**FINAL REPORT**

# AIR QUALITY MANAGEMENT PLAN UPDATE FOR

# MARINE CORPS AIR STATION MIRAMAR

*Prepared for*

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and
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Contract No. N62473-08-D-8603
Task Order 0117

August 2014

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## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AB | Assembly Bill |
| AC&R | air conditioning and refrigeration |
| ADHE | Adhesives |
| AFB | Air Force Base |
| AQMP | Air Quality Management Plan |
| APU | Auxiliary Power Unit |
| AST | aboveground storage tank |
| ATCM | Airborne Toxic Control Measure |
| AUL | Authorized User List |
| BACT | Best Available Control Technology |
| bhp | brake horsepower |
| BLAST | Abrasive Blasting |
| BMC | Branch Medical Clinic |
| BMP | Best Management Practice |
| BOIL | Boilers/Space Heaters |
| CAA | Clean Air Act |
| CAAA | Clean Air Act Amendments of 1990 |
| CARB | California Air Resources Board |
| CAS | Clean Air Separator |
| CCR | California Code of Regulations |
| CFC | chlorofluorocarbon |
| CFR | Code of Federal Regulations |
| CI | compression ignition |
| CNSD | Computer and Network Systems Department |
| CO | carbon monoxide |
| $CO_2$ | carbon dioxide |
| COAT | Paint Booths and Surface Coatings |
| CY | calendar year |
| DEG | Degreasers and Solvents |
| DoD | Department of Defense |
| DoN | Department of the Navy |
| EO | Executive Order |
| EMD | Environmental Management Department |
| EPA | U.S. Environmental Protection Agency |
| ETS | Expeditionary Test Stand |
| FAA | Federal Aviation Administration |
| FISC | Fleet and Industrial Supply Center |
| FRCSW | Fleet Readiness Center Southwest |
| FY | fiscal year |
| GAS | Gasoline Storage and Dispensing |
| GDF | gasoline dispensing facility |
| GHG | greenhouse gas |
| g/L | grams per liter |
| GSE | ground support equipment |

| | |
|---|---|
| HAP | hazardous air pollutant |
| HAZMINCEN | Hazardous Materials Minimization Center |
| HC | hydrocarbons |
| HCFC | hydrochlorofluorocarbon |
| HMIRS | Hazardous Materials Information Resource System |
| HMIS | Hazardous Material Inventory System |
| HQMC | Headquarters Marine Corps |
| HRA | Health Risk Assessment |
| H&SC | Health and Safety Code |
| HVLP | high-volume low-pressure |
| ICE | Internal Combustion Engine |
| IOM | Installation, Operation and Maintenance |
| ISD | In-Station Diagnostics |
| lbs./day | pounds per day |
| lbs./hr | pounds per hour |
| MACT | Maximum Achievable Control Technology |
| MAG | Marine Air Ground |
| MALS | Marine Aviation Logistics Squadron |
| MAW | Marine Air Wing |
| MCAS | Marine Corps Air Station |
| MCB | Marine Corps Base |
| MCCS | Marine Corps Community Services |
| MCO | Marine Corps Order |
| MCX | Marine Corps Exchange |
| MEK | methyl ethyl ketone |
| $\mu g/m^3$ | micrograms per cubic meter |
| $mg/m^3$ | milligrams per cubic meter |
| MMBtu/hr | million British thermal units per hour |
| MSDS | Material Safety Data Sheet |
| MWSS | Marine Wing Support Squadron |
| NAAQS | National Ambient Air Quality Standards |
| NAVCONBRIG | Naval Consolidated Brig |
| NAVFAC | Naval Facilities Engineering Command |
| NDIR | Non-Dispersive Infrared Photometry |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| NFPA | National Fire Protection Association |
| NMCSD | Naval Medical Center San Diego |
| $NO_X$ | oxides of nitrogen |
| $NO_2$ | nitrogen dioxide |
| NOV | Notice of Violation |
| NRSW | Navy Region Southwest |
| NSPS | New Source Performance Standards |
| NSR | New Source Review |
| NTC | Notice to Comply |
| NTR | Notice to Repair |
| $O_3$ | ozone |

| | |
|---|---|
| ODS | ozone depleting substance |
| O&M | Operation and Maintenance |
| PAR | Precision Approach Radar |
| Pb | lead |
| PERP | Portable Equipment Registration Program |
| PM | particulate matter |
| PMO | Provost Marshall's Office |
| $PM_{2.5}$ | particulate matter less than 2.5 microns in diameter |
| $PM_{10}$ | particulate matter less than 10 microns in diameter |
| POC | Point of Contact |
| ppm | parts per million |
| ppmv | parts per million by volume |
| psig | pounds per square inch gauge |
| PTE | potential to emit |
| PWD | Public Works Department |
| PWO | Public Works Officer |
| REC | Regional Environmental Coordinator |
| RICE | reciprocating internal combustion engines |
| RICE NESHAP | National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines |
| ROG | reactive organic gas |
| ROICC | Regional Officer in Charge of Construction |
| SDAPCD | San Diego Air Pollution Control District |
| SI | spark ignition |
| SIP | State Implementation Plan |
| $SO_2$ | sulfur dioxide |
| $SO_X$ | oxides of sulfur |
| SOLV | Group Cleaning Solvent |
| SWRFT | Southwest Region Fleet and Transportation |
| TAC | toxic air contaminant |
| TACAN | Tactical Air Navigation |
| TACTS | Tactical Aircrew Combat Training Systems |
| TOG | total organic gas |
| tpy | tons per year |
| TSE | tactical support equipment |
| TURB | Turbine Jet Engine Test Cells |
| USMC | U.S. Marine Corps |
| USN | U.S. Navy |
| UST | underground storage tank |
| VOC | volatile organic compound |
| VOHAP | volatile organic hazardous air pollutant |

# 1.0 INTRODUCTION

In accordance with Marine Corps Order (MCO) P5090.2A, the Marine Corps Environmental Compliance and Protection Manual, Marine Corps facilities are required to establish policies, procedures, and responsibilities pertaining to the proper management and use of hazardous materials, equipment, and processes that emit air contaminants. Marine Corps Air Station (MCAS) Miramar has prepared this update to the Air Quality Management Plan (AQMP) to satisfy the requirements of MCO P5090.2A, by accomplishing the following:

- Establishing the air quality regulatory framework and MCAS Miramar's organization within that framework (i.e., functional groups).
- Defining air program management goals, policies, and responsibilities.
- Providing an air emission unit management tool using facility-specific tabs, organized by building location.
- Summarizing the applicable requirements.

The remainder of this AQMP is organized as follows:

- Section 2.0 – Air Quality Basics,
- Section 3.0 – Overview of Air Quality Regulations,
- Section 4.0 – MCAS Miramar Air Quality Regulatory Framework,
- Section 5.0 – Air Program Goals, Policies, and Responsibilities,
- Section 6.0 – Air Quality Regulatory Requirements,
- Section 7.0 – Emission Sources,
- Section 8.0 – Facility-Specific Tabs,
- Appendix A – Applicable San Diego Air Pollution Control District (SDAPCD) Rules (electronic copies on CD),
- Appendix B – Facility Air Permits (electronic copies on CD),
- Appendix C – Aerospace Coating List, and
- Appendix D – Facility Map showing Location of Permitted Emission Sources and Health Risk Assessment On-site Receptors.

# 2.0 AIR QUALITY BASICS

This section describes why air quality rules and regulations are developed. Specific information related to air quality in San Diego County is also presented.

## 2.1 WHY REGULATE AIR QUALITY?

Air quality rules and regulations are developed because of smog and air pollution problems in areas such as San Diego County. Unlike certain pollutants (e.g., carbon monoxide [CO]), smog is not emitted directly from the automobile tailpipe or the equipment stack. Vehicles and industrial processes produce the emissions that later form smog. The primary constituent of smog is ozone ($O_3$), which is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen ($NO_X$) in the presence of sunlight. $NO_X$ and CO are emitted from motor vehicles and fuel-burning industrial equipment. VOCs are emitted from motor vehicles, solvents, consumer products, and industrial sources such as petroleum refineries and chemical plants.

Another term often used when referring to smog formation is hydrocarbons (HC), which are any of a large number of compounds containing various combinations of hydrogen and carbon atoms. Most VOCs are composed of HC. The terms reactive organic gases (ROGs) and VOCs are often used interchangeably.

Some examples of pure VOCs are methyl ethyl ketone (MEK), ethyl alcohol, toluene, and isopropyl alcohol. The SDAPCD Rule 2(b)(50) definition for VOC is as follows:

> "Any volatile compound containing at least one atom of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonates, and exempt compounds."

Short-term exposure to smog for an hour or two can produce stress to the body. Smog can cause constriction of the airways, forcing the respiratory system to work harder to provide oxygen. Long-term exposure to smog can reduce lung capacity, lower stamina, and increase vulnerability to respiratory problems. Smog is especially harmful for children whose lungs are still developing, senior citizens whose immune systems are breaking down, and those who suffer from heart or lung disease.

Particulate matter (PM) is also a pollutant of concern. PM is a mixture of very tiny solid or liquid particles composed of chemicals, soot, and dust. These particles can remain suspended in the air for long periods of time and can travel great distances. Because only very small particles can be inhaled into the lungs, health standards for the quality of ambient air are based on the mass concentration of "inhalable particles," defined to include microscopic, invisible particles that are 10 microns (millionths of a meter) or less in diameter ($PM_{10}$). The smallest of these inhalable particles, those 2.5 microns in size and smaller, are called $PM_{2.5}$. A 10-micron particle is about one-seventh the diameter of a human hair. Particles that are 2.5 microns in size are roughly one twenty-eighth the diameter of a human hair.

In areas with high levels of smog, such as Southern California, $NO_X$ changes from a gas into nitric acid by a chemical reaction and combines with ammonia, sea salt, and other substances to form small particulates. Coarser particles are directly emitted from activities that disturb the soil, including travel on roads and construction. Other sources of PM include windblown dust, pollen, salt, brake dust, and tire wear.

Table 2-1 shows a listing of some air pollutants, the types of operations and sources that emit those pollutants, as well as the health problems caused by these pollutants.

**Table 2-1. Pollutants of Concern**

| Pollutant | Typical Industrial Sources of Pollutant Types (Motor Vehicles Excluded) | Problems Caused by Pollutant |
|---|---|---|
| CO | • Boilers<br>• Engines (e.g., generators)<br>• Tactical support equipment (TSE)* | • Restricts the body's ability to carry oxygen to the body's tissues. |
| $NO_X$ | • Boilers<br>• Engines (e.g., generators)<br>• TSE* | • Contributes to $O_3$ (smog) formation, which causes respiratory problems.<br>• Damages the cell's lining, the respiratory tract, and increases susceptibility to infection. |
| PM | • Boilers<br>• Engines (e.g., generators)<br>• TSE* | • Increases the number and severity of asthma attacks.<br>• Causes or aggravates bronchitis and other lung diseases. |
| Oxides of sulfur | • Boilers<br>• Engines (e.g., generators)<br>• TSE* | • Increases the number and severity of asthma attacks.<br>• Long-term exposure causes respiratory illness and aggravates existing heart disease.. |
| VOCs | • Boilers<br>• Coating operations<br>• Engines (e.g., generators)<br>• Fuel loading, storage, and dispensing<br>• Solvent cleaning and degreasing<br>• TSE* | • Contribute to $O_3$ (smog) formation, which causes respiratory problems.<br>• Cause adverse health effects ranging from minor eye or throat irritation, shortness of breath, or headaches to cancer, birth defects, or damage to internal organs. |

* TSE is defined by the California Air Resources Board as "equipment using a portable engine, including turbines, that meets military specifications, owned by the U.S. Department of Defense, the U.S. military services, or its allies, and used in combat, combat support, combat service support, tactical or relief operations, or training for such operations. Examples include, but are not limited to, internal combustion engines associated with portable generators, aircraft start carts, heaters and lighting carts" (Article 5 and Sections 2450-2566, Title 13, California Code of Regulations).

Toxic or hazardous air pollutants (HAPs) are specific compounds for which some may or may not have an ambient air quality standard established, but which are known to cause an adverse health affect. Some toxic metals are also $PM_{10}$, and some toxic organic compounds are also volatile organic hazardous air pollutants (VOHAPs). VOHAPs include any compound of carbon, excluding metallic carbides and carbonates, listed in Section 112(b) of the Clean Air Act (CAA). Some examples of HAPs and VOHAPs are toluene, benzene, methylene chloride, and glycol ethers.

The U.S. Environmental Protection Agency (EPA) lists 187 Title III air toxics or HAPs. Toxic air pollutants and VOHAPs are regulated by National Emission Standards for Hazardous Air Pollutants (NESHAPs) and are subject to Maximum Achievable Control Technology (MACT) standards.

California Assembly Bill (AB) 2588, Air Toxic Hot Spots Program, currently identifies over 500 air toxics subject to the Program. The Program only requires reporting (at certain levels) of toxics. A comprehensive Health Risk Assessment (HRA) was conducted on September 2008 which determined MCAS Miramar does not have any Air Toxic Hot Spots within the station. The finding was concurred by the California Office of Environmental Health Hazard Assessment and SDAPCD.

## 2.2 AIR QUALITY IN SAN DIEGO, CALIFORNIA

The EPA has the authority to formally designate areas as attainment, maintenance or nonattainment. The EPA uses the National Ambient Air Quality Standards (NAAQS) to evaluate an area's attainment status. If the level of a pollutant is below the NAAQS, the area will be designated attainment for that pollutant. However, if the pollution limits are exceeded for several consecutive years, the EPA will designate an area as nonattainment. The area will subsequently be subject to more stringent regulatory requirements. The attainment status for an area is listed in the Code of Federal Regulations (CFR) at 40 CFR 81, Subpart C.

