minimize any potential negative effects (especially to listed species), that could result from cleanup and response activities at this site.

Hazard and Restrictions:

The entrance to Mission Bay can experience strong oceanic swells and currents in the area designated for strategic boom protection.

Site Strategies:

Strategy:* 6-304.1** ***Objective: Boom across the channel to prevent movement of oil into the bay.

Strategy: Deploy boom in the Mission Bay entrance channel beginning from the north side near Mariner Basin across the channel to the eastern bend of the south jetty. The boom should be deployed with sufficient angle to allow deflection of petroleum into the southeast anchor point on an incoming tide.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit
Boom	Harbor Boom			900	feet
Anchor	Danforth	25	lb	2	
Skimmer				1	
Staff	Staff to Deploy			4	

Last Page Update

Strategy Updated:

Last Test: 7/12/2016

Strategy:* 6-304.2** ***Objective: Boom across the channel to prevent oil movement up-river.

Strategy: Deploy boom from the San Diego River beginning on the south side of the Mission Bay entrance jetty across the river channel to the sandy shoreline. The boom should be deployed with sufficient angle to allow deflection of petroleum to the southeast attachment point. A shallow capture basin can be dug out of the shoreline to facilitate skimmer operations.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit
Boom	Harbor Boom			500	feet
Anchor	Danforth	25	lb	2	
Skimmer				1	
Staff	Staff to Deploy			3	

Last Page Update

Strategy Updated:

Last Test: 2/10/2015

Strategy:* 6-304.3** ***Objective: Boom across the channel to prevent movement of oil into the bay.

Strategy: Deploy boom across the entrance channel (west-east) from Mariner Basin to the Quivira Basin breakwater. The boom should be deployed with sufficient angle to allow deflection of petroleum to the northeast at the Quivira Basin attachment point (south of the basin inlet) for skimmer operations.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit
Boom	Harbor Boom			1200	feet
Anchor	Danforth	25	lb	1	
Skimmer				1	
Staff	Staff to Deploy			2	

Last Page Update

Strategy Updated:

Last Test: 8/4/2017

Strategy:* 6-304.4** ***Objective: Boom across the channel to prevent movement of oil into the bay.

Strategy: Deploy boom across the entrance channel (west – east) from the shoreline north of Mariners Cove inlet to a point south of the Mission Bay Drive bridge on the Quivira Basin shoreline. The boom should be deployed with sufficient angle to allow deflection of petroleum to the northeast at the Quivira Basin attachment point (north of the basin inlet) for skimmer operations.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit

Last Page Update

Boom	Harbor Boom			1200	feet
Anchor	Danforth	25 lb		1	
Staff	Staff to Deploy			2	

Strategy: **6-304.5** ***Objective:*** Boom across the channel to prevent oil movement into Quivera Basin.
Strategy: Close off the inlet of Quivira Basin. Be certain to provide coverage along the Quivira Basin inlet breakwater, because it is porous.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit
Boom	Harbor Boom			500	feet
Anchor	Danforth	25 lb		1	
Skimmer				1	
Staff	Staff to Deploy			2	

Last Page Update

Strategy: **6-304.6** ***Objective:*** Boom across the channel to prevent oil movement into Mariner's Basin.
Strategy: Close off the inlet of Mariner Basin with boom.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit
Boom	Harbor Boom			700	feet
Anchor	Danforth	25 lb		1	
Staff	Staff to Deploy			2	

Last Page Update

Logistics:

Directions: A boat launch ramp is located in the Dana Basin which can be accessed from the I-5 freeway by exiting Sea World Dr. and heading west to Mission Bay Dr. Access to the lower reach of the San Diego River is available from the

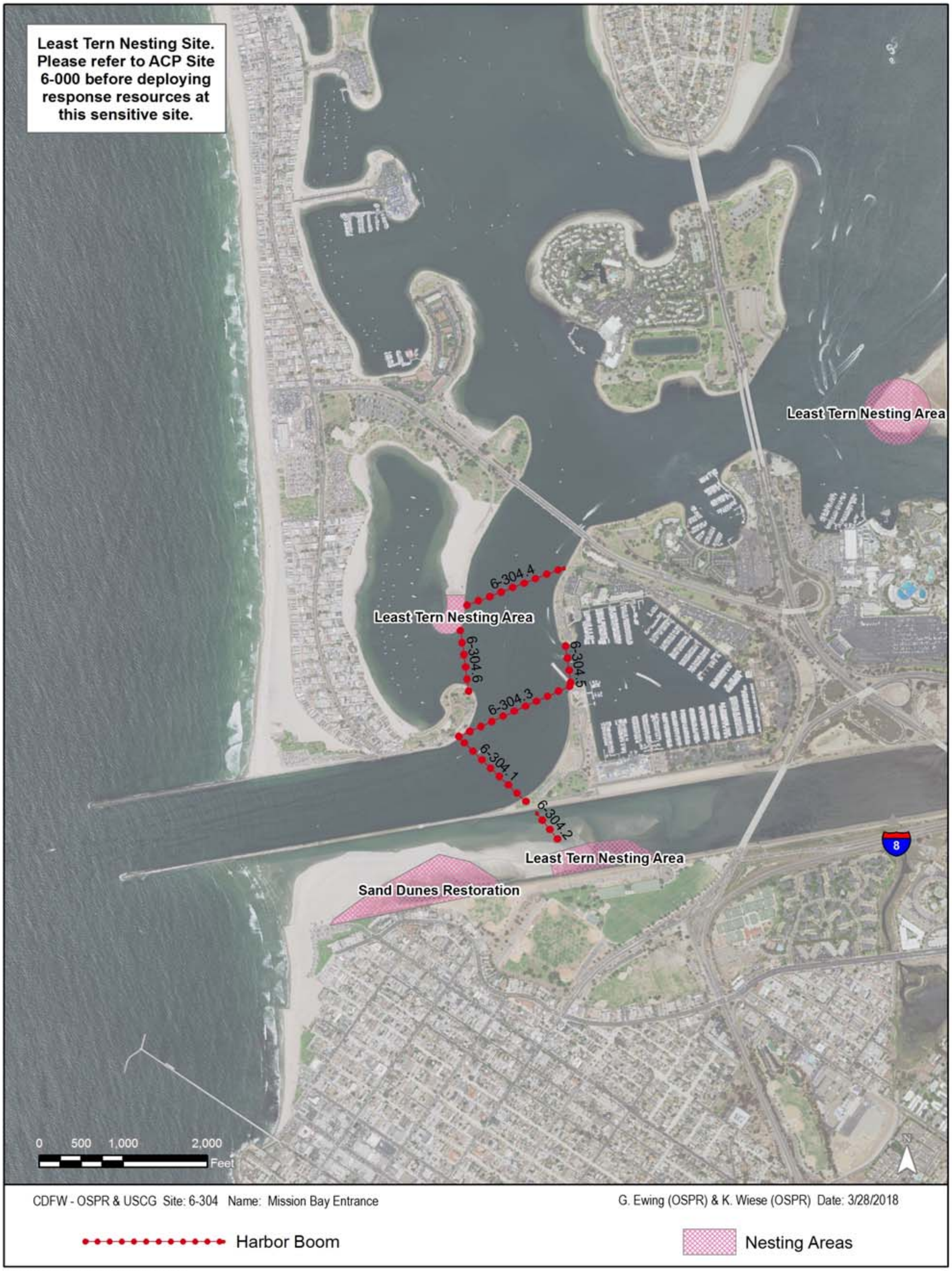
Land Access: All access is available.

