

**TECHNICAL REVIEW AND EVALUATION  
OF APPLICATION FOR  
AIR QUALITY PERMIT NO. 63582**

**I. INTRODUCTION**

This Class II synthetic minor air quality control operating permit is for the operation of boilers, heaters, and internal combustion engines (ICEs), and other miscellaneous equipment under NAICS Code 481 at the Marine Corps Air Station in Yuma County (MCAS Yuma). The facility is owned and operated by the United States Marine Corps. This is a renewal of Permit #53234.

**Company Information**

**Facility Name:** MCAS Yuma – NAICS Codes 481 (Air Transportation)

**Facility Lat. /Long.:** N32° 39' 54.0"/W114° 35' 61.0"/213 ft MSL

**Mailing Address:** P. O. Box 99110, Yuma, Arizona, 85369-9110

**Background**

The Marine Corps Air Station is located in the southeast portion of the City of Yuma. The facility was established in 1959, and has held air quality permits since 1993. EPA, through a guidance document issued in August 1996, has allowed the Department of Defense (DOD) to divide installations according to common control for different military services. EPA has also given discretion to local agencies to divide military facilities into multiple stationary sources based on Standard Industrial Classification (SIC)/North American Industry Classification System (NAICS) codes. MCAS and ADEQ have agreed to apply this policy to MCAS Yuma facility. MCAS Yuma had divided its operations under 19 different NAICS codes. This renewal permit covers NAICS Code 481.

It should be noted that the policy referenced above only applies to the evaluation of criteria pollutants. In accordance with 40 CFR Part 63, major source applicability determination for hazardous air pollutants (HAPs) is not dependent on SIC code distinction. HAP emissions will have to be evaluated cumulatively to the extent that the emission activities are contiguous