MCAS Miramar is located in San Diego County, which is designated as a nonattainment area for the federal eight-hour $O_3$ standard. San Diego County is in attainment with the other NAAQS. For the state ambient air quality standards, San Diego County is a nonattainment area for $PM_{10}$, $PM_{2.5}$, and $O_3$. Further discussion of the national and state ambient air quality standards is provided in Section 3.0.

Local implementation and enforcement of air quality regulations for stationary (i.e., non-mobile) sources are responsibilities of the San Diego Air Pollution Control District (SDAPCD). SDAPCD's Regulations I through XV specify permitting requirements, fees, prohibitions, agricultural burning, fugitive dust control, and other requirements that govern and aim to reduce emissions from various source types.

Copies of the SDAPCD Rules may be obtained online by accessing:
http://www.sdapcd.org/rules/current_rules.html

The 2012 annual average emissions [1] by stationary source category for the SDAPCD are presented in Table 2-2. As shown, reactive organic gases (ROGs) and total organic gases (TOGs) are the highest emitted pollutants in the SDAPCD from stationary sources. The major contributor to TOGs emissions is waste disposal, such as Class II and III landfills from municipal solid waste facilities, which contributes 75% of the total stationary TOG emissions. The major contributor to ROGs emissions is cleaning and surface coatings, such as auto refinishing and other coating operations, which contributes 52% of the total stationary ROG emissions.

**Table 2-2. 2012 SDAPCD Annual Average Emissions by Stationary Source Category, Tons per Year**

| Source Category Name | TOGs | ROGs | CO | $NO_X$ | $SO_X$ | PM | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|---|---|
| Fuel Combustion | 2.86 | 1.01 | 13.51 | 4.30 | 0.26 | 1.20 | 1.05 | 1.18 |
| Waste Disposal | 280.76 | 2.24 | 0.10 | 0.15 | 0.02 | 1.79 | 0.52 | 0.17 |
| Cleaning and Surface Coatings | 17.54 | 15.47 | - | - | - | - | - | - |
| Petroleum Production and Marketing | 67.70 | 8.88 | 0.01 | 0.01 | - | - | - | - |
| Industrial Processes | 3.15 | 2.36 | 0.30 | 0.20 | 0.02 | 8.35 | 4.45 | 1.19 |
| **Total Stationary Sources** | **372.01** | **29.96** | **13.92** | **4.66** | **0.30** | **11.34** | **6.01** | **2.54** |

$SO_X$: Oxides of Sulfur

Source: California Air Resources Board, 2012

## 3.0 OVERVIEW OF AIR QUALITY REGULATIONS

In California, air pollutant emissions are regulated at the federal, state, and local levels. Federal air quality requirements are based primarily on the CAA. Implementing regulations for these laws are codified in the CFR. State requirements are most recently based on the California CAA and are specified in the California Health and Safety Code (H&SC) and the California Administrative Code. Local requirements are primarily based on the federal and state directives to attain the corresponding national and state ambient air quality standards and, in San Diego, are implemented through SDAPCD's Rules and Regulations.

Federal and state requirements are the responsibility of the EPA and the California Air Resources Board (CARB), respectively. Compliance with all three levels of requirements would be far more difficult if it were not for the fact that many of EPA's and CARB's responsibilities are delegated to the SDAPCD. Therefore, compliance with the SDAPCD's Rules and Regulations, referenced in the following sections, satisfies the bulk of MCAS Miramar's air pollution control responsibilities.

The CAA is the federal law that regulates emissions of pollutants. The explicit purpose of the CAA is to protect and enhance the quality of the Nation's air resources so as to protect the public health and welfare. Under the CAA, the EPA is responsible for the following:

- Establishing NAAQS.
- Determining areas of the country with air quality that does not meet those standards (i.e., areas that are in nonattainment).
- Overseeing the states in their effort to develop and execute State Implementation Plans (SIPs) to improve air quality in nonattainment areas.

The CAA was first adopted in 1963 and later revised in 1970, 1977, and more recently in 1990. The CAA Amendments of 1990 (CAAA) were promulgated on 15 November 1990. These amendments were a major overhaul of the CAA program, providing market-based systems for compliance and provisions to enforce deadlines. The CAAA provide the framework for current air quality compliance activities.

Perhaps one of the most significant changes in these amendments was the shift away from health-based standards toward technology-based standards. This means instead of determining health risk and developing a standard based on the risk, the CAAA regulate emissions from targeted source categories (e.g., aerospace operations, chrome plating, halogenated cold solvent cleaning operations, etc.). Other significant changes introduced into the CAAA include:

- Mobile source provision strengthened by introducing more stringent emission limits, use of reformulated gasoline, and alternative fuels.
- Nonattainment severity categories established for NAAQS.

- Expansion of the regulation of HAPs.
- Control of acid rain precursors using a market-based approach.
- Protection of stratospheric $O_3$,
- Air quality operating permits (Title V permits) required for all major sources.

The CAAA are comprised of 11 titles. Seven of the titles that have the potential to affect MCAS Miramar activities are summarized below.

## 3.1 TITLE I: ATTAINMENT AND MAINTENANCE OF THE CLEAN AIR STANDARD

The EPA sets NAAQS for pollutants considered to be detrimental to the public health and the environment. The CAAA established two types of NAAQS:

- Primary standards for the protection of public health within an adequate margin of safety, including "sensitive" populations such as asthmatics, children, and the elderly.
- Secondary standards for the protection of public welfare from any known or anticipated adverse effects such as decreased visibility, and damage to wildlife, crops, vegetation, and buildings.

The EPA Office of Air Quality Planning and Standards has established NAAQS for six major pollutants called "criteria pollutants." These pollutants can injure health, harm the environment, and cause property damage. EPA has regulated them by first developing health-based criteria (i.e., science-based guidelines) as the basis for setting permissible levels. One set of limits (i.e., primary standard) protects health; another set of limits (i.e., secondary standard) is intended to prevent environmental and property damage. These criteria pollutants are: CO, $NO_X$, ground-level $O_3$, lead (Pb), sulfur dioxide ($SO_2$), and PM. CARB has also set ambient air pollution standards for the six major pollutants as well as for: visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. Table 3-1[1] presents the revised air quality standards for these criteria pollutants, including the new standards for $O_3$ and $PM_{2.5}$ as of 4 June 2014.

[1] http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

**Table 3-1. State and National Ambient Air Quality Standards**

| Pollutant | Averaging Time | California Standards | | National Standards | | |
|---|---|---|---|---|---|---|
| | | Concentration | Method | Primary | Secondary | Method |
| $O_3$[1] | 1 Hour | 0.09 ppm (180 µg/m$^3$) | Ultraviolet Photometry | --- | Same as Primary Standard | Ultraviolet Photometry |
| | 8 Hour | 0.070 ppm (137 µg/m$^3$) | | 0.075 ppm (147 µg/m$^3$) | | |
| $PM_{10}$[2] | 24 Hour | 50 µg/m$^3$ | Gravimetric or Beta Attenuation | 150 µg/m$^3$ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 20 µg/m$^3$ | | --- | | |
| $PM_{2.5}$ | 24 Hour | No Separate State Standard | | 35 µg/m$^3$ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 12 µg/m$^3$ | Gravimetric or Beta Attenuation | 12.0 µg/m$^3$ | 15.0 µg/m$^3$ | |
| CO | 8 Hour | 9.0 ppm (10 mg/m$^3$) | Non-Dispersive Infrared Photometry (NDIR) | 9 ppm (10 mg/m$^3$) | None | NDIR |
| | 1 Hour | 20 ppm (23 mg/m$^3$) | | 35 ppm (40 mg/m$^3$) | | |
| $NO_2$ | Annual Arithmetic Mean | 0.030 ppm (57 µg/m$^3$) | Gas Phase Chemi-luminescence | 0.053 ppm (100 µg/m$^3$) | Same as Primary Standard | Gas Phase Chemiluminescence |
| | 1 Hour | 0.18 ppm (339 µg/m$^3$) | | 0.100 ppm (188 µg/m$^3$) | None | |
| $SO_2$ | 24 Hour | 0.04 ppm (105 µg/m$^3$) | Ultraviolet Fluorescence | — | — | Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method) |
| | 3 Hour | — | | — | 0.5 ppm (1300 µg/m$^3$) | |
| | 1 Hour | 0.25 ppm (655 µg/m$^3$) | | 0.075 ppm (196 µg/m$^3$) | — | |
| Pb | 30 Day Average | 1.5 µg/m$^3$ | Atomic Absorption | — | — | — |
| | Calendar Quarter | — | | 1.5 µg/m$^3$ | Same as Primary Standard | High Volume Sampler and Atomic Absorption |
| | Rolling 3-Month Average | — | | 0.15 µg/m$^3$ | | |
| Visibility Reducing Particles | 8 Hour | Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape. | | No Federal Standards | | |
| Sulfates | 24 Hour | 25 µg/m$^3$ | Ion Chromatography | | | |
| Hydrogen Sulfide | 1 Hour | 0.03 ppm (42 µg/m$^3$) | Ultraviolet Fluorescence | | | |

**Table 3-1. State and National Ambient Air Quality Standards**

| Pollutant | Averaging Time | California Standards | | National Standards | | |
|---|---|---|---|---|---|---|
| | | Concentration | Method | Primary | Secondary | Method |
| Vinyl Chloride | 24 Hour | 0.01 ppm (26 µg/m$^3$) | Gas Chromatography | | | |

µg/m$^3$ – micrograms per cubic meter
mg/m$^3$ – milligrams per cubic meter
NDIR – Non-Dispersive Infrared Photometry
$NO_2$ – nitrogen dioxide
ppm – parts per million

(1) As of 15 June 2005, EPA revoked the 1-hour $O_3$ standard in all areas except the fourteen 8-hour $O_3$ nonattainment Early Action Compact areas.
(2) Due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution, the agency revoked the annual $PM_{10}$ standard in 2006 (effective 17 December 2006).

The EPA has the authority to formally designate areas as attainment or nonattainment. The EPA uses the NAAQS to evaluate an area's attainment status. If the level of a pollutant is below the NAAQS, the area will be designated attainment for that pollutant. However, if the pollution limits are exceeded for several consecutive years, the EPA will designate an area as nonattainment. The area will subsequently be subject to more stringent regulatory requirements. The attainment status for an area is listed at 40 CFR 81, Subpart C.

The CAAA differ from the 1977 Amendments by establishing new nonattainment requirements for three air pollutants common in cities: ground-level $O_3$, CO, and $PM_{10}$. For ground-level $O_3$, nonattainment areas are categorized into groups of increasing severity designated as *marginal, moderate, serious, severe, and extreme*. As the severity of the ground-level $O_3$ pollution increases, so do the compliance requirements. Areas designated as marginal, the least severe nonattainment group, must implement a permit program and conduct an inventory of $O_3$-producing emissions. The more severe classifications must also implement control measures. Control measures must be implemented to reduce emissions of two pollutants (i.e., $NO_X$ and VOCs) known to be precursors to ground-level $O_3$.

For areas that exceed the CO and $PM_{10}$ standards, the two nonattainment classifications are moderate and serious. The corrective measures required are dependent on the severity of pollution and include the use of oxygenated fuels and/or enhanced emission inspection programs for CO, and implementation of reasonably available control technology measures or best available control technology (BACT) measures for $PM_{10}$.

## 3.2 TITLE II: PROVISIONS RELATING TO MOBILE SOURCES

Title II of the CAAA establishes tighter emission standards for mobile sources. Title II mandates emission reductions from motor vehicles and requires the use of "cleaner" fuel blends in an attempt to reduce the emissions of HC, CO, PM, and $NO_X$.

## 3.3 TITLE III: AIR TOXICS

Title III of the CAAA establishes a technology-based regulation of source categories. Also known as NESHAPs, Title III addresses the emissions of 187 HAPs, which must be reduced due to their risk to human health. The EPA is required to develop and promulgate MACT standards. The EPA has promulgated several MACT standards that directly impact military installations (e.g., aerospace and reciprocating internal combustion engines [RICE]). Future MACT standards may also impact military installations, such as the Defense Land Systems and Miscellaneous Equipment. The minimal control required by MACT is defined as the MACT floor. For new sources, the MACT must be as stringent as the best controlled similar source. The MACT for existing sources is based on the control efficiency of the best performing 12% of similar sources. Since MCAS Miramar is currently not a major source of HAPs, NESHAPs do not apply.

## 3.4 TITLE IV: ACID DEPOSITION CONTROL

Title IV of the CAAA targets power-generating utilities, as they are major producers of $SO_2$ and $NO_x$ emissions that are significant components in the production of acid rain. Emission reduction deadlines are established and affected sources are required to install continuous emissions monitoring systems to assure compliance. Generally, Title IV is not applicable to Navy and Marine Corps activities because these activities are not engaged in power production for commercial sale.

## 3.5 TITLE V: OPERATING PERMIT PROGRAM

The Title V operating permit program aims to streamline both compliance and enforcement of all applicable federal and state air pollution control requirements. Facilities that are major sources must apply for and receive a Title V operating permit. Permits are issued for a fixed term of up to five years and require an application fee.

San Diego is classified as a Federal Marginal Ozone Non-attainment Area and will be considered a major stationary source if any emission unit or stationary source that has or will have the potential to emit one or more air contaminants, including fugitive emissions, in amounts equal to or greater than any of the thresholds list in Table 3-2. Clarifications of requirements are provided in SDAPCD Rule 20.1 in Appendix A.