On-Water Limitations: The Bay has many 24-hr public boat launching facilities that can be used for equipment deployment. Vessels can also launch and transit from San Diego Bay to Mission Bay in under two hours, weather

Facilities, Staging Areas, Command Posts, Available Equipment: Numerous parking and staging areas are located around

Communications Problems:

Additional Operational Comments: The response strategy is comprised of six individual segments numbered in the order of their respective deployment priority. The degree to which the full complement is deployed is dependent upon the



Imagery: NAIP 2016, 60 cm resolution

County : San Diego **ACP Division/Segment :**

NOAA Chart : 18765 ***Map Book :*** 1248 B7 ***Decimal Degrees*** 32.78958 -117.23063

Site Description:

The Kendall-Frost Reserve is a remnant wetland area in the far north end of Mission Bay. It is bisected by several tidal channels that flood the low lying habitat to varying levels as determined by tidal conditions.

The mouth of Rose Creek enters Mission Bay ~1/4 mile east of the Kendall-Frost Reserve. Strategy 3 for this site was created to capture the fact that ~400' of boom would be required to close the mouth of Rose Creek.

Resources at Risk:

ESI and Habitat: 9A Sheltered tidal flats
10A Salt - and brackish-water marshes

List of Resources at Risk:

	Resource Name	Status	Presence
Birds	Belding's savannah sparrow	SE	Year-round
Birds	light-footed Ridgway's rail	FE, SE	Year-round
Plants	pickleweed		Year-round

FT-Federally Threatened, FE-Federally Endangered, FP-Federally Protected, SE-State Endangered, ST-State Threatened, SP -State Protected SR-State Rare, SSC-Species of Special Concern, BGEPA-Bald and Golden Eagle Protection Act, SSSP-State Special Status Species

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	Dr. Seth Mallios/	South Coastal Information Center	(619) 594-5682
E	/	Univ. California San Diego	(619) 534-2077
O	/	County Sheriffs	(858) 565-5200
O	/	Scripps Inst. Of Oceanography	(858) 784-1000
T	/Southern Comms. Center (SURCOM) 24-hr	CA State Parks	(951) 443-2944
T	Becky Ota/	CDFW for MPAs	(650) 631-6789
T	/San Diego Coast District	State Parks and Recreation	(619) 688-3260
T	Isabelle Kay/	UCSD Scripps Coastal Reserves	(858) 534-2077

C – Cultural, Historic, Archaeological; E – Entry/Owner/Access; O – Other; S – Safety; T – Trustee; X – Exclusion or Security

Additional Site Summary Comments:

Concerns and Advice to Responders:

Refer to ACP Site 6-000-A for important information on beach nesting birds that use this site. Be prepared to use site monitors to evaluate and minimize any potential negative effects (especially to listed species), that could result from cleanup and response activities at this site.

Hazard and Restrictions:

The Kendall-Frost Reserve is flooded extensively during high tides. At low tide a wide, soft mudflat extends a considerable distance from the marsh vegetation edge.

Site Strategies:

Strategy:* 6-306.1** ***Objective: Keep oil out of the Kendall-Frost Reserve.

Strategy: Deploy harbor boom across the outboard side of the shoal marker buoys from the west to east end of the reserve.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit
Boom	Harbor Boom			3000	feet
Vessel	Boom Boat			1	
Anchor	Danforth	25	lb	4	
Staff	Staff to Deploy			5	

Last Page Update

Strategy Updated:

Last Test: 9/16/2015

Strategy:* 6-306.2** ***Objective: Prevent oil from entering Kendall-Frost Reserve's tidal channels.

Strategy: Sandbag each tidal inlet to prevent entry of petroleum into the tidal channels on rising tides.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit
Sandbags				250	
Staff	Staff to Deploy			10	

Last Page Update

Strategy:* 6-306.3** ***Objective: Boom across Rose Creek to prevent oil from entering Mission Bay.

Strategy: Deploy boom across Rose Creek to bring oil to a suitable place along the shoreline for collection.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit
Boom	Harbor Boom			400	feet
Anchor	Danforth	22	lb	2	
Vessel	Boom Boat or Skiff			1	
Staff	Staff to Deploy			2	

Last Page Update

Strategy Updated:

Last Test: 9/16/2015

Logistics:

Directions: This site is adjacent to street address: 18 Lamont St. San Diego, CA 92109.

Land Access: All access is available from the parking lot at Mission Bay Park.

On-Water Limitations: A boat launch ramp is located at Vacation Island and in the Dana Basin.

Facilities, Staging Areas, Command Posts, Available Equipment: A large public parking lot is within 100 yards of the

Communications Problems:

Additional Operational Comments: This site is managed by UC San Diego. Contact Isabell Kay for access, (619)

Imagery: NAIP 2016, 60 cm resolution

County : San Diego **ACP Division/Segment :** SD - F - S001

NOAA Chart : 18765 ***Map Book :*** 1267 H5 ***Decimal Degrees*** 32.75269 -117.25224

Site Description:

This site is within the following Marine Protected Area: Famosa Slough State Marine Conservation Area, and is governed by special protections established by the CDFW Marine Region. The mouth of the San Diego River empties into the Pacific Ocean at the north end of Ocean Beach, with an outflow that is typically about 200' across but is subject to change with seasonal rainfall. The flood channel of the river is approximately 900 feet across and has earthen levies with riprap armoring. The area to protect is the estuary that is upstream from the mouth. Average tidal influence in the river extends two to three miles upstream. An additional area to protect is the habitat behind the three tidal gates that connect to Famosa Slough. These tidal gates are located on the south bank of the river midway between Sea World Drive and Sports Arena Blvd. Bridges. The tidal gates are locked open, but should be closed by responders when oil threatens to move upstream of the Sea World Dr. Bridge.