**Table 3-2. SDAPCD Major Stationary Source Thresholds**

| Air Contaminant | Emission Thresholds (ton/year) |
|---|---|
| Particulate Matter ($PM_{10}$) | 100 |
| Oxides of Nitrogen ($NO_x$) | 100 |
| Volatile Organic Compounds (VOC) | 100 |
| Oxides of Sulfur ($SO_x$) | 100 |
| Carbon Monoxide (CO) | 100 |
| Lead (Pb) | 100 |

Source: SDAPCD Rule 20.1

## 3.6 TITLE VI: STRATOSPHERIC OZONE PROTECTION

The CAAA have developed a market-based system, based on the existing *Montreal Protocol on Substances that Deplete the Ozone Layer*, which will phase out the production and importation of ozone-depleting substances (ODSs). The production and import of Class I ODSs (i.e., chlorofluorocarbons [CFCs], halons, and carbon tetrachloride) ceased on 31 December 1995. The production and import of all Class II ODSs (i.e., hydrochlorofluorocarbons [HCFCs]) shall cease by 2030, although there are earlier deadlines for specific chemicals (e.g., HCFC-22, a popular substitute for CFC-12 in many refrigeration and cooling systems, shall be ceased by 2010, however will still be used in equipment manufactured before 1 January 2010). It is important to note that the use of these substances does not have to halt when production and import allowances have ceased.

## 3.7 TITLE VII: ENFORCEMENT

Title VII provides the EPA with the authority to issue civil and criminal penalties. Criminal penalties can now result in the imposition of up to a $250,000 fine for an individual, and up to $500,000 fine for an organization. Civil penalties are stricter, and the criminal penalty for knowingly violating the CAAA may be considered a felony. This title also gives the EPA the power to subpoena compliance data and authorize the issuance of compliance order schedules for up to a year.

## 3.8 FEDERAL, STATE, AND LOCAL REGULATORY AGENCIES

The United States Congress passes laws related to environmental protection. The EPA is the part of the federal government responsible for developing and promulgating regulations that are consistent with federal law. For example, Congress passed the CAAA in 1990. The CAAA does not specify how clean air must be attained. That responsibility fell to the EPA to research and develop regulations to meet the requirements of the law. The resulting rules that ultimately govern emissions are written and promulgated by the EPA.

State and local regulatory agencies also promulgate their own rules. For these rules to be consistent with the federal rules, the state/local agencies must submit their final rules to the EPA for approval. If approved, the rules become part of the SIP. The SIPs are developed to ensure that the region's air quality meets (or will meet) levels designed to protect human health and welfare. For rules to be adopted into the SIP, they must be at least as stringent as the federal version or must meet the objective of the federal rule. The EPA evaluates the rules to ensure they are consistent with either maintaining or improving air quality in the area of jurisdiction of the regulatory agency. The requirements that become part of the SIP are considered federally enforceable (i.e., both the state/local agency and the EPA can perform inspections to check for compliance). Section 6.0 contains summaries of air quality regulatory requirements for MCAS Miramar.

In general, if the local regulatory agency has been granted authority by the EPA to administer federally promulgated regulations (e.g., Title V, New Source Review [NSR], etc.), then they will be the main contact regarding air quality regulations. The EPA can elect to perform compliance

inspections in addition to those carried out by the state/local regulatory agency. The EPA also reviews major source permits (i.e., Title V and NSR permits).

# 4.0 MCAS MIRAMAR AIR QUALITY REGULATORY FRAMEWORK

## 4.1 FACILITY DESCRIPTION

MCAS Miramar is located in San Diego County, California, approximately 13 miles north of the City of San Diego. It is bordered by the communities of Mira Mesa and Scripps Ranch on the north, University City and Clairemont to the west, Kearny Mesa and Tierrasanta on the south, and unincorporated areas to the east. The location can be characterized as relatively flat terrain with areas of sloping and complex terrain rising to the east. Figure 4-1 shows the location of MCAS Miramar.

The mission of MCAS Miramar is to support the military aviation training and maintenance operations for the F/A-18, KC-130, CH-46, and CH-53 aircraft, also to include the MV-22 and F-35 in the near future. One of the main functions of MCAS Miramar is to provide squadrons and tenant activities with the necessary resources and support to carry out this mission. The equipment and processes using hazardous materials that are used in maintenance and training operations emit air contaminants, which are regulated by federal, state and local, and Marine Corps environmental regulations and policies.

## 4.2 FUNCTIONAL GROUPS

Military installations are intrinsically different from traditional industrial facilities, which are the focus of most environmental regulations. For example, an industrial facility does not house employees at the facility and, therefore, does not have to account for emissions generated by on-Base housing and associated amenities. Military installations also encompass a large number of quasi-separate industrial entities. In light of the complexities involved with aggregating and categorizing emissions for major source determinations at military installations, the EPA released a guidance memorandum on 2 August 1996, entitled "Major Source Determinations for Military Installations under the Air Toxics, New Source Review, and Title V Operating Permit Programs of the Clean Air Act." This memorandum allowed military facilities to make applicability determinations based on grouping emission units by the Standard Industrial Classification[2] (SIC) code.

In response to this memorandum, the SDAPCD sent a letter to the EPA stating that instead of specifically grouping emissions by SIC codes, it would allow for the military installations to be divided into multiple stationary sources, based on their "common functional area." The EPA deemed the proposed groupings acceptable based on the 2 August 1996 memorandum and was approved in a letter to SDAPCD on 12 March 1997. It also allows for division of the installation according to "common control" by different military services within the Department of Defense (DoD). Examples of facilities in the western United States that have been divided into separate stationary sources include:

- MCAS Yuma

[2] The North American Industry Classification System (NAICS) was developed to replace the Standard Industrial Classification (SIC) codes. However for the purpose of updating the AQMP, the SIC codes are utilized..

- Marine Corps Base (MCB) Camp Pendleton
- Naval Air Station North Island
- Naval Station San Diego
- Elmendorf Air Force Base (AFB)
- Naval Air Weapons Station China Lake
- Vandenberg AFB
- MCLB Barstow

**Figure 4-1. Location of MCAS Miramar**


MCAGCC 29 Palms – Marine Corps Air Ground Combat Center 29 Palms
NALF San Clemente Island – Naval Auxiliary Landing Field San Clemente Island

MCAS Miramar and SDAPCD have agreed to follow the guidelines in the EPA memorandum for the purpose of NSR and Title V permitting. As such, MCAS Miramar is divided into eight stationary sources (i.e., functional groups) based on function of the group. The functional groups are as follows (including SDAPCD facility identification number):

- MCAS Miramar (4824A).
- U.S. Navy (USN) Naval Consolidated Brig (NAVCONBRIG) Miramar (4824B).
- MCAS Miramar – Naval Facilities Engineering Command (NAVFAC) Southwest Public Works (4824C).
- MCAS Miramar Third Marine Aircraft Wing (3rd MAW) (4824D).
- U.S. Marine Corps (USMC) Air Station Miramar Marine Corps Community Services (MCCS) (4824E).
- Federal Aviation Administration (FAA) Miramar (4824F).
- USMC Air Station Miramar MCAS (4824G).
- Commander Navy Region Southwest (NRSW) (4824H).

A brief description of each functional group and the emission sources within the group is provided below.

### 4.2.1 MCAS Miramar (4824A)

As the host function, MCAS Miramar Land Management is responsible for all buildings, structures, and land at the air station, including operating and maintaining the facilities and grounds. MCAS Miramar operates boilers, emergency standby engines (e.g., electrical generators, fire pumps), and arresting gear engines throughout the Base. The Fuels Division operates gasoline dispensing and storage operations as well as loading racks.

### 4.2.2 USN NAVCONBRIG Miramar (4824B)

The NAVCONBRIG houses inmates from all four military services and the Coast Guard from all installations in San Diego County in addition to several other installations within the Pacific Region. Sources operated at the NAVCONBRIG under this functional group include one emergency generator and one wood coating station.

### 4.2.3 MCAS Miramar – NAVFAC Southwest Public Works (4824C)

Currently, there are no emission sources in this functional group. NAVFAC Southwest Public Works provides services to the air station, such as maintenance of boilers, emergency generators,

and facility mechanical and electrical systems and many other facility maintenance-related functions.

### 4.2.4 MCAS Miramar 3rd MAW (4824D)

The 3rd MAW is a major activity of the air station and the Marine Corps. 3rd MAW oversees pilot and flight training activities, including aircraft (and related equipment) maintenance and support activities to provide combat ready expeditionary aviation forces capable of short notice world wide deployment to Marine Air Ground (MAG) Task Force, fleet, and unified commanders. Emission sources include aerospace/automotive/metal parts coating operations and paint booths; abrasive blast operations, aircraft engine test cells/stands; and solvent cleaning operations including parts washers, paint strip tanks, and metal inspection tank.

### 4.2.5 USMC Air Station Miramar MCCS (4824E)

The MCCS provides personal and recreational services for the military, their dependents, and civilian employees. MCCS operates two retail gasoline dispensing facilities (GDFs), one non-retail GDF for golf course maintenance/landscape equipment, and an aerospace coating application station for the Aerospace Museum. The MCCS Automotive Service Center, a retail vehicle repair facility, and the Auto Hobby Shop, a "do-it-yourself" automotive repair facility, are included under MCCS.

### 4.2.6 FAA Miramar (4824F)

The FAA is responsible for managing air traffic control over Southern California. The FAA maintains one emergency electrical generator to provide emergency power for their radar system and equipment in the event of a power failure. The radar is located within the area of MCAS Miramar's golf course.

### 4.2.7 USMC Air Station Miramar MCAS (4824G)

Currently, there are no emission sources in this functional group. This functional group's activities include site restoration and remediation activities. When in operation, emission sources include equipment and operations related to the remediation activity, such as treatment systems, electrical generators, etc.

### 4.2.8 Commander NRSW (4824H)

Commander NRSW owns and operates a natural gas-fired (with diesel backup) boiler located at the NAVCONBRIG.

### 4.2.9 Navy Medical Center San Diego (NMCSD) (10485A)

The NMCSD operates a Branch Medical Clinic (BMC) aboard MCAS Miramar providing full service to active duty and their families. The BMC is equipped with an emergency generator to provide backup power in the event of power failure to maintain full operation of the clinic. The NMCSD owns and administers the ID and permit for this facility.

## 4.3 UPDATED NAMING CONVENTION

Recently, SDAPCD updated the naming convention for the eight functional groups. New group names were assigned based on the year of the permit and the permit number. The following list displays the functional groups with their corresponding new names.

- 4824A: APCD1980-SITE-02768
- 4824B: APCD1988-SITE-02769
- 4824C: APCD1992-SITE-02770
- 4824D: APCD1996-SITE-02771
- 4824E: APCD1997-SITE-02772
- 4824F: APCD1998-SITE-02773
- 4824G: APCD1998-SITE-02774
- 4824H: APCD1988-SITE-02775

**Table 4-1. Unit Types Associated with Each Facility ID**

| Facility ID | SDAPCD Corresponding Facility Name | Functional Group Name | Unit Types Associated with each Facility ID |
|---|---|---|---|
| 4824A | APCD1980-SITE-02768 | MCAS Miramar | ICE |
| | | | BOIL |
| | | | GAS |
| 4824B | APCD1988-SITE-02769 | USN NAVCONBRIG Miramar | ICE |
| | | | BLAST |
| | | | COAT |
| 4824C | APCD1992-SITE-02770 | MCAS Miramar – NAVFAC Southwest Public Works | NONE |
| 4824D | APCD1996-SITE-02771 | MCAS Miramar 3rd MAW | TURB |
| | | | BLAST |
| | | | COAT |
| | | | DEG |
| 4824E | APCD1997-SITE-02772 | USMC Air Station Miramar MCCS | GAS |
| | | | DEG |
| | | | COAT |
| | | | ICE |
| 4824F | APCD1998-SITE-02773 | FAA Miramar | ICE |
| 4824G | APCD1998-SITE-02774 | USMC Air Station Miramar MCAS | NONE |
| 4824H | APCD1988-SITE-02775 | Commander NRSW | BOIL |

# 5.0 AIR PROGRAM GOALS, POLICIES, AND RESPONSIBILITIES

This section presents MCAS Miramar's Air Program management goals and policies. MCAS Miramar Station Order 5090.4A, Environmental Compliance Program Standard Operating Procedures designates this Air Quality Management Plan as the primary implementing guideline for Chapter 6 of MCO P5090.2A, Environmental Compliance and Protection Manual. Table 5-1 summarizes the roles and responsibilities of the Air Program personnel at MCAS Miramar.

## 5.1 AIR PROGRAM MANAGEMENT GOALS

MCAS Miramar's Air Program management goals are to:

- Support MCAS Miramar in fulfilling its military mission while minimizing impact to the environment by implementing an air quality management program utilizing hazardous material/waste minimization programs and the necessary pollution control technologies.
- Maintain compliance with federal, state, local, and Marine Corps environmental regulations and policies by keeping abreast of rules and regulations and proactively participating in SDAPCD Rule development process.
- Educate military and civilian personnel on environmental requirements relating to air quality management and raise the level of awareness of environmental compliance and issues.

## 5.2 AIR PROGRAM POLICIES

MCAS Miramar's Air Program policies are as follows:

- The Commanding Officer of MCAS Miramar is responsible for all aspects of environmental compliance. The roles and responsibilities of environmental compliance of all commands will be in accordance with the station order.
- Prior to operating new equipment or modifying existing equipment/processes that emit air contaminants, all commands must notify the Environmental Management Department (EMD) to obtain the necessary permit, if required.
- All construction and demolition projects must be reviewed by the EMD to ensure compliance with the National Environmental Policy Act and air quality statutes.
- All command personnel responsible for environmental compliance shall receive adequate training to ensure basic understanding of MCAS Miramar's environmental policies. At a minimum, personnel must have a general awareness of these policies relating to air quality management.

**Table 5-1. Air Program Responsibilities**

| MCAS Miramar Job Title | Responsibilities |
|---|---|
| Commanding Officer, MCAS Miramar | • Ensure compliance with all federal, state, local, and Marine Corps air quality regulations and policies applicable to MCAS Miramar. |
| Environmental Management Department | • Ensure air quality management program receives command support to implement policies of the AQMP.<br>• Provide guidance and technical expertise to facilitate the implementation of the air quality management program.<br>• Identify and complete environmental compliance projects to maintain air quality compliance.<br>• Ensure all air quality management personnel are trained and provide air quality training to MCAS Miramar and tenant commands as needed.<br>• Prepare and review annual emission inventory reports and other necessary compliance documentation, reports, or data calls as required by regulatory agencies and Headquarters Navy and Marine Corps.<br>• Prepare and submit air permit applications and supplemental information to SDAPCD for new or modified sources under MCAS Miramar's jurisdiction per SDAPCD Rules and Regulations.<br>• Review proposed air quality regulations, provide comments to the Regional Environmental Coordinator (REC) on proposed regulations, and attend SDAPCD Rule development workshops, when necessary, to help develop regulations that benefit the environment, while minimizing negative impact to Base operations.<br>• Represent MCAS Miramar and tenant commands at variance hearings, rule development workshops, and all air quality meetings and negotiations.<br>• Review and approve hazardous material usage requests and update MCAS Miramar aerospace coating list to ensure that all command personnel are using compliant materials.<br>• Maintain permits and update permit requirements, when necessary, to ensure that permitted sources are operating in compliance with environmental rules and regulations.<br>• Investigate, evaluate, and recommend necessary air pollution abatement equipment.<br>• Conduct internal air quality audits to maintain compliance and prepare facilities for regulatory inspections.<br>• Maintain routine liaison with Marine Corps REC, EPA, CARB, and SDAPCD with regard to rule interpretation and problem resolutions.<br>• Ensure chain of command is notified of all Enforcement Actions per MCO P5090.2A.<br>• Develop and maintain an MCAS Miramar CFC database for shore installation air conditioning, refrigeration, and non-mission critical fire protection systems. |
| Commanding Officer, NAVFAC Southwest Public Works | • Ensure that all NAVFAC Southwest operations, equipment, processes, and materials on board MCAS Miramar comply with SDAPCD Rules and Regulations.<br>• Identify non-compliant air emission sources, if any, and bring sources into compliance.<br>• Notify MCAS Miramar Commanding Officer of any non-compliance issues.<br>• Provide environmental training to maintenance personnel using hazardous materials, equipment, and processes, which are regulated by SDAPCD.<br>• Maintain and renew air permits for NAVFAC Southwest Public Works sources and submit permit applications and supplemental information for new or modified sources to SDAPCD.<br>• Provide all necessary compliance information to the EMD for any new or modified NAVFAC Southwest Public Works sources prior to the operation of these new or modified sources on board MCAS Miramar.<br>• Maintain operational logs for the station's Public Works Department (PWD) for emergency standby engines maintained by NAVFAC Southwest Public Works and submit run-time data to PWD (for subsequent submission to EMD) upon request. |

**Table 5-1. Air Program Responsibilities**

| MCAS Miramar Job Title | Responsibilities |
|---|---|
| Commanding Officer, NAVFAC Southwest Public Works San Diego (continued) | • Ensure that all NAVFAC Southwest fleet vehicles and NAVFAC Southwest contractor vehicles operating on board MCAS Miramar are in compliance with California Inspection/Maintenance Program.<br>• Be responsible for paying fines and notifying appropriate chain of command for all enforcement actions issued to NAVFAC Southwest.<br>• Maintain operational logs for all permitted equipment and processes owned and maintained by NAVFAC Southwest and submit to EMD upon request. |
| Fleet and Industrial Supply Center (FISC), Hazardous Material Minimization Center (HAZMINCEN) | • Maintain usage records and inventories of all hazardous materials throughout the station to be submitted upon request to the EMD.<br>• Ensure that all FISC personnel and contractors working with hazardous materials are appropriately trained in air quality requirements.<br>• Ensure that only hazardous materials authorized by EMD are issued to the customers.<br>• Manage the aerosol can puncture/recycling operation and maintain records to ensure that the number of aerosol cans being punctured does not exceed 500 cans per day in compliance with air quality and hazardous waste regulations.<br>• Manage the hazardous materials reutilization program in a manner compliant with applicable federal, state, and local regulations. |
| Commanding Officers, Officers-in-Charge and Heads of Offices of Tenant Commands and Activities | • Each command or activity that operates permitted equipment, processes, or materials regulated by SDAPCD will designate two Environmental Coordinators (a primary and alternate) to be responsible for proper use of hazardous materials and equipment that emit air pollutants.<br>• Comply with paint facility and equipment permit conditions and applicable SDAPCD Rules and Regulations.<br>• Obtain proper material authorization from the EMD prior to the use of new material on board MCAS Miramar.<br>• Ensure maintenance equipment, processes, and materials comply with EPA, CARB, SDAPCD, and Marine Corps environmental regulations and policies.<br>• Maintain monthly paint, adhesive, solvent, and regulated material usage/throughput records and submit monthly total end-of-year usage/throughput records to the EMD.<br>• Assist the SDAPCD inspector during annual/quarterly inspections and provide the inspector with the necessary information to determine compliance upon request by the inspector or EMD.<br>• Report changes in SDAPCD permitted operations or equipment to the EMD. Changes include but are not limited to: the type or amount of materials used in the equipment; type, model number, or serial number of the equipment; and location of the equipment.<br>• Report any air quality deficiencies to the EMD and ensure that SDAPCD air permits are posted next to or within twenty-five (25) feet of the permitted equipment or are readily available.<br>• Pay for fines and penalties associated with Notices of Violation (NOVs). |
| MCAS Miramar Fire Department | • Ensure that Halon 1211 and 1301 are only used for mission critical crash, fire, and rescue operations on board MCAS Miramar.<br>• Issue burn permits for all vegetation control burns and crash, fire, and rescue training.<br>• Ensure burn activities comply with all applicable SDAPCD Rule and Regulations. |
| Resident Officer-in-Charge of Construction (ROICC), MCAS Miramar | • Notify the EMD of any equipment and/or operations additions/deletions that would necessitate obtaining an SDAPCD permit. The EMD will provide assistance to obtain necessary permits.<br>• Ensure that all contractors and subcontractors comply with SDAPCD Regulations and possess the proper permits.<br>• Notify the SDAPCD and obtain the proper permits for construction and/or demolition projects involving asbestos or lead-containing material. |

**Table 5-1. Air Program Responsibilities**

| MCAS Miramar Job Title | Responsibilities |
|---|---|
| Shop Operators | • Read and follow permit conditions.<br>• Communicate with the EMD regarding unclear issues or questions.<br>• Report non-compliance to EMD.<br>• Attend air quality training, as needed.<br>• Assist the SDAPCD inspector during annual/quarterly inspections and provide the inspector with necessary information to determine compliance upon request by the inspector or EMD.<br>• Read and follow instructions contained in this AQMP. |
| S-4 Installation & Logistics | • Ensure that all S-4 operations, equipment, processes, and materials on board MCAS Miramar comply with SDAPCD Rules and Regulations.<br>• Identify non-compliant air emission sources, if any, and bring sources into compliance.<br>• Notify MCAS Miramar Commanding Officer of any non-compliance issues.<br>• Provide environmental training to maintenance personnel and contractors using hazardous materials, equipment, and processes, which are regulated by SDAPCD.<br>• Provide all necessary compliance information to the EMD for any new or modified S-4 sources prior to the operation of these new or modified sources on board MCAS Miramar.<br>• Maintain operational logs for the station's PWD for emergency standby engines maintained by S-4 and submit run-time data to PWD (for subsequent submission to EMD) upon request.<br>• Provide proper training and EPA certification for all S-4 maintenance personnel handling AC&R.<br>• Submit ODS annual report to COMNAVSUPSYSCOM (SUP 45) for AC&R systems maintained by S-4.<br>• Ensure that all S-4 fleet vehicles and S-4 contractor vehicles operating on board MCAS Miramar are in compliance with California Inspection/Maintenance Program.<br>• Be responsible for paying fines and notifying appropriate commands via messages for NOVs issued to S-4.<br>• Maintain run time logs for emergency generators maintained by S-4 and submit run-time data to the EMD upon request.<br>• Be responsible for the station's Asbestos program ensuring compliance with the appropriate regulatory agencies and proper training of personnel involved with asbestos handling, including disposal. |

# 6.0 AIR QUALITY REGULATORY REQUIREMENTS

MCAS Miramar is subject to numerous air quality requirements promulgated by SDAPCD. This section provides an overview of the applicable regulatory requirements at MCAS Miramar.

## 6.1 SDAPCD PERMIT TO OPERATE

Any equipment, operation, or process that has the potential to emit (PTE) air contaminants to the environment will require an SDAPCD Permit to Operate, unless it is specifically exempted in SDAPCD Rule 11. Rule 11 is included in Appendix A. Mobile sources (i.e., automobiles, aircraft tow tractors, etc.) do not require permits, as they are regulated separately by CARB and EPA. The tactical support equipment (TSE) assigned to MCAS Miramar, which emits air pollutants during operation, is required to be permitted or registered with SDAPCD, unless the equipment is registered with the state under CARB's Portable Equipment Registration Program (PERP). PERP allows for registering portable internal combustion engines (ICEs) with the State of California in lieu of permitting them through the local Air District. This results in reduced permit fees and exempts the registered equipment from the Title V Federal Permit Program.

Activities intending to operate new air emission sources or modifying existing sources at MCAS Miramar must notify the EMD in writing prior to construction and operation of the source. This pertains to purchase of new equipment or start-up of new operation. The Environmental Engineering Division will initiate the SDAPCD permit application process to obtain an Authority to Construct and, subsequently, a Permit to Operate.

Permits are renewed annually. The EMD pays permit renewal fees for MCAS Miramar (4824A), MCAS Miramar 3rd MAW (4824D), and USMC Air Station Miramar MCCS (4824E). All other commands and tenant activities are required to pay for their own permit renewal fees and provide the EMD with a copy for file and compliance purposes. Electronic copies of all facility SDAPCD Permits to Operate are included in Appendix B.

## 6.2 NEW SOURCE REVIEW –SDAPCD REGULATION 20

NSR applies to all new or modified equipment that is not exempted from SDAPCD permit requirements per Rule 11 and results in an increase in air emissions. The federal and state regulations mandate the SDAPCD to mitigate the impact of new air emissions through air quality impact assessments, control technology requirements, and emission offsets. NSR requirements are implemented through SDAPCD Rules 20.1; NSR consists of three main components. The first component requires the applicant to conduct an Air Quality Impact Analysis of the emission increases if certain hourly or daily emission thresholds are exceeded. Air dispersion modeling is used to assess the impact of new air emissions on ambient air quality.

The second component of NSR requires the facility to conduct a BACT analysis. In SDAPCD, the BACT analysis is triggered when post-project PTE emissions exceed 10 pounds (lbs.) per day (lbs./day). As part of the BACT analysis, potential control technologies are evaluated to determine whether they are technologically and economically feasible for use in controlling emissions from the new or modified source.

The third component of NSR applies to major stationary source facilities, emitting more than 50 tons of $NO_X$ or VOCs per year or more than 100 tons of PM, $SO_X$, CO, or Pb per year (SDAPCD Rule 20.3; "major stationary source" defined in Rule 20.1 – General Provisions). The Lowest Achievable Emission Rate control technology must be implemented for the new or modified source if analysis showed control technology to be technically feasible without regard to economic consideration. Facilities with emissions greater than 25 tons per year (tpy) that propose a major modification (i.e., $NO_x$ or VOC emissions increases greater than 25 tpy) must also provide emission offsets before the permit is issued.

## 6.3 TITLE V-SDAPCD REGULATION 14

The CAAA require that all major sources and some minor sources of air pollution obtain Title V Operating Permits. The Title V permit encompasses all air pollution requirements that apply to the source, including emissions limits and monitoring, recordkeeping, and reporting requirements. Title V also requires that the source periodically report its compliance status with respect to permit conditions to the permitting authority. In SDAPCD, Title V is implemented by Regulation 14 (i.e., Rules 1401 through 1425).

The definition of a major source varies depending on the type of permit involved, the pollutant(s) being emitted, and the attainment designation of the area where the source is located. In general, a source is major if its emissions exceed certain thresholds that are defined in tpy. For example, in an attainment area, any source that emits or has the PTE 100 tpy or more of any criteria air pollutant is a major source and must obtain a Title V Operating Permit.

The purpose of Title V permits is to improve compliance with the applicable air quality requirements and enhance enforcement of the applicable regulations. Title V permits do this by:

- Recording in one document all of the air pollution control requirements that apply to the source. This gives members of the public, regulators, and the source a clear picture of what the facility is required to do to maintain its air pollution under the applicable limits.

- Requiring the source to regularly report on its periodic emissions monitoring to show compliance with applicable emission limits. These reports are public information and can be obtained through the permitting authority.

- Adding monitoring, testing, or recordkeeping requirements (i.e., gap filling), where needed, to assure that the source complies with its emission limits or other pollution control requirements.

- Requiring the source to annually certify compliance to all applicable requirements contained in the Title V permit. These certifications are public information.