Resources at Risk:

ESI and Habitat: 9A Sheltered tidal flats
8C Sheltered riprap

List of Resources at Risk:

	Resource Name	Status	Presence
Birds	Western snowy plover	FT	Year-round
Birds	California least tern	FE, SE	Feb - Sep
Invertebrates	rocky intertidal resources		Year-round

FT-Federally Threatened, FE-Federally Endangered, FP-Federally Protected, SE-State Endangered, ST-State Threatened, SP -State Protected SR-State Rare, SSC-Species of Special Concern, BGEPA-Bald and Golden Eagle Protection Act, SSSP-State Special Status Species

List of Key Contacts:

Type	Name/Title	Organization	Phone
C	Dr. Seth Mallios/	South Coastal Information Center	(619) 594-5682
O	County OES/	Emergency Contact for Mission Bay Park	(858) 565-3490
T	Chris Bennett/	Formosa Slough Volunteer	(619) 223-4867
T	/	Mission Bay Park Ranger	(858) 581-7602
T	/San Diego Coast District	State Parks and Recreation	(619) 688-3260

C – Cultural, Historic, Archaeological; E – Entry/Owner/Access; O – Other; S – Safety; T – Trustee; X – Exclusion or Security

Additional Site Summary Comments:

The City of San Diego and Mission Bay Harbor Patrol control access to the parking and staging areas on the south side of the San Diego River Channel.

Concerns and Advice to Responders:

Refer to ACP Site 6-000-A for important information on beach nesting birds that use this site. Be prepared to use site monitors to evaluate and minimize any potential negative effects (especially to listed species), that could result from cleanup and response activities at this site.

Hazard and Restrictions:

Site Strategies:

Strategy:* 6-308.1** ***Objective: Close the river mouth by constructing a berm across the flow channel.

Strategy: Construct a sand berm across entrance, upstream from breakwater notch. The river mouth may be closed by a sand berm or oil boom except during periods of rainfall when a large discharge volume may occur. Use borrowed sand from the lower beach face. Do not use sand from the sand dunes.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit
Heavy Equipment	Front Loader			1	
Staff	Staff to Deploy			1	

Last Page Update

Strategy:* 6-308.2** ***Objective: Close the river mouth by constructing a berm across the flow channel.

Strategy: Construct a second berm at forward downstream end of breakwater notch. Use borrowed sand from the lower beach face. Do not use sand from the sand dunes.

Table of Response Resources

Equipment	Sub-Type	Size	Unit	QTY	Unit
Heavy Equipment	Front Loader			1	
Staff	Staff to Deploy			1	

Last Page Update

Strategy:* 6-308.3** ***Objective: Close tidal gates that feed San Diego's Famosa Slough Wildlife Preserve.

Strategy: Three locked tidal gates are located on the south bank of the river midway between the Sea World Drive and Sports Arena Blvd Bridges. The tidal gates are locked open, but should be closed by responders to prevent oil from entering the ditch that feeds the Famosa Slough Wildlife Preserve. Contact the Famosa Slough volunteers or the Mission Bay Park Ranger for keys to the fence gate and tidal gates.

Table of Response Resources

Last Page Update

Logistics:

Directions: From I-5 freeway exit Sea World Dr. and head west to Ocean Beach. Access via Ocean Beach parking lot. This site is within the following Marine Protected Area: Famosa Slough State Marine Conservation Area, and is

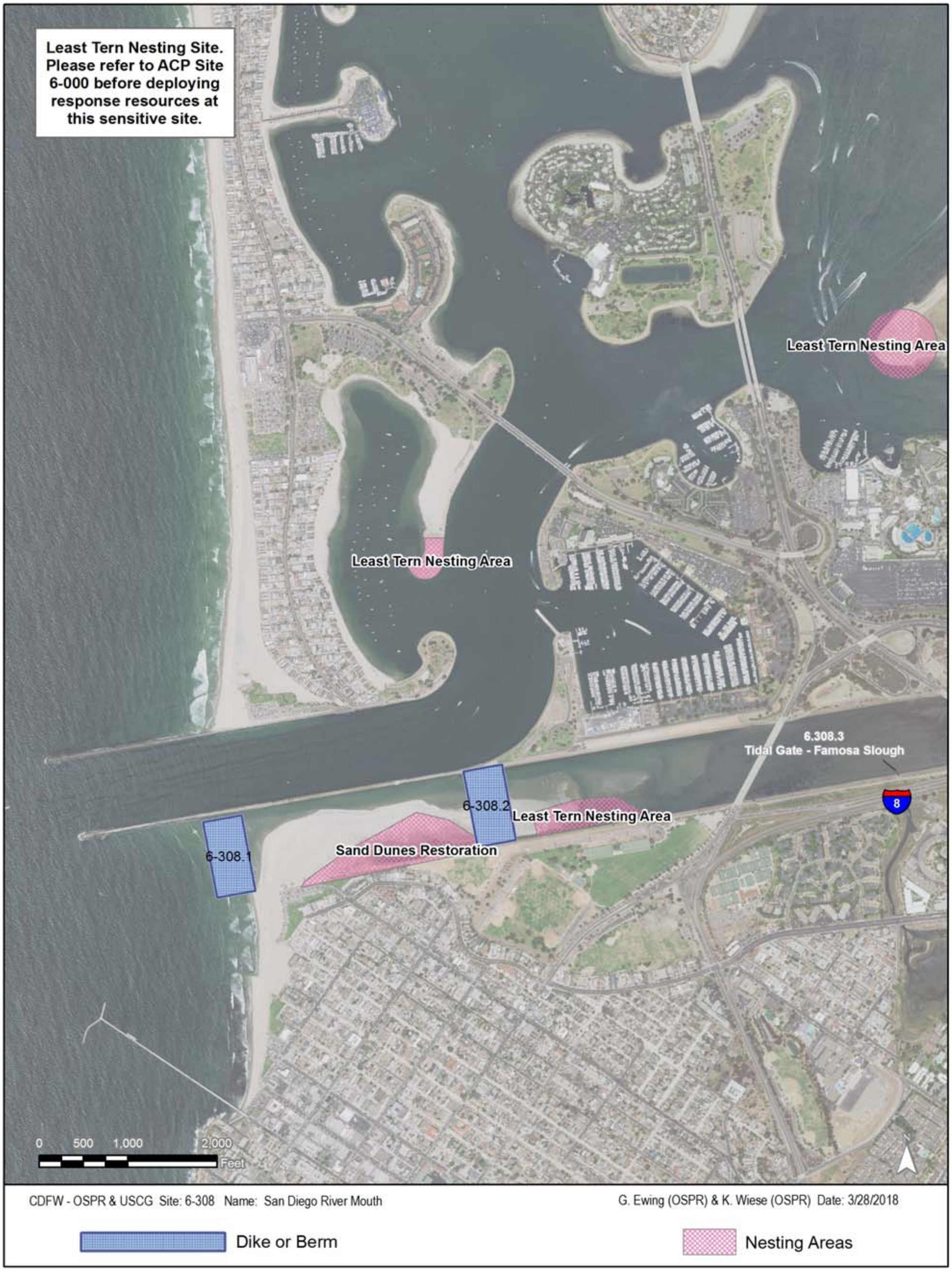
Land Access: All access available. The San Diego River Mouth can be accessed from land in Ocean Beach at street