- Making the terms of the Title V permit federally enforceable. This means that EPA and the public, as well as the local permitting agency, can enforce the terms of the permit.

The Environmental Compliance and Protection Manual, developed by Headquarters Marine Corps (HQMC), includes a provision for stationary sources and compliance with Title V operating permits, which can be found in paragraph 6104.4a. A HAP major source is defined in paragraph 6104.4b as any stationary source (or group of sources) located within a contiguous area and under common control that emits or may emit 10 tpy or more of any HAP or 25 tpy or more of any combination of HAPs.

As discussed in Section 4.2, MCAS Miramar is divided into eight functional groups. Each of these stationary sources is considered separately for the purposes of Title V determination. None of the eight stationary sources at MCAS Miramar exceeds major source thresholds; thus, Title V is not currently applicable to this facility.

## 6.4 LIMITING POTENTIAL TO EMIT -SDAPCD RULE 60.1

SDAPCD Rule 60.1 provides three methods for limiting a stationary source's PTE to avoid Title V permitting. A facility can demonstrate actual emissions below 50% of all major source thresholds confirmed through specified recordkeeping and emissions reporting. Facilities can also accept alternative operating limits (e.g., limits on millions of cubic feet per year of natural gas or gallons per year of coatings) and maintain annual throughput records and reports. Very low emitting facilities can comply by maintaining records demonstrating that throughput, usage, or emissions are below specified *de minimis* levels (e.g., 5 tpy or less of VOCs). Many small facilities comply through this latter *de minimis* method, in many cases using records already required by existing SDAPCD Rules. Facilities with enforceable permit conditions limiting PTE to less than major source levels are not affected by this rule.

## 6.5 GENERAL CONFORMITY –SDAPCD RULE 1501

Federal conformity requirements are covered in SDAPCD Rule 1501. In summary, conformity states no federal agency shall engage in any action that:

(1) Causes or contributes to new violations of the NAAQS.
(2) Interferes with the provisions in the applicable SIP for maintenance of any NAAQS.
(3) Increases the frequency or severity of an existing violation.
(4) Delays the timely attainment of a standard, interim emission reduction, or milestone.

If an action does not result in any of the above circumstances, it is said to "conform" to the goal of attaining and maintaining the NAAQS. Conformity is determined by totaling all direct and indirect emissions (of the action or project) and comparing the total to specified emission thresholds. If the total emissions are less than the thresholds, then the action or project is said to "conform." Direct and indirect emissions include but are not limited to the increase from stationary and mobile sources such as aircraft, ships, material storage, employee vehicles, construction, and demolition. In general, this Regulation will only impact major actions (i.e., Base Realignment and Closure, etc.), but all federal agencies claiming conformity are required to provide a Record of Non-Applicability. MCAS Miramar must document the conformity applicability determination for any federal action that occurs at the facility.

Commander NRSW and the Marine Corps pursued an effort to project operational growth for the Department of the Navy (DoN) installations in San Diego County and work with SDAPCD to incorporate the emissions associated with the projected growth in San Diego's Ozone Maintenance Plan. The goal was to facilitate demonstrating positive conformity for potential future projects. The result of this effort was the inclusion of a substantial growth allowance for the DoN in the Maintenance Plan, which was approved by EPA in July 2003. Currently the most recent Maintenance Plan was adopted 5 December 2013 and approved by the EPA 5 July 2013.

## 6.6 EMISSION INVENTORY, HEALTH RISK ASSESSMENT, AND PUBLIC NOTIFICATION

SDAPCD Rules and Regulations require facilities with air emissions exceeding certain thresholds to submit criteria emissions data annually. SDAPCD also requires air toxics reporting every four years. California AB 2588 requires certain facilities to develop a HRA based on the facility's reported air toxic emissions. Facilities with health risk levels above notification thresholds are required to notify the affected public of the potential health risks associated with their operations (SDAPCD Rule 1210). MCAS Miramar submitted an HRA in 1997 based on its 1993 air toxics emissions. An update to this HRA was requested by SDAPCD on 25 March 2008 with a due date of 22 August 2008. The updated HRA, based on 2005 air toxics emissions, was approved by the SDAPCD on 29 September 2009. Based on the results of the HRA, MCAS Miramar is no longer required to conduct public notification. To support the emission inventory efforts, MCAS Miramar activities operating SDAPCD air emission equipment must maintain usage, throughput, or operating records and submit the records to EMD upon request.

## 6.7 RECORDKEEPING

Commands and activities operating SDAPCD permitted sources generally are required to maintain usage records and maintain the records on site for a minimum of three (3) years and make them available to SDAPCD.

Records are used by SDAPCD and the EMD to evaluate compliance, satisfy regulatory reporting requirements, and conduct other environmental related studies. Activities operating painting/surface coating or degreasing/solvent cleaning operations are required to maintain daily or monthly usage records (depending on the permit conditions) and submit monthly and/or end-of-year total usage records using the appropriate recordkeeping forms.

Monthly and end-of-year records, at a minimum, must list stock number, manufacturer name, product identification/name, military specification, usage category, substrate the coating is applied to, mix ratio, VOC allowable limit, VOC content, amount used, amount disposed, and appropriate units (i.e., lbs., gallons, ounce, pints, etc.). **Non-specific unit sizes/weights such as kits, cans, or tubes cannot be used on recordkeeping forms.** Monthly and end-of-year usage records that are submitted must also list activity name (i.e., VMFA 232), building number, month that the data applies to, year, Point of Contact (POC), and phone number. All hazardous materials used on Base must be approved by EMD and added to the Base Authorized User List (AUL).

## 6.8 AEROSPACE COATING LIST-SDAPCD RULE 67.9

The EMD is required to update the MCAS Miramar aerospace coating list per SDAPCD Rule 67.9. The aerospace coating list is included in Appendix C. The coating list is used by the EMD and SDAPCD to track compliance status with Rule 67.9 VOC content limits. This list should be updated every time a new material is used and is distributed to applicable personnel. Activities using a new aerospace coating material that has not been previously approved are required to submit a material authorization request to EMD for review and approval. The request must include a Material Safety Data Sheet (MSDS) or manufacturer technical specification (with VOC data) and standard operating/maintenance procedures in order to determine compliance.

## 6.9 VARIANCE PROCESS -SDAPCD RULE 98

If a source violates or is about to violate an SDAPCD permit condition or a rule requirement(s), the activity must cease operations and notify the EMD. The EMD must submit a variance request to the SDAPCD Hearing Board to avoid an NOV and/or possible shutdown of mission-critical equipment and operations.

There are four types of variances available: Emergency, 90-day, Regular, and Interim.

- An Emergency Variance may be requested for a maximum of 30 days. If a violation occurs without warning, an Emergency Variance may be requested. Sudden equipment breakdown, a power failure, or accidental fire may be typical grounds for an Emergency Variance.

- If less than 90 days are required to comply with SDAPCD Regulations, then a 90-Day Variance may be requested.

- If more than 90 days are required to comply with SDAPCD Regulations, a Regular Variance may be requested. The Regular Variance involves testifying before the SDAPCD Hearing Board. A Regular Variance is typically valid for one year from the date it is issued. All variances exceeding one year in duration must contain specific increments of progress as a condition of the variance.

- If you require a variance prior to the noticed Regular Variance hearing date, you can request an Interim Variance to cover the time until the noticed hearing is held. An Interim Variance lasts no longer than 90 days and may be requested only with a Regular Variance.

The SDAPCD Hearing Board is required by law to give 30 days' public notice of the hearing for Regular Variance requests, and 10 days public notice for 90-Day Variance requests. An Emergency Variance will not be granted to circumvent these public notice requirements.

If interim and regular variances are granted, it could allow the commands to operate a source that cannot meet SDAPCD Regulations for more than a year if the variance includes a specific detailed schedule with compliance being met at the end. The process for obtaining an SDAPCD variance is outlined as follows:

- Determine which SDAPCD Rule or permit condition is violated. Then, determine if it can be resolved within 24 hours.

- If not, then submit a request for a variance to the EMD in writing. The request should include a brief explanation of the non-compliance issue and why compliance cannot be readily achieved.

- The EMD will submit a variance application to the Clerk of the SDAPCD Hearing Board with a check made out to the Clerk of SDAPCD Hearing Board to cover the application and processing costs of the variance.

- The EMD will prepare the Facts to Support Finding write-up to be submitted to the Hearing Board prior to the hearing.

- The SDAPCD will write a position paper and send a copy to MCAS Miramar and the Hearing Board one week prior to the hearing. The variance hearing notice/schedule will be sent to MCAS Miramar one week prior to the hearing.

## 6.10 INSPECTIONS AND NOTICE OF VIOLATIONS

As a policy, the SDAPCD annually inspects air emission sources at MCAS Miramar. The inspection typically occurs around the month of June or December. Gas stations, however, are inspected three times per year. The inspector will not pre-announce the inspection visits. The EMD will notify all affected activities immediately following the arrival of the SDAPCD inspector. SDAPCD inspections typically cover all SDAPCD permitted sources, but the inspector may also examine non-permitted sources. The inspector will issue an NOV, Notice to Repair (NTR), or a Notice to Comply (NTC) to any activity violating SDAPCD Rules and Regulations. The NOV may result in SDAPCD issuing a fine to the responsible party. The NTC and NTR serve as warnings and do not carry a fine, provided corrective action is taken by a specified due date.

The command receiving the NOV is required to correct the deficiency within 10 days of receipt of the NOV and notify the EMD when the deficiency is corrected. The EMD will be the primary liaison with the SDAPCD and/or other air quality regulatory agencies in resolving the NOV except for NOVs issued to Facility IDs 4824 B, C, F, and H. This is to include correspondence, meetings, and other contact. Responsibility to resolve the NOV may be assigned to an offending tenant/activity depending on the operating agreement between the Base and activity. The NOV recipient command is also responsible for paying the fines resulting from NOVs. EMD will notify all enforcement actions against Facility IDs 4824 A, D and G to HQMC and Marine Corps Installations West per MCO P5090.2A.

## 6.11 RADON

Radon has been proven by the EPA to cause lung cancer and is the largest source of radiation exposure to humans. In an effort to reduce radon exposure at MCAS Miramar, in compliance with paragraph 6206 of the "Environmental Compliance and Protection Manual," the Navy Radon Assessment and Mitigation Program was set up to identify indoor levels of radon. Buildings with indoor levels of radon above 4 picocuries per liter must reduce them to acceptable

levels. New structures being built at MCAS Miramar must incorporate appropriate radon-reduction techniques into their design and construction phases where is has been determined necessary due to regulatory requirements, historic data, or geological conditions. The July 2001 Radon survey conducted by the Naval Facilities Engineering Service Center at MCAS Miramar indicated no indoor levels above 4 picocuries per liter.

## 6.12 MANAGEMENT/ELIMINATION OF OZONE DEPLETING SUBSTANCES (ODS)

MCO 5090.2A requires all Marine Corps installations to conduct an ODS inventory survey and develop an ODS management plan for all shore-based AC&R and non-critical fire protection systems. Mission-critical use is defined as that which directly supports weapons and weapons delivery systems. EPA has established performance requirements for the recycling/recovery equipment to be used when servicing AC&R equipment. Technicians are required to be EPA certified when operating refrigerant recycling/recovery equipment. All commands on board MCAS Miramar operating AC&R must have proper recycling/recovery equipment and must ensure that all appropriate personnel working with AC&R systems are certified by EPA.

## 6.13 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR RECIPROCATING INTERNAL COMBUSTION ENGINES (RICE NESHAP)

EPA has identified stationary RICE as sources of HAPs and toxic air pollutants, such as: formaldehyde, acrolein, methanol, and acetaldehyde. These specific air toxics are known or are suspected to cause adverse health effects. Formaldehyde and acetaldehyde are probable human carcinogens. Formaldehyde is the HAP present in the highest concentration from stationary spark ignition (SI) engines, and concentration levels of formaldehyde have shown to be related to other HAP emission levels. Furthermore, the EPA has established that CO is an appropriate surrogate for formaldehyde. Therefore, the EPA has developed NESHAP for the RICE Source Category (or RICE NESHAPs) and is using CO (and in some cases, formaldehyde) as the surrogate for HAP emissions.

RICE NESHAPs is a federally enforceable regulation under CFR, Title 40, Part 63, Subpart ZZZZ (40 CFR Part 63 Subpart ZZZZ). These standards are aimed at reducing HAPs as obliged to do under the CAA Sections 112(c)(3), 112(d), and 112(k) for area sources of HAP (area sources) and major sources of HAP (major sources). A major source of HAP is defined as a stationary source that has the potential to emit 10 tons/year or more of any single HAP, or 25 tons/year or more of a combination of HAPs.

The RICE NESHAP began establishing emissions and operating limitations for a group of stationary RICE. Since their original inception in 2004, the RICE NESHAP regulations have been updated with multiple revisions and amendments to include existing, new, and reconstructed stationary RICE – compression ignition (CI) and SI types. The following list shows the timeline of the RICE NESHAP and the affected group of engines:

**Table 6-1. RICE NESHAP Timeline**

| Date Promulgated | Engine Group | Power Rating (bhp) | HAP Source |
|---|---|---|---|
| 15 June 2004 | Existing, new, and reconstructed | Greater than 500 | Major |
| 18 January 2008 | New and reconstructed CI & SI | Less than 500 | Major |
| | New and reconstructed CI & SI | All sizes | Area |
| 3 March 2010 | Existing CI | All sizes | Area |
| | Existing CI | Greater than 500 | Major |
| | Existing non-emergency CI | Greater than 500 | Major |
| 20 August 2010 | Existing SI | All sizes | Area |
| | Existing SI | Less than 500 | Major |

Note: HAP = hazardous air pollutants; bhp = brake horsepower

In addition, the RICE NESHAPs require some engines (applicable to most new engines) to follow the Federal New Source Performance Standards (NSPS) requirements for engines, specifically 40 CFR Part 60 Subparts IIII and JJJJ (for CI and SI engines, respectively). NSPS requirements set emission limitations on $NO_X$, HC, VOC, CO, PM, and opacity; and set fuel and operating requirements.