On-Water Limitations: Water access is limited to hand launched skiffs from Dog Park on Ocean Beach, at the corner of

Facilities, Staging Areas, Command Posts, Available Equipment: Ocean Beach parking lot.

Communications Problems:

Additional Operational Comments: The San Diego River Mouth has two pre-identified response locations: The river mouth itself, and the upstream tidal gates that feed the Famosa Slough Wildlife Preserve. The North Jetty is porous



Imagery: NAIP 2016, 60 cm resolution

Appendix F:
EPA Worst Case Discharge Scenario – Total Planning Distance Calculation

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MCAS Miramar Total Planning Distance Calculation for Worst-Case Discharge

Discharge Flow from AST No. 701 at Bulk Storage Tank Farm to New River

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Overland transit from AST to New River = 5.0 miles (Not considering Secondary Containment Structure)

Contribution of sheet flow from AST No. 701 to New River is considered negligible as related to the total planning distance calculations.

Discharge Flow from Rice Drain to New River

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1. Channel slope, s (estimated from Google Earth)	ft/ft	0.0074
2. Mid-channel depth, r (Number of feet in depth x 0.667)	3 ft	2.001
3. Manning's roughness coefficient, n (40 CFR 112 App C Table 1 – Moving Water – Minor Streams – Straight)		0.03
4. Velocity, V, Chezy-Manning's Equation $V = (1.5/n)r^{2/3}s^{1/2}$ Compute V	ft/s	6.82
5. Discharge flow distance, d_F *(Distance from AST No. 701 to New River)*	mi	5.01
6. Transit time, t_t $t_t = (d/V)/(c)$ where c = constant conversion factor 0.68 sec mile/hr ft (40 CFR 112 Appendix C)	hr	1.08

Transit in Rice Drain

1. Response time, t_R	hrs	25.92
(Substantial harm planning time – Transit time)		
(27 hours – 1.08 hour)		
2. Wind speed at MCAS Miramar, w	mi/hr	8.7
(Average *Wind speed data obtained from NOAA data)*		
3. Transit distance, d_T	mi/hr	6.76
$d_T = (t_R)(w)(0.03)$ *where 0.03 represents oil slick moving*		

Total Planning Distance

Total Planning Distance, TPD……………………………………miles 11.77

TPD = Discharge Flow Distance (d_F) + Transit Distance (d_T)

(TPD represents total distance from spill to transit within New River)

Appendix G:
EPA Worst-Case Discharge Scenario – Worksheet to Plan Volume Response Resources

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40 CFR PART 112, APPENDIX E

Worksheet to Plan Volume of Response Resources for Worst-Case Discharge

Part I **Background Information**

Step (A) Calculate Worst Case Discharge in barrels (40 CFR Part 112, Appendix D) **39,084**

Step (B) Oil Group [1] (Table 3 and Section 1.2 of Appendix D) **1**

Step (C) Operating Area (choose one) ____X____ Nearshore/Inland, Great Lakes
_________ Rivers and Canals

Step (D) Percentages of oil (Table 2 of Appendix D)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
80	**10**	**10**
(D1)	(D2)	(D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2) x Step (A)}}{100}$ **3,908**

Step (E2) Shoreline Recovery $\frac{\text{Step (D3) x Step (A)}}{100}$ **3,908**

Step (F) Emulsification Factor (Table 3 of Appendix D) **1.0**

Step (G) On-Water Oil Recovery Resource Mobilization Factor (Table 4 of Appendix D)

Tier 1	Tier 2	Tier 3
0.15	**0.25**	**0.40**
(G1)	(G2)	(G3)

Part **II** On-Water Oil Recovery Capacity (barrels/day)

Tier 1	[Step (E1) x Step (F) x Step (G1)]	**586**
Tier 2	[Step (E1) x Step (F) x Step (G2)]	**977**
Tier 3	[Step (E1) x Step (F) x Step (G3)]	**1563**

1. A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10% or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volume of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

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Appendix H:
Spill Response Equipment Inventory Form

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MCAS MIRAMAR SPILL RESPONSE EQUIPMENT INVENTORY FORM					
Year of Inspection:					
Time of Inspection:		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Inspector Initials and Date:					
Description	Min No.				
Apron	1				
Nitrile Gloves (Pairs)	2				
Chemical Goggles	2				
Absorbent Mat Pads	50				
4-ft Absorbent Socks	4				
10-ft Absorbent Socks	2				
Large Absorbent Pillows	3				
Small Absorbent Pillows	6				
Hazardous Waste Bags	5				
Hazardous Waste Labels	2				
Over Pack Drum	1				

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Appendix I:
Drill and Exercise Forms

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MCAS Miramar Notification Drills	
APPLICABILITY:	Facility
FREQUENCY:	Quarterly
INITIATING AUTHORITY:	QI
PERSON RESPONSIBLE FOR CONDUCTING THIS DRILL:	(***Insert the name of the person responsible for conducting this drill here***)
PARTICIPATING ELEMENTS:	Facility response personnel, Primary and Alternate QIs
SCOPE:	Exercise communication between the facility personnel and the Facility and Qualified Individuals
OBJECTIVES:	Contact must be made with the on-duty QI as designated in the FRP
CERTIFICATION:	Self-Certification
VERIFICATION:	Verification to be accomplished by federal and state regulatory representatives during site visits
RECORD RETENTION:	5 years
LOCATION:	Records must be kept at the facility
EVALUATION:	Self-evaluation
CREDIT:	The Facility may take credit for this exercise in the course of conducting routine business or other drills, provided that the objectives of the drill are met and the drill is properly recorded. Similarly, credit may be received for an actual spill response when these objectives are met and a proper record is generated.

MCAS Miramar Notification Drill Record	
TOPIC	INFORMATION
DATE	
TYPE DRILL	
ANNOUNCED OR UNANNOUNCED	
CONTACT #1: NAME	
CONTACT METHOD	
TIME OF CONTACT	
TIME OF CONFIRMATION	
CONTACT #2: NAME	
CONTACT METHOD	
TIME OF CONTACT	
TIME OF CONFIRMATION	
CONTACT #3: NAME	
CONTACT METHOD	
TIME OF CONTACT	
TIME OF CONFIRMATION	
CONTACT #4: NAME	
CONTACT METHOD	
TIME OF CONTACT	
TIME OF CONFIRMATION	
COMMENTS:	
SIGNATURE OF RESPONSIBLE OFFICIAL:	

MCAS Miramar Incident (Spill) Management Team Tabletop Exercise	
APPLICABILITY:	Facility
FREQUENCY:	Annually
INITIATING AUTHORITY:	QI
PERSON RESPONSIBLE FOR CONDUCTING THIS DRILL:	(***Insert the name of the person responsible for conducting this drill here***)
PARTICIPATING ELEMENTS:	MCAS Miramar Incident Management Team, including at a minimum the Primary and Alternate QIs, Command Staff, and Section Leaders
SCOPE:	Exercise the Incident Management Team organization, communication, and decision-making skills in managing a spill response.
OBJECTIVES:	At least one Incident Management Team Tabletop Exercise in a triennial cycle will involve simulation of a worst-case discharge scenario. Exercise in a review of: • Knowledge of the FRP; • Proper notification; • Communications system; • Ability to access the HAZMAT contractors; • Coordination of organization/agency personnel with responsibility for spill response; • Ability to effectively coordinate spill response activity with federal, state, and local government infrastructure; and • Ability to access information in the Area Contingency Plans for the location of sensitive areas, resources available within the area, unique conditions of the area, etc.
CERTIFICATION:	Self-certification
VERIFICATION:	Verification to be accomplished by federal and state regulatory representatives during site visits
RECORD RETENTION:	5 years
LOCATION:	Records must be kept at the facility
EVALUATION:	Self-evaluation
CREDIT:	The Facility may take credit for this exercise in the course of conducting routine business or other drills, provided that the objectives of the drill are met and the drill is properly recorded. Similarly, credit may be received for an actual spill response when these objectives are met and a proper record generated.

MCAS Miramar Incident (Spill) Management Team Exercise Tabletop Record	
TOPIC	**INFORMATION**
DATE:	
TYPE DRILL:	
ANNOUNCED OR UNANNOUNCED:	
PERSONNEL INVOLVED (Including Name of Qualified Individual)	
BASIC SCENARIO:	
PROBLEMS NOTED:	
PROPOSED SOLUTIONS	
COMMENTS:	
SIGNATURE OF RESPONSIBLE OFFICIAL:	

MCAS Miramar Spill Response Equipment Deployment Exercise Record	
APPLICABILITY:	Facility with facility-owned response equipment
FREQUENCY:	Semi-annually
INITIATING AUTHORITY:	QI
PERSON RESPONSIBLE FOR CONDUCTING THIS DRILL:	(***Insert the name of the person responsible for conducting this drill here***)
PARTICIPATING ELEMENTS:	MFD, EMD, and Fuels Division personnel responsible for logistics and equipment deployment.
SCOPE:	Deploy and operate facility-owned response equipment identified in the FRP. Only a representative sample of each type of equipment or that equipment that is necessary to respond to an average most probable discharge, whichever is less, need be deployed. Equipment that is not deployed must be included in a comprehensive training and maintenance program. Credit will be given for deployment conducted during training. The maintenance program must ensure that the equipment is periodically inspected and maintained in good operating condition in accordance with the manufacturer's recommendations and best commercial practices. Inspections and maintenance must be documented by the owner.
OBJECTIVES:	Demonstrate ability of Facility personnel to deploy and operate equipment. Ensure response equipment is in proper working order. Response equipment that is damaged or not functioning properly is to be repaired or replaced within 30 days.
CERTIFICATION:	Self-certification
VERIFICATION:	Verification to be accomplished by federal and state regulatory representatives during site visits
RECORD RETENTION:	5 years
LOCATION:	Records must be kept at the facility
EVALUATION:	Self-evaluation
CREDIT:	The Facility may take credit for this exercise in the course of conducting routine business or other drills, provided that the objectives of the drill are met and the drill is properly recorded. Similarly, credit may be received for an actual spill response when these objectives are met and a proper record generated.

NOTE:

If the Facility with Facility-owned equipment also identifies HAZMAT contractor equipment in the FRP, then the HAZMAT contractor equipment must also be deployed and operated in accordance with the equipment deployment requirements for contractor-owned equipment. A HAZMAT contractor that responds to and has equipment prestaged in various geographic areas is required to conduct an annual equipment deployment drill in each area.

MCAS Miramar Spill Response Equipment Deployment Exercise Record	
TOPIC	**INFORMATION**
DATE:	
TYPE DRILL:	
ANNOUNCED OR UNANNOUNCED:	
EQUIPMENT DEPLOYMENT EXERCISE:	
ON-SITE OR CONTRACTOR:	
EQUIPMENT ACTUALLY DEPLOYED	
RESPONSE TIME:	
PROBLEMS NOTED:	
PROPOSED SOLUTIONS:	
COMMENTS:	
SIGNATURE OF RESPONSIBLE OFFICIAL:	