Key elements of the RICE NESHAP regulatory requirements are compliance with emission standards and operating limitations, maintenance, initial performance testing and compliance demonstration, monitoring, recordkeeping, reporting, and notification requirements.

## 6.14 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (Boiler NESHAP)

EPA has identified boilers as sources of HAPs and toxic air pollutants, such as: particulate matter (PM 2.5), carbon monoxide (CO), hydrochloric acid (HCl), mercury (from coal-fired boilers), and trace amounts of other heavy metals. These specific air toxics are known or are suspected to cause adverse respiratory effects. Furthermore, the EPA has established the following surrogates for measuring emissions: PM as a surrogate for non-mercury metallic HAP; PM as a surrogate for specific metallic HAP with an option to instead comply with alternative metal emissions; HCl as a surrogate for inorganic HAP; and CO as a surrogate for organic HAP. Therefore, the EPA has developed Boiler NESHAP emission limits for mercury, PM (or alternative metals), HCl, and CO, as applicable.

Boiler NESHAPs are federally enforceable regulations under CFR, Title 40, Part 63, Subpart JJJJJJ (40 CFR Part 63 Subpart JJJJJJ) for area sources of HAP and 40 CFR Part 63 Subpart DDDDD for major sources of HAP (a.k.a., Boiler MACT). These standards are aimed at reducing HAPs as obliged to do under the CAA Sections 112(c)(3), 112(d), and 112(k) for area sources of HAP (area sources) and major sources of HAP (major sources) using the maximum achievable control technology (MACT). A major source of HAP is defined as a stationary source that has the potential to emit 10 tons/year or more of any single HAP, or 25 tons/year or more of a combination of HAPs.

For area sources, the NESHAP only regulates boilers that burn coal, oil or other liquid fuel (for boilers that burn primarily gas and with oil backup usage of more than 48 hours per calendar

year), biomass, and/or non-waste materials. For major sources, the NESHAP regulates all boilers (with some minor exceptions) that are not covered by another regulation.

The Boiler NESHAPs began establishing emissions and operating limitations for a group of boilers. Since their original inception in 2004, the Boiler NESHAP regulations have been updated with multiple revisions and amendments to include area sources. The following list shows the timeline of the Boiler NESHAP:

**Table 6-2. BOILER NESHAP Timeline**

| Date Promulgated | Engine Group | HAP Source |
|---|---|---|
| 13 September 2004, last revision dated 31 January 2013 | Existing, new, and reconstructed | Major |
| 21 March 2011, last revision dated 1 February 2013 | Existing, new, and reconstructed | Area |

Note: HAP = hazardous air pollutants

Key elements of the Boiler NESHAP regulatory requirements are compliance with emission standards, tune-ups, energy assessments, performance testing and compliance demonstration, monitoring, recordkeeping, reporting, and notification requirements.

## 6.15 California Air Resources Board Airborne Toxic Control Measures and Mobile Regulations

In August 1998, CARB identified PM emissions from diesel-fueled engines as toxic air contaminants (TACs) based on their potential to cause cancer and other adverse health effects. Consequently, CARB has developed many Airborne Toxic Control Measures (ATCMs) and regulations to reduce PM and other pollutants from a variety of sources. A summary of the applicable ATCMs to MCAS Miramar is explained below. Further discussion of these rules can be found in the *MCAS Miramar Assembly Bill (AB) 32 Assessment* (September 2009) and *MCI West Air Toxic Control Measures Assessment Report* (May 2010). TSE is exempt from all ATCM regulatory requirements.

### 6.15.1 Stationary ATCM

The Stationary ATCM applies to stationary CI engines, defined as an engine that is attached to a foundation or resides at the same location (i.e., any single site at a facility) for more than 12 consecutive months. MCAS Miramar owns and/or operates emergency stationary CI engines, which are subject to the initial compliance requirements, implemented as of 1 January 2005. Any new emergency diesel engines must meet the CARB standards based on brake horsepower (bhp) and year purchased. Any new prime engine must be as clean as a Tier 4 Final engine. In addition to emission standards, the Stationary ATCM specifies fuel, monitoring, recordkeeping, and reporting requirements. Local Air Districts have direct responsibility for monitoring and enforcing the Stationary ATCM through the CARB regulation.

### 6.15.2 Portable ATCM

The Portable ATCM was approved by CARB and became effective on 11 March 2005. The Portable ATCM applies to all diesel-fueled portable engines with an engine bhp of 50 and greater. This regulation requires that each fleet of portable CI engines must comply with the weighted PM emission fleet averages by 1 January 2013, 2017, and 2020 depending on the horsepower range. Emergency and low use (less than 80 hours per year) must be replaced with Tier 4 engines within 2 years of Tier 4 engine availability. In addition to emission standards, the Portable ATCM specifies fuel, monitoring, recordkeeping, and reporting requirements.

### 6.15.3 Mobile Regulations

CARB adopted three regulations that affect mobile equipment at MCAS Miramar: the Large Spark-Ignition Regulation, the Off-road Diesel Regulation, and the Statewide Bus and Truck Regulation. These regulations target PM, $NO_X$, and HC reduction from mobile equipment through replacements and retrofits requirements. In addition to emission standards, the mobile regulations specify idling limits, recordkeeping, and reporting requirements. Compliance with these regulations is managed regionally by Southwest Region Fleet and Transportation (SWRFT); however, non-SWRFT equipment compliance is the responsibility of the local fleet owner and/or base, such as, MCCS and S-4.

## 6.16 Federal Greenhouse Gas/Climate Change (Executive Order 13514) and California Assembly Bill (AB 32)

Various greenhouse gas (GHG) regulations have been developed and implemented in the last couple of years. Below is a summary of these regulations. Moreover, the *MCI West GHG Assessment Report* (January 2010) contains a more detailed discussion of these rules and their applicability to MCAS Miramar.

### 6.16.1 Executive Order 13514

President Obama signed Executive Order (EO) 13514 on 8 October 2009, which is a complement to the existing EO 13423, "Greening the Government." EO 13514 includes specific provisions for reductions and annual reporting of GHG emissions. President Obama announced that the federal government would reduce its GHG emissions by 28% by 2020 relative to a fiscal year (FY) 2008 baseline. Per EO 13514, each agency must set its own 2020 GHG reduction goals. On 29 January 2010, the DoD stated it would reduce GHG emissions from non-combat activities (Scope 1 and 2 emissions) by 34% by 2020 and 13.5% reductions of indirect emissions (Scope 3 emissions) by 2020. The Council on Environmental Quality issued a draft version of the Federal GHG Reporting and Accounting Guidance for public comment on 14 July 2010, consisting of a Technical Support document and Draft Guidance document. As of 4 June 2012, the Council on Environmental Quality (CEQ) finalized an update to the guidance document[3] based on recommendations from a working group of members from the Department of Energy's

[3] http://www.whitehouse.gov/sites/default/files/microsites/ceq/revised_federal_greenhouse_gas_accounting_and_reporting_guidance_060412.pdf

Federal Energy Management Program (FEMP), the Department of Defense, and the EPA. These guidance documents provide supplemental instructions on completing the FY emissions inventory, including which GHG emission sources are to be reported at the Agency level. Currently, MCIWEST conducts their annual EO reporting and MCAS Miramar provides data for this reporting effort.

### 6.16.2 GHG Reporting

On 30 October 2009, EPA issued its final rule that requires annual mandatory reporting of GHGs beginning on 31 March 2011 for calendar year (CY) 2010 emissions. Similarly, as part of AB 32 the Global Warming Solutions Act, CARB issued its mandatory reporting rule to monitor GHG emissions on the state level on 1 April of each year beginning with CY 2008 emissions. Thus, both the EPA and CARB require reporting of GHG emissions from facilities that exceed a certain threshold. MCAS Miramar currently does not exceed the 25,000 metric tons of carbon dioxide ($CO_2$) threshold for stationary combustion sources and is thus exempt from any GHG reporting requirements. However, MCAS Miramar needs to monitor its operations, future projects and growth to determine whether the thresholds for mandatory reporting are exceeded in the future.

### 6.16.3 AB 32 Early Action Measures

In addition to mandatory reporting, CARB is also mandated to develop Early Action Measures as part of California's comprehensive strategy to achieve the required GHG reductions. AB 32 requires CARB to identify early action GHG reduction measures. Many of these measures developed into regulations that became enforceable as early as 1 January 2010 and are expected to result in "significant and effective GHG emission reductions." The Refrigerant Management Program and annual sulfur hexafluoride ($SF_6$) reporting is an example of an Early Action Measures that are applicable to MCAS Miramar.

### 6.16.4 Sulfur Hexafluoride ($SF_6$) Emissions from Gas Insulated Switchgear

On 21 June 2007, the CARB approved the reduction of $SF_6$ emissions from electricity transmission and distribution equipment. The regulation is intended to reduce $SF_6$ emissions from **active** GIS equipment found in electrical power systems. Active GIS equipment is defined as any non-hermetically sealed $SF_6$ GIS, which means they are prone to releases of $SF_6$ emissions through seals, equipment installations, and servicing. On the contrary, hermetically sealed equipment are considered **inactive** GIS equipment because they are designed to be gas-tight and sealed for life.

In efforts to reducing $SF_6$ emissions from active GIS equipment, ARB set annual limits for the maximum allowable $SF_6$ emission rates beginning in CY 2011. Table 6-3 presents the maximum allowable annual $SF_6$ emission rate for a facility's active GIS equipment.

**Table 6-3. Maximum Allowable $SF_6$ Annual Leak Rates**

| Year | Maximum Leak Rate |
|---|---|
| 2011 | 10% |
| 2012 | 9% |
| 2013 | 8% |
| 2014 | 7% |
| 2015 | 6% |
| 2016 | 5% |
| 2017 | 4% |
| 2018 | 3% |
| 2019 | 2% |
| 2020+ | 1% |

To demonstrate that the facility complies with the specified maximum allowable leak rate, it must annually report[4] the following information:

- Annual $SF_6$ emissions
- Annual $SF_6$ emissions rate
- $SF_6$ GIS inventory report
- $SF_6$ gas container inventory

GIS owners must submit an annual report to ARB for emissions that occurred during the previous calendar year by June 1st of each reporting year.

MCAS Miramar will also be responsible for establishing and adhering to all measurement and written procedures to track all gas containers including all required weights, calibrations, logs and records required by the $SF_6$ regulation. All documents and records for the measurements procedures are required for a minimum of three years[5].

### 6.16.5 Refrigerant Management Program (RMP)

MCAS Miramar uses air-conditioning and refrigeration systems to support its mission of national defense. Many of these systems utilize refrigerants that, upon release, contribute to ozone depletion and/or global warming. Because of these harmful environmental impacts, federal and state regulatory programs are in place to contain the use and release of such refrigerants.

RMPs requires subject owners and operators of heating, ventilation, air-conditioning, and refrigeration (HVAC&R) systems containing Ozone Depleting Substances (ODS) and Global Warming Potential (GWP) refrigerants to perform leak detection tests, recordkeeping, equipment

[4] Pursuant to California Code of Regulation §95356
[5] Reference the Calendar Year 2013 $SF_6$ Technical Memorandum

registration, and repair/ retrofit. Table 6-4 provides the applicability between federal and state refrigerant management programs.

**Table 6-4. Differences Between EPA and California Refrigeration Management Programs**

| Rule Applicability or Requirements | EPA | California |
|---|---|---|
| Refrigerant Type | Class I or II ODSs only | GWP ≥ 150 only |
| Location | Nationwide | California only |
| Refrigerant Quantity | >50 lbs. | >50 lbs. |
| Exemptions | ▪ Tactical support equipment<br>▪ Mobile sources[6] | ▪ Tactical support equipment<br>▪ Mobile sources<br>▪ Comfort cooling equipment > 68°F (from leak detection requirements) |
| Leak Detection | Track and calculate 12-month leak rate when they occur | Regularly scheduled leak testing – annual, quarterly, or continual/monthly depending on unit size |
| Equipment Registration | Report certified recovery or recycling devices | Registration began in 2012 using ARB's online tool (The phased schedule depends on equipment size.) |
| Registration Fees | None | $0 - $370 per appliance, depending on size |
| Annual Report | None | ▪ Facilities with large units – annual reports started 1 March 2012<br>▪ Facilities with medium units – annual reports start 1 March 2014<br>▪ Facilities with medium units – Registration starts 1 March 2016 |

MCAS Miramar will also be responsible for the federal and state requirements, including leak repairs, technician certifications, service practice requirements, recovery and recycling equipment, verification tests, retrofit and retirement plans and recordkeeping[7].

## 6.17 AIR QUALITY REGULATORY SUBMITTALS AND NOTABLE ISSUES

Based on the air quality regulatory requirements discussed in this section, MCAS Miramar should be aware of several routine submittals and other activities required to maintain air quality

[6] Section 609 of CAA Title VI regulates refrigerants used in Mobile Ventilation and Air Conditioning (MVAC) units, such as AC units used in on-road and off-road vehicles implemented under Subpart B of CFR 40 Part 82, titled "Servicing of Motor Vehicle Air Conditioners"

[7] Reference the MCIWEST REFRIGERANT UNIT INVENTORY AND ASSESSMENT REPORT

compliance at the facility. A summary of the key air quality regulatory submittals and activities is presented in Table 6-5.

**Table 6-5. Summary of Key Air Quality Regulatory Submittals and Activities at MCAS Miramar**

| Regulatory Submittal/ Activity | Responsibility | Frequency |
|---|---|---|
| Emission Inventory | EMD | Annually |
| AB 2588 Air Toxics Reporting | EMD | Every four years |
| AB 2588 HRA | EMD | If requested by SDAPCD |
| Aerospace Coating List Update | EMD | When new material is used |
| CARB Off-road Diesel Inventory Update | MCCS/S-4 | Annually |
| Permit Application/ Permit Modification | EMD/Equipment or Process Owners | Before installing a new source or modifying an existing source |
| Variance Application | EMD | When unable to meet permit or rule requirements |
| SDAPCD Inspection | EMD/ Shop Operators | Annually/Quarterly |
| Recordkeeping | Shop Operators | Daily/Monthly, as specified in permit and/or rule |
| Sulfur Hexafluoride ($SF_6$) | EMD | Annually |

# 7.0 EMISSION SOURCES

The air emission sources fall into four categories at MCAS Miramar:

- Permitted sources
- CARB registered sources
- Non-permitted sources
- Contractor activities

The permitted sources are those that require a Permit to Operate from SDAPCD. The registered sources are those that are not permitted, but are registered by CARB under PERP. The non-permitted sources are sources or activities that do not require a Permit to Operate from SDAPCD. The sources associated with contractor activities are those pieces of equipment that emit air contaminants and are owned and operated by contractors brought on board by MCAS Miramar. Depending on the intended use and duration of the contractor activity, a Permit to Operate may be required from SDAPCD. Detailed discussion of these categories is provided below.

## 7.1 PERMITTED SOURCES

The permitted sources on board MCAS Miramar include:

- Abrasive Blasting
- Adhesives
- Boilers/Space Heaters
- Paint Booths and Surface Coatings
- Degreasers and Solvents
- Gasoline Storage and Dispensing
- ICEs
- Turbine Jet Engine Test Cells

The following subsections will briefly discuss each source category, regulatory requirements, and applicable rules and regulations. Copies of all facility SDAPCD Permits to Operate are included in Appendix B.

### 7.1.1 Abrasive Blasting (BLAST)

The operation of abrasive blasting equipment to remove paint from the metal surfaces in corrosion control maintenance operations may cause TACs to be emitted into the atmosphere. The amount of emissions and the levels of health hazard associated with this operation vary with the amount and type of paint being removed. Some abrasive blasting equipment is required to be permitted by the SDAPCD. Abrasive blast cabinets that are vented through a control device and into the building where such cabinets are located are exempt from SDAPCD permits. Also, abrasive blast equipment with a manufacturer sand capacity of 100 lbs. or less, or one cubic foot or less, is exempt from permitting requirements. Some abrasive blasting equipment is powered by ICEs, which require a permit if the engine is rated at 50 bhp or greater.

Marine Aviation Logistics Squadron (MALS) 11 Power Plant Division operates one permitted abrasive blasting facility in Building 8461 and several non-permitted mobile abrasive blasting equipment throughout the flight line area. Any mobile abrasive blast equipment not meeting the aforementioned permit exemption is required to be permitted by SDAPCD. Any required usage records (e.g., records to show Rule 11 exemption applicability) must be kept on file for a minimum of three years. Permitted blast booths are required to comply with all conditions listed on the permit and SDAPCD Rule 71, which can be found in Appendices B and A, respectively.

#### Air Quality Best Management Practices (BMPs):

The operators working with the abrasive blasting operation can make a significant difference to the compliance of the operation with the air quality rules and regulations. The following items are helpful reminders for operators in achieving and maintaining compliance:

- If a permit is not posted for the unit, ask the Environmental POC if the unit is permitted.
- If the unit is permitted, verify the permit is posted nearby.
- Read the permit conditions.
- Discuss permit conditions with the Environmental POC, as needed.
- At the beginning of each shift, verify the equipment is working properly.
- Check for problems, such as cuts in gloves or tears in the baghouse filters.
- Use the recommended recordkeeping form to maintain daily records of operation.

### 7.1.2 Adhesives (ADHE)

Adhesives are substances used to bond one surface to another. Adhesive materials include adhesives, sealants, adhesive primer, or sealant primers. The adhesive operations include all steps involved in the application, drying, and curing of adhesive materials and any associated cleaning and surface preparation activities. Adhesive operations that use more than 20 gallons of adhesives per year require a Permit to Operate.

**Air Quality BMPs:**

The following items are helpful reminders for operators in achieving and maintaining air quality compliance:

- If a permit is not posted for the operation, ask the Environmental POC if the unit is permitted.
- If the operation is permitted, verify the permit is posted nearby.
- Read the permit conditions.
- Discuss permit conditions with the Environmental POC, as needed.
- Read SDAPCD Rule 67.21 that specifies air quality standards for adhesive operations (copy of Rule 67.21 can be found in Appendix A).
- Look on the container label, the Hazardous Material Inventory System (HMIS), the product MSDS, or a manufacturer's data sheet for material information (i.e., VOC content, vapor pressure, etc.).
- Many multiple-part adhesives list VOC contents for the mixed kit on the container.
- Use general adhesives with a VOC content specified in Rule 67.21 (ranging from 50 to 775 grams per liter [g/L]).
- If specialty adhesives need to be used, observe the specified VOC limit for each specialty adhesive.
- Maintain documentation on the specialty adhesive (that it meets the definition).
- Maintain a list of adhesive materials used.
- Use only surface preparation and cleaning solvents that meet either the VOC limit (70 g/L) or the vapor pressure limit (45 millimeters of mercury at 68°F) or minimum boiling point (374°F) requirements.
- Maintain copies of all adhesive MSDSs on site.
- Keep containers covered at all times.
- Minimize spills.
- Check for container leaks, spills, or other problems that could contribute to emissions.
- If an additive is used, the mix ratio and the VOC content of the individual parts must be known to calculate the VOC Content as Applied.

- Use the recommended Adhesive Operations Category List when recording adhesive usage.

- Use the recommended recordkeeping form to maintain daily records of operation.

### 7.1.3 Boilers/Space Heaters (BOIL)

Boilers and process heaters emit $NO_X$, CO, VOCs, PM, $SO_X$, and TACs. These sources are operated at MCAS Miramar to provide steam for heating and hot water for domestic and industrial use. Two commands on board MCAS Miramar currently operate four SDAPCD permitted steam boilers and over 26 non-permitted small steam boilers/water heaters throughout the Base. Small natural gas boilers/water heaters equal to or below 5 million British thermal units per hour (MMBtu/hr), or diesel boilers equal to or below 1 MMBtu/hr of heat input are not regulated by the SDAPCD and are exempt from permit requirements. Boilers with greater than the aforementioned heat inputs are required to be permitted. Permits are renewed and distributed to the activities annually in December by the EMD. Boiler permits must be visually posted. Operation of boilers must be in compliance with all conditions listed on the permit.

The NAVCONBRIG owns and operates two 8.4 MMBtu/hr boilers used for space heating and hot water. These two boilers are classified as low usage (<220,000 therms) and, therefore, are not required to be equipped with low-$NO_X$ burners. However, these boilers are required to be tuned annually to meet the requirements of SDAPCD Rule 69.2. The primary and secondary fuels for these boilers are natural gas and diesel. MCAS Miramar owns, operates, and maintains two diesel boilers (1.0 and 1.05 MMBtu/hr, respectively). These low heat input boilers, installed prior to 25 March 2010, are not required to be equipped with low-$NO_X$ burners.

Emissions from boilers vary with fuel types and amount used. Permit conditions require boiler operators to record and maintain annual usage records for a minimum of three years. Annual fuel usage records must be submitted to the EMD upon request for annual emission inventory reporting to SDAPCD.

Permitted boilers must comply with all permit conditions and SDAPCD Rules 69.2 and 69.2.1 (applicable for units installed on or after 25 March 2010). These rules are included in Appendix A. Due to the dynamic nature of environmental regulations, SDAPCD will occasionally amend these rules to implement state and EPA requirements. The EMD is responsible for updating rule changes in this AQMP through the annual review process.

#### Air Quality BMPs:

Maintaining compliance with applicable air quality requirements is relatively straightforward for external combustion units. If a unit is properly maintained and operated according to the manufacturer's instructions, and is equipped with the applicable air pollution control device (e.g., low-$NO_X$ burner), not much more is needed to achieve compliance. The following items are helpful reminders for operators to verify their units are meeting and maintaining compliance:

- If a permit is not posted for the unit, ask the Environmental POC if the equipment is permitted.

- Verify the permit is posted nearby.
- Read the permit conditions.
- Discuss permit conditions with the Environmental POC, as needed.
- Read SDAPCD Rules 69.2 and 69.2.1 that specify air quality standards for boiler operations.
- At the beginning of each shift, verify the equipment is working properly.
- Check for disconnects, defects, or other problems and malfunctions that could result in emissions.
- Keep the equipment nameplate that contains identifying information (i.e., make, model, and serial number) clear of debris.
- Be familiar with the equipment Operation and Maintenance (O&M) Manual.
- Perform regular service and tune-ups as recommended by the O&M Manual and permit to maintain smooth and clean operation of the unit.
- Use the recommended recordkeeping form to maintain records of operation.

### 7.1.4 Paint Booths and Surface Coatings (COAT)

Painting/surface coating operations may emit VOCs, PM, and toxic air pollutants. Emission of VOCs and toxic air pollutants vary with the type and amount of coating used. Each recurring painting operation, excluding architectural painting operations, with coating usage more than 20 gallons per year is required to have a Permit to Operate from SDAPCD. VOC and air toxic components in paints can usually be found on the manufacturer's MSDS or technical data sheet. The Safety Division, located in Building 9442, is responsible for issuing MSDS data to all personnel on board MCAS Miramar upon request. MSDSs can also be obtained from the HAZMINCEN located in Building 8672. Activities conducting SDAPCD-permitted painting operations are required to maintain on file MSDSs of all paint, adhesives, and solvent material used by their activity for painting operations. MSDSs are required to be available to the SDAPCD inspector or the hazardous waste inspector upon request.

MALS 11 and 16 operate six aerospace/metal products/mobile equipment-painting facilities (paint booths) at several locations throughout the Base. MAG 11 and 16 flight line squadron personnel conduct aerospace painting operations in eight designated areas on the flight line. The Aerospace Museum operates a paint facility for the restoration of historic display aircraft. The NAVCONBRIG owns and operates one wood-coating facility. All these coating operations are permitted with the SDAPCD. Excluding the NAVCONBRIG paint facility, the EMD is required to annually renew the permits and issue them to MAG 11 and 16 squadrons.

Flight line squadron personnel are only allowed to conduct painting and corrosion control operations at permit designated locations. All paints, adhesives, and solvents used in permitted

operations must be authorized by EMD and added to MCAS Miramar's AUL. These personnel must maintain monthly paint, adhesives, and solvent usage records and maintain these records for a minimum of three years. Activity Environmental Coordinators are required to submit paint, adhesive, and solvent usage records monthly to the Air Quality Program Manager. These personnel are also required to ensure that materials used in painting operations are in compliance with MCAS Miramar Aerospace Coating List. Permitted paint facilities are required to use high-volume low-pressure (HVLP) paint spray gun in operation. Other types of painting equipment allowed include paintbrush, rollers, and non-refillable aerosol cans. The HVLP paint gun is required to have a cap pressure gauge. The cap pressure of the HVLP paint gun must be maintained between 0.1 and 10 pounds per square inch gauge (psig) to be in compliance with SDAPCD Rule and Regulations.

Permitted aircraft, metal products, wood painting, and mobile equipment coating facilities are required to comply with SDAPCD Rules 67.3, 67.9, 67.11, and 67.20, respectively. These rules are included in Appendix A. All activities operating permitted paint facilities are required to post the permit on site or have it readily available for inspection, comply with VOC requirements, maintain daily or monthly usage records (depending on permit), maintain monthly usage records on file for a minimum of three years, and be knowledgeable of and comply with all conditions listed on the paint permit.

**Air Quality BMPs:**

The operators working with coating operations, such as aerospace coating, can make a significant difference to MCAS Miramar's compliance with air quality rules and regulations. The following items are helpful reminders for coating operators in achieving and maintaining air quality compliance:

- If a permit is not posted for the operation, ask the Environmental POC if the unit is permitted.
- If the operation is permitted, verify the permit is posted nearby.
- Read the permit conditions.
- Discuss permit conditions with the Environmental POC, as needed.
- Read SDAPCD Rule 67 that specifies air quality standards for architectural coating operations.
- Read SDAPCD Rule 67.3 that specifies air quality standards for the metal parts coating operations.
- Read SDAPCD Rule 67.9 that specifies air quality standards for the aerospace operations.
- Read SDAPCD Rule 67.11 that specifies air quality standards for wood coating operations.

- Read SDAPCD Rule 67.20 that specifies air quality standards vehicle and mobile equipment refinishing operations.
- Look on the container label, the HMIS, the product MSDS, or a manufacturer's data sheet for material information (i.e., VOC content, vapor pressure, etc.).
- For multiple-part coatings, list VOC contents for the mixed kit (often found on the container).
- Maintain an updated aerospace coating list as required by Rule 67.9. Use this recommended Aerospace Coating Category List when recording coating usage.
- If you need to use specialty coatings, observe the specified VOC limit for the specialty coating.
- Maintain documentation on the specialty coating (that shows it meets the definition).
- Maintain copies of all coating and solvent MSDSs on site.
- Keep containers covered at all times.
- Minimize spills.
- Check for container leaks, spills, or other problems that could contribute to emissions.
- Aerosol coatings do not need to be recorded on the recordkeeping form.
- If you are using an additive (i.e., catalyst), you need to know the mix ratio and the VOC content of the individual parts to calculate the VOC Content as Applied.
- Use the recommended recordkeeping form to maintain daily records of operation.