MCAS Miramar Unannounced Spill Response Exercise Record	
APPLICABILITY:	Facility EPA Response Plan Holders (Facility and Regional) within a designated area
FREQUENCY:	Annually **Note**: Facilities are not required to participate in a federal EPA-initiated unannounced drill if they have participated in an unannounced federal or state oil spill response drill within the previous 36 months.
INITIATING AUTHORITY:	QIs and/or EPA
PERSON RESPONSIBLE FOR CONDUCTING THIS DRILL:	(***Insert the name of the persons responsible for conducting this drill here***)
PARTICIPATING ELEMENTS:	Facility-initiated: Fed FD, EMD, and Fuels Division personnel EPA -initiated: FRP Holders
SCOPE:	Facility-initiated: • May be any required drill except Notification Drill; • Must conduct proper notifications for the scenario; and • Must involve equipment once every 3 years. EPA-initiated: • Will be performed for a maximum of four EPA Regions per year; • Will be limited to a maximum of four hours duration; • Will involve response to an average most probable discharge scenario; • Will require proper notifications for the scenario; • Will involve equipment deployment to respond to the spill scenario; and • Will not be required for a pipeline by the United States Coast Guard or EPA.
OBJECTIVE:	Conduct proper notifications to respond to the unannounced scenario of an average most probable discharge and demonstrate that equipment deployment is: • Timely • Conducted with adequate amount of equipment for scenario • Properly deployed
CERTIFICATION:	Self-certification/Initiating Agency (including Primary and Alternate QIs)
VERIFICATION:	Self-certification: Verification to be accomplished by federal and state regulatory representatives during site visits. Initiating Agency (including Primary and Alternate QIs)
	5 years
LOCATION:	Records must be kept at the facility
EVALUATION:	Self-evaluation / By initiating agency (including Primary and Alternate QIs)
CREDIT:	The plan holder may take credit for this exercise in the course of conducting an actual spill response, provided that the objectives of the drill are met and the event is properly recorded.

MCAS Miramar Unannounced Spill Response Exercise Record	
TOPIC	**INFORMATION**
DATE:	
TYPE DRILL:	
EMERGENCY SCENARIO:	
PERSONNEL INVOLVED (Including Name of Qualified Individual)	
OBJECTIVES OF DRILL:	
PROBLEMS NOTED:	
PROPOSED SOLUTIONS:	
TIMETABLE FOR IMPLEMENTATION:	
SIGNATURE OF RESPONSIBLE OFFICIAL:	

Appendix J:
Records of Annual FRP Drills and Exercises

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Appendix K:
AFFF Emergency Action Plan

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AFFF Emergency Action Plan

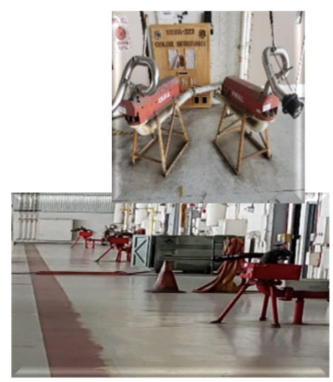
MCAS Miramar Aqueous Film Forming Foam (AFFF)

AFFF System Devices

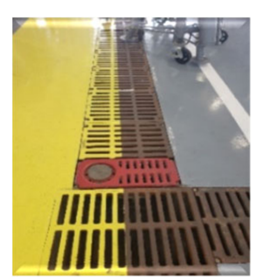
- Each Hangar has an AFFF System but each system is set up differently:
  - Hanger 0 is equipped with 7 UV/IR Detectors and 4 Monitor Nozzles (Cannons).
  - Hanger 1 is equipped with 22 UV/IR Detectors and 16 Monitor Nozzles (Cannons).
  - Hanger 2 is equipped with 12 UV/IR Detectors and 16 Monitor Nozzles (Cannons).
  - Hanger 3 is equipped with 28 UV/IR Detectors and 8 Monitor Nozzles (Cannons).
  - Hanger 4 is equipped with 28 UV/IR Detectors and 84 In-Floor AFFF Nozzles.
  - Hanger 5 is equipped with 16 UV/IR Detectors and 64 In-Floor AFFF Nozzles.
  - Hanger 6 is equipped with 23 UV/IR Detectors and 70 In-Floor AFFF Nozzles.
  - Hanger 7 is equipped with 16 UV/IR Detectors and 64 In-Floor AFFF Nozzles.
  - Hanger A is equipped with 25 UV/IR Detectors and 56 In-Floor AFFF Nozzles.

UV/IR Detectors

Monitor Nozzles (Cannons)



In-Floor AFFF Nozzles.

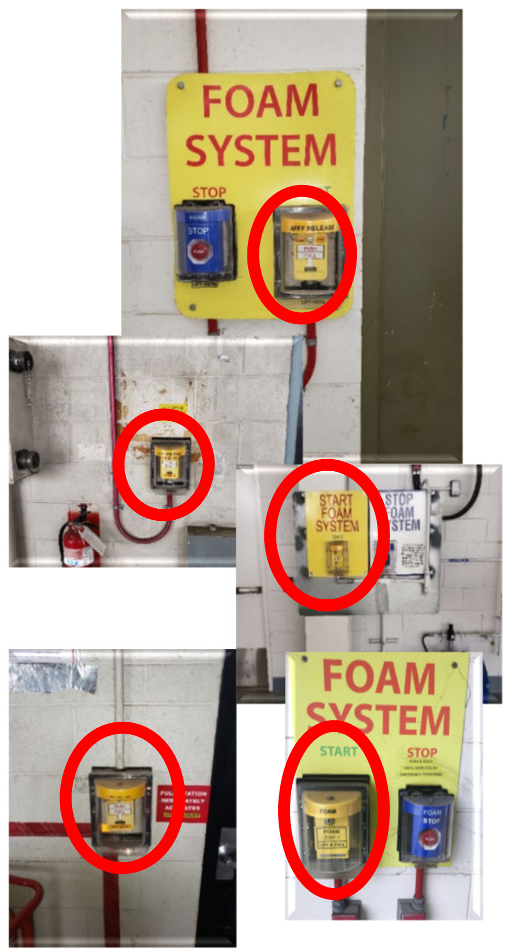


AFFF System Detection and Activation (How it Works)

- The UV/IR's detect BOTH ultraviolet (UV) AND infrared (IR) radiation. These detectors will not activate due to lightning, solar radiation, hot objects or non-UV emitting artificial light.

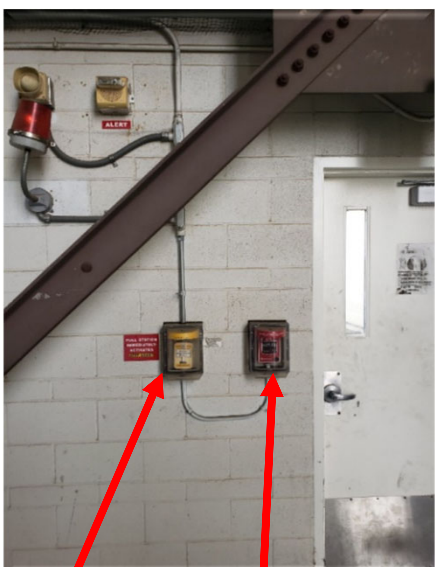
- Flame from a match or lighter will activate a UV/IR detector.