### 7.1.5 Degreasers and Solvents (DEG)

Degreasing/solvent cleaning sources may emit VOC and TACs. ODSs are also commonly used in solvent cleaning/degreasing compounds that are emitted into the environment during the cleaning operation. Air contaminants used in solvent cleaning compounds are listed on the manufacturer's MSDS or technical data sheet. The Safety Division, located in Building 9442, is responsible for issuing MSDS data to all personnel on board MCAS Miramar upon request. MSDSs can also be obtained from the HAZMINCEN located in Building 8672. Activities conducting SDAPCD permitted solvent degreasing/cleaning operations are required to maintain MSDSs of all degreasing/cleaning materials used and make them available to the SDAPCD inspector upon request.

MALS 11 and 16 Power Plants and Airframes maintain/operate several cold solvent cleaning tanks using PD-680 and other solvents, which are required to have SDAPCD permits. This also includes heated paint stripping tanks using Hot Tank Paint Remover and MIL-PRF-83936-Compliant Solvent Paint Stripper. Air emissions from solvent cleaning/degreasing operations vary with VOC and air toxic concentrations in the cleaning material and the usage amount.

Solvent usage records for degreasers must be maintained by MALS 11 and 16 personnel for a minimum of three years. End-of-year solvent usage records for permitted degreasing/solvent cleaning tanks must be submitted to the EMD upon request for annual emission inventory reporting to SDAPCD.

The MCCS Auto Service Center also operates a degreasing tank that is leased from Safety Kleen Corporation. Safety Kleen is responsible for maintaining the necessary usage records as part of the lease and providing the usage records to the EMD for annual emission inventory reporting. The shop/work center operating the Safety Kleen tank is required to maintain on file a copy of the work order the technician completes and leaves with the operator. This document is the usage record required to be maintained on site, as it indicates the amount of solvent removed and added. However, personnel using these leased tanks must comply with operational permit conditions. SDAPCD can inspect these tanks at any time during the year and will issue an NOV to the operator if permit conditions are violated.

Operations using a solvent with a VOC content greater than 50 g/L, or solvent cleaning tank with a surface area greater than one square foot or capacity greater than one gallon, are required to be permitted by SDAPCD. Cold solvent cleaning/degreasing equipment must comply with all SDAPCD permit requirements and SDAPCD Rules 66 (to be repealed 24 February 2011), 66.1, 67.6.1, and 67.17. These rules are included in Appendix A. The EMD is responsible for updating rule changes in this AQMP through the annual review process.

**Air Quality BMPs:**

The operators working with the solvent cleaning operations can make a significant difference to the compliance of the operation with the air quality rules and regulations. The following items are helpful reminders for operators in achieving and maintaining compliance:

- If a permit is not posted for the unit, ask the Environmental POC if the unit is permitted.
- If the unit is permitted, verify the permit is posted nearby. For Safety Kleen units, post a copy of their PERMIT TO OPERATE NOTICE (copies are available from Safety Kleen or EMD).
- Post a list of the applicable operating requirements. Safety Kleen has its own version to post (copies are available from Safety Kleen or EMD).
- Read the permit conditions.
- Discuss permit conditions with the Environmental POC, as needed.
- Read SDAPCD Rule 67.6.1 that pertains to your specific solvent cleaning operation.
- For dip tanks, mark the maximum allowable solvent level on the tank with a readily visible permanent marker (refer to Rule 67.6.1 for details).

- For dip tanks, verify the solvent cleaner liquid level is not above the marked maximum solvent level line.
- Check for leaks, spills, or other problems that could contribute to emissions.
- Maintain a copy of the solvent(s) MSDS(s) on site.
- Allow all solvent to drip from parts before removing them from the solvent tank.
- Keep the unit cover closed while not in operation.
- Use the recommended recordkeeping form to maintain daily records of operation.

### 7.1.6 Gasoline Storage and Dispensing (GAS)

Gasoline dispensing sources are one of the top five polluters in San Diego County. Even though these sources have vapor control devices, thousands of lbs. of VOCs and TACs are emitted into the environment daily, due to improper O&M. The SDAPCD, therefore, is extremely aggressive in the inspection of gas stations. All gas stations dispensing/storing motor vehicle gasoline are required to be permitted by the SDAPCD. Diesel category fuels are exempt from permitting requirements in San Diego.

MCAS Miramar has four gasoline storage and dispensing facilities operating within its boundaries. Of those, the MCCS operates three permitted gasoline service stations and the golf course maintenance shop gasoline storage and dispensing facility, and the Supply Department Fuels Division operates one permitted government vehicle gas station (please note that the Fuels Division also maintains a gasoline bulk plant). All the activities operating gasoline storage and dispensing facilities are required to maintain their Phase I and II vapor recovery systems in proper operating condition per SDAPCD Rules 61.3, 61.4, and 61.8. These rules are included in Appendix A.

Gasoline stations require extensive maintenance because the associated equipment is constantly being used. It is important to note that any modifications or substitutions to a gas station control or dispensing equipment will require a permit modification before such modification or substitution can begin. This requirement only applies when the system is changed from the original permitted configuration; routine maintenance does not require a permit modification.

Activities operating gasoline storage and dispensing facilities are required to submit annual gasoline throughput records to the SDAPCD inspector and to the EMD upon request.

#### Air Quality BMPs:

The operators working with the fuel loading, storage, and dispensing operations can make a significant difference to the compliance of their operation with air quality rules and regulations. The following items are helpful reminders for operators in achieving and maintaining compliance:

- If a permit is not posted for the operation or the fuel storage tanks, ask the Environmental POC if the units are permitted.
- Verify the permit is posted nearby.
- Read the permit conditions.
- Discuss permit conditions with the Environmental POC, as needed.
- Read SDAPCD Rules 61.1, 61.2, 61.3, and 61.4, which specify air quality standards for fuel loading, storage, and dispensing (SDAPCD Rules 61.1 and 61.2 apply to bulk plants). Ask the Environmental POC for copies of the rules.
- At the beginning of each shift, verify the equipment is working properly.
- Check for disconnects, leaks, defects, spills, crimped or flattened hose, or other problems and malfunctions that could result in emissions.
- Verify the vapor recovery systems for fuel loading (Phase I) and fuel dispensing (Phase II) are working according to the manufacturer's specifications and have not been altered.
- Complete and maintain the recordkeeping requirements imposed by the operating permit conditions such as monthly throughput, flow rate, daily equipment inspections, etc.

### 7.1.7 Internal Combustion Engines (ICEs)

Similar to boilers, ICE sources emit $NO_X$, CO, VOCs, PM, $SO_X$, and TACs. MCAS Miramar, NAVCONBRIG, and the FAA own approximately 50 emergency generators. All engines greater than 50 bhp are permitted with SDAPCD. Generator engines are maintained by S-4 contracted maintenance service provider. MCAS Miramar Fuels Division ensures diesel fuel being purchased and distributed to emergency engine fuel storage tanks are CARB Ultra-low Sulfur Diesel. Purchase and receipt records may be inspected by the SDAPCD at any time. The SDAPCD permit and registration renewal costs for engines are paid annually by the EMD.

Various squadrons, most notably MALS 11 and 16, own and operate more than 500 pieces of TSE, with ICEs. MCAS Miramar has the option of either permitting the TSE with SDAPCD or registering them with CARB. The EMD has registered all TSE at MCAS Miramar with the CARB, and by doing so has exempted TSE from SDAPCD permitting requirements and operational regulations. The EMD is required to pay for the TSE registration renewal cost to the state annually. The squadrons are not required to maintain TSE usage records. However, total count of each type of TSE must be maintained and submitted upon request to the EMD to be submitted to the CARB annually during the registration renewal process, which is in the January to February timeframe. Even though TSE are not regulated by the SDAPCD, SDAPCD has the authority to inspect TSE to ensure proper registration is obtained from the state and the units comply with PERP.

Emissions from ICEs vary with fuel types, bhp, and usage. Air quality management requirements for engines depend on whether they are registered with the state or permitted with SDAPCD. ICE sources that are permitted with SDAPCD must comply with all SDAPCD permit/registration conditions and SDAPCD Rules 69.3, 69.4, and 69.4.1. SDAPCD Rules 69.3, 69.4, and 69.4.1 are included in Appendix A. SDAPCD permitted stationary diesel engines are typically governed by the Stationary ATCM (17 California Code of Regulations [CCR] 93115). Portable diesel engines are governed by the Portable ATCM (17 CCR 93116). Engines that are registered with the state must comply with PERP. The two ATCM regulations can be found at http://www.arb.ca.gov/toxics/atcm/atcm.htm. The EMD is responsible for updating rule changes in this AQMP through the annual review process.

**Air Quality BMPs:**

The following items are helpful reminders for operators to verify their units are meeting and maintaining compliance:

- If a permit is not posted for the unit, ask the Environmental POC if the equipment is permitted.
- Verify the permit is posted nearby.
- Read the permit conditions.
- Discuss permit conditions with the Environmental POC, as needed.
- Read SDAPCD Rule 69.4.1(d), 17 CCR 93115, and 17 CCR 93116, which specify air quality standards for engine operations (ask the Environmental POC for a copy of these regulations).
- During scheduled periodic maintenance, verify the equipment is working properly.
- Check for disconnects, defects, or other problems and malfunctions that could result in emissions.
- Keep the equipment nameplate that contains identifying information (i.e., make, model, and serial number) clear of debris.
- Ensure the ICE timer or fuel totalizers are working properly at all times.
- Follow the ICE O&M Manual and perform routine service and tune-ups.
- Use the recommended recordkeeping form to maintain records of operation.

### 7.1.8 Turbine Jet Engine Test Cells (TURB)

Emissions of pollutants from aircraft engine test cells and stands vary with aircraft engine type, power settings, and usage. Air emissions from these sources include $NO_X$, CO, $SO_X$, VOCs, PM, and TACs. MALS 11 operates one T10 and one C7 enclosed turbo jet aircraft engine test cell, and one AE37T-26, one AE37-T23 and one AE37T-17 expeditionary aircraft engine test

stand. MALS 16 operates one enclosed twin turbo shaft helicopter engine test cell, one AE37-24V4, one AE37T-24V2, and one AE37T-2 expeditionary helicopter aircraft engine test stand.

All test cells and test stands on board MCAS Miramar are required to be permitted by SDAPCD. The annual permit renewal fee for these sources is paid by the EMD. Fuel usage data and engine operation must be logged and maintained for each test run. Monthly fuel usage records for each test cell and test stand must be maintained by test cell personnel for a minimum of three years and be submitted to EMD upon request for annual emission inventory reporting. Recordkeeping inspection by SDAPCD for test cells and test stands can be done at any time during the year. Permitted sources must comply with all SDAPCD permit conditions.

**Air Quality BMPs:**

The following items are helpful reminders for operators to verify their test cell operation is meeting and maintaining compliance:

- If a permit is not posted for the operation, ask the Environmental POC if the operation is permitted.
- Verify the permit is posted nearby.
- Read the permit conditions.
- Discuss permit conditions with the Environmental POC, as needed.
- In the beginning of each shift, verify the equipment is working properly.
- Check for disconnects, defects, or other problems and malfunctions with the test stand that could result in additional emissions.
- Use the recommended recordkeeping form to maintain records of operation.
- Maintain recordkeeping forms, including engine operation and fuel usage per engine test, and make available for SDAPCD inspection upon request.

## 7.2 REGISTERED SOURCES

Through PERP, TSE at MCAS Miramar can be registered with the state without having to be permitted by SDAPCD. By doing so, MCAS Miramar can simplify compliance requirements. Some of the requirements of PERP for portable engines include complying with technological requirements, which may include 4-degree injection timing retard, and/or installing turbochargers, aftercooler/intercoolers, or catalysts. Some engines may also be required to meet established emission limitations, visible emission limitations, fuel specification requirements, and recordkeeping and reporting requirements. Requirements for portable equipment include complying with established BACT requirements, a daily emission limit of 82 lbs./day of $PM_{10}$, an annual limit of 10 tpy per district for any criteria pollutant, and recordkeeping and reporting requirements.

## 7.3 NON-PERMITTED SOURCES

The non-permitted sources are sources or activities that do not require a Permit to Operate per SDAPCD Rule 11. Typical, non-permitted sources at MCAS Miramar include the following:

- Small boilers/water heaters
- Small ICEs (i.e., concrete saws, pumps, and manlifts)
- Miscellaneous material usage
- Welding and soldering operations

## 7.4 CONTRACTOR ACTIVITIES

Contractors doing work for MCAS Miramar may bring equipment on board that emit air contaminants. Contractors are responsible for obtaining a Permit to Operate, if necessary, from the SDAPCD and maintaining compliance with permit conditions. However, in some cases, non-compliance with permit conditions could lead to NOVs given to MCAS Miramar and the contractor. Therefore, it is important for MCAS Miramar to monitor contractors and their equipment throughout the facility. Contractors, in consultation with EMD, shall be responsible for obtaining and processing required permit for any permitted equipment or operation they install, repair, or modify within MCAS Miramar. Acceptance by EMD of a valid permit to operate the installed equipment or operation is a condition for final disposition of the contract by the contract agent for the government. Typical contractor equipment or activities that emit air contaminants include the following:

- Architectural coatings
- Asphalt/paving equipment
- Abrasive blasting
- Construction equipment