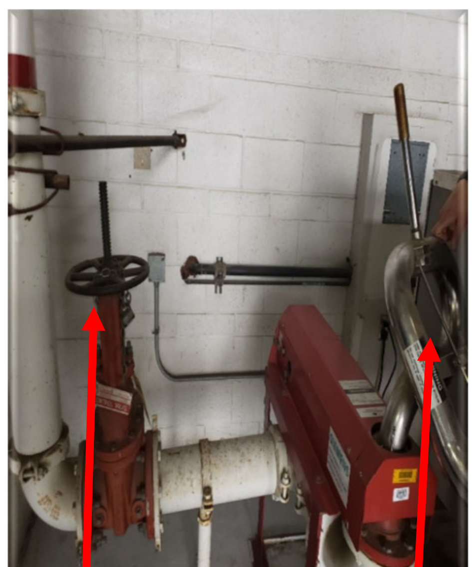
- Also, A manual operating pull station will activate AFFF.



Hangar 0

- Be familiar with UV/IR Detectors in your Hangar and the location of both the Manual Shutoffs and a Manual Activation Pull Stations.





AFFF Release

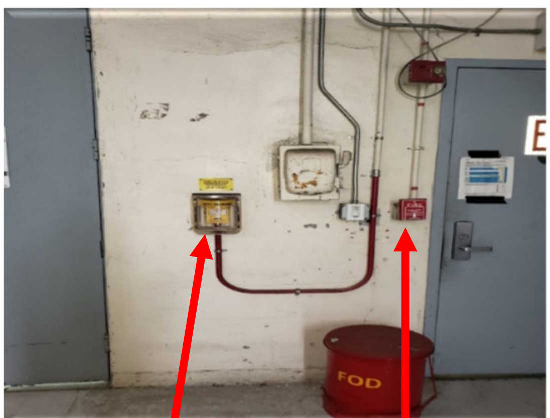
Fire Alarm

Manual Shut Off Control Valve (turn clockwise)

Monitor Nozzles (AFFF Cannon)

Hangar 1

- Be familiar with UV/IR Detectors in your Hangar and the location of both the Manual Shutoffs and a Manual Activation Pull Stations.



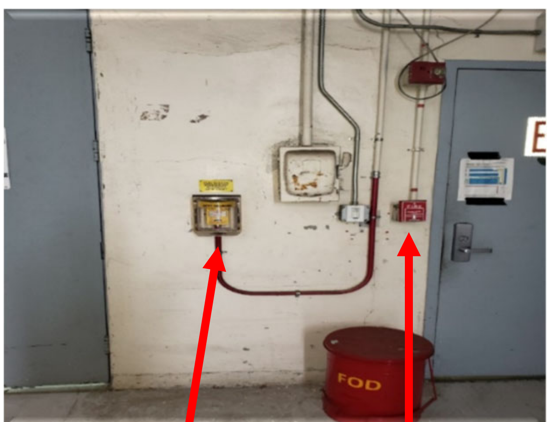
AFFF Release

Fire Alarm

Manual Shut Off Control Valve (turn clockwise)

Hangar 2

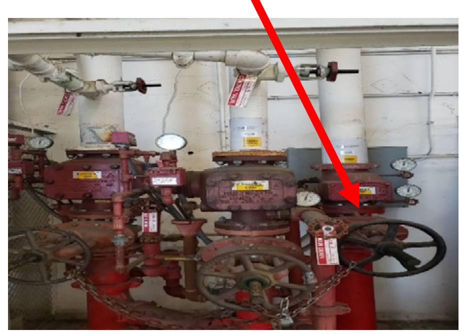
- Be familiar with UV/IR Detectors in your Hangar and the location of both the Manual Shutoffs and a Manual Activation Pull Stations.



AFFF Release

Fire Alarm

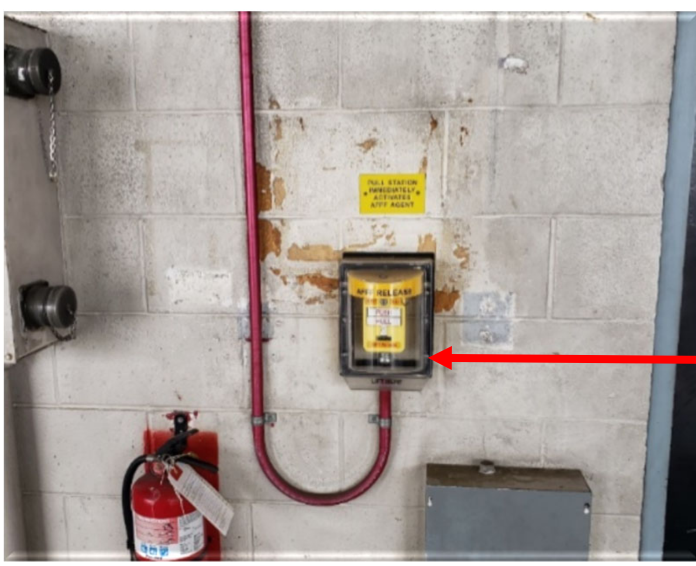
Manual Shut Off Control Valve (turn clockwise)



Hangar 3

- Be familiar with UV/IR Detectors in your Hangar and the location of both the Manual Shutoffs and a Manual Activation Pull Stations.

Manual Shut Off Control Valve (turn clockwise)



AFFF Release

Hangar 4

■ Be familiar with UV/IR Detectors in your Hangar and the location of both the Stop Button and a Manual Activation Pull Stations.

AFFF Release

Fire Alarm

AFFF STOP

Hangar 5

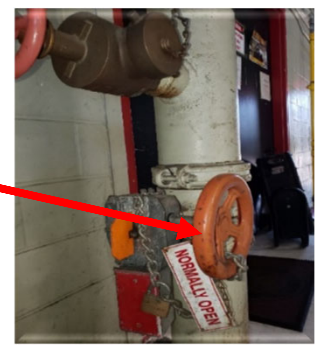
- Be familiar with UV/IR Detectors in your Hangar and the location of both the Stop Button and a Manual Activation Pull Stations.

Hangar 6

- Be familiar with UV/IR Detectors in your Hangar and the location of both the Manual Shutoffs and a Manual Activation Pull Stations.

AFFF
Release

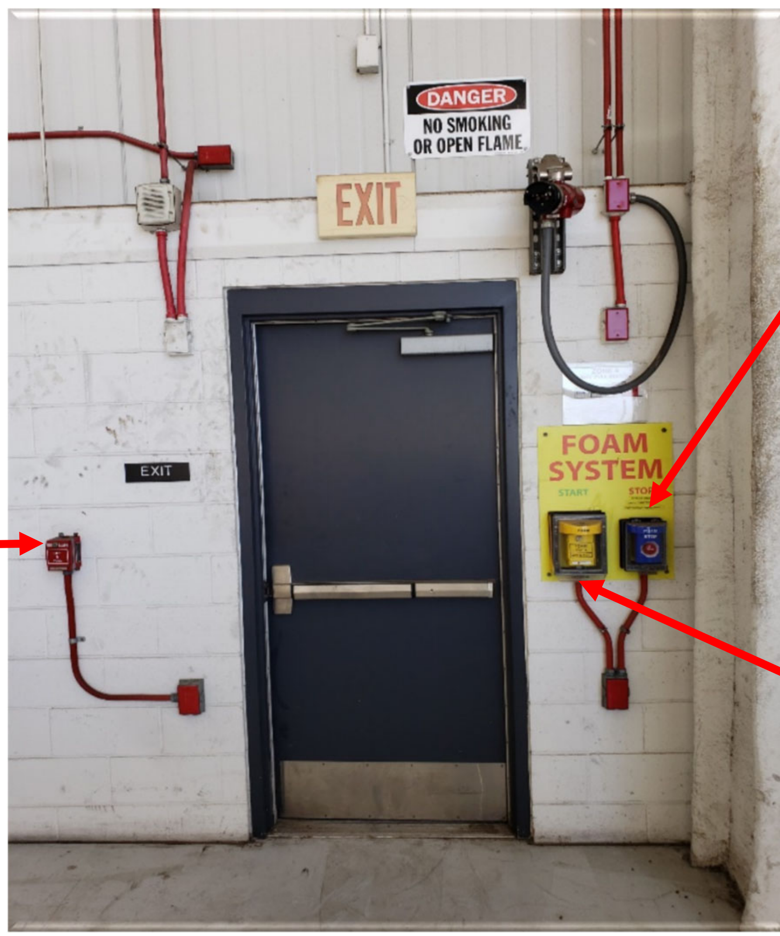
Manual Shut
Off Control
Valve (turn
clockwise)



NOTE: Zone 7 AFFF
manual shutoff is
located North End in
the Riser Room

Hangar 7

- Be familiar with UV/IR Detectors in your Hangar and the location of both the Stop Button and a Manual Activation Pull Stations.



Hangar A

- Be familiar with UV/IR Detectors in your Hangar and the location of both the Stop Button and a Manual Activation Pull Stations.

AFFF STOP

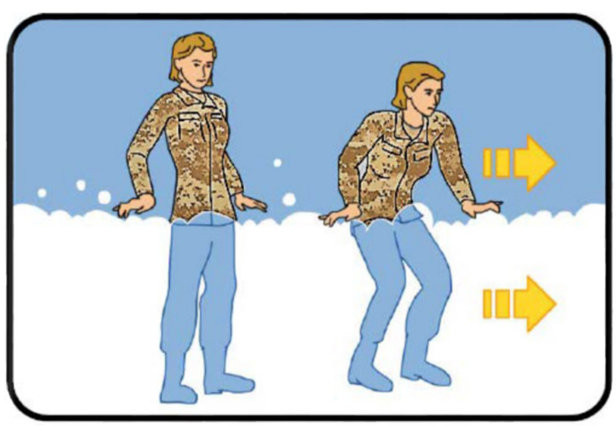
Fire Alarm

AFFF Release

AFFF Emergency Actions

- Upon AFFF Activation - EVACUATE THE HANGAR IMMEDIATELY! **CALL 911**
  - Foam is discharged at a rapid rate, the floor becomes very slippery and creates a white-out effect that results in zero visibility.

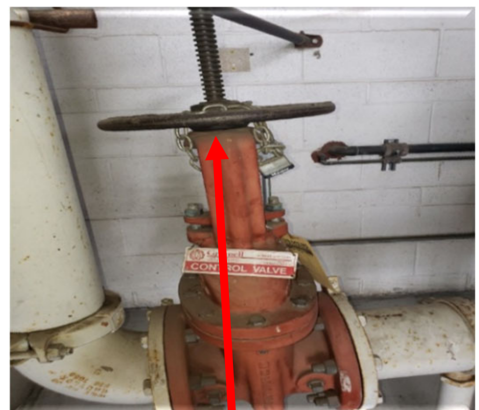
- WARNING! YOU CAN QUICKLY BECOME TRAPPED INSIDE THE HANGAR MAINTENANCE BAY.



AFFF Accidental Activation Hangars 0, 1, 2, 3, and 6

- Upon activation of a fire alarm, all personnel evacuate facility immediately. Even if an assumption is made that someone else is calling 911. CALL 911!!!

- If you are on the Maintenance Bay, immediately scan your area of work for fire. <u>If you are 100% certain there is no fire anywhere in the hangar shut off AFFF system by manually turning spindle clockwise to shut off the AFFF nozzles (cannon).</u>



Turn Spindle Clockwise

AFFF Accidental Activation Hangars 4, 5, 7, and A

- Upon activation of a fire alarm, all personnel evacuate facility immediately. Even if an assumption is made that someone else is calling 911. CALL 911!!!

- If you are on the Maintenance Bay, immediately scan your area of work for fire. <u>If you are 100% certain there is no fire anywhere in the hangar shut off AFFF system by depressing the STOP button and holding to shut off the AFFF nozzles</u>. There may be a 30 second delay before foam stops.

Containment of AFFF

- Requirements:
  - Close hangar doors and contain AFFF in hangar; use squeegees and brooms to force AFFF and water into drains inside hangar ONLY.
    - Hangars 0, 4, 5, 6, 7, and A have AFFF wastewater underground tanks.
    - Hangars 1, 2, and 3 have catch drains for AFFF.
  - If AFFF does exit hangar, cover drains (storm drains) located outside the hanger with drain covers from spill kits/ARFF light rescue vehicles and soak-up AFFF with absorbent pads, socks, and booms.
  - All AFFF soaked absorbent materials must be disposed of as hazardous waste via unit Hazardous Waste Coordinator or Environmental Compliance Coordinator and Station EMD/S-7.

Treatment of AFFF as a Hazardous Waste

- All AFFF and absorbent materials used for clean-up must be managed as a hazardous waste.

- Containment will be conducted by the responsible tenant unit with direction and assistance from MCAS Miramar Fire Department, ARFF, and additional MCAS personnel.

- Spill and emergency equipment may be ordered through normal supply channels or assistance in ordering may be obtained by contacting MCAS Miramar Environmental Management Department (EMD) / S-7.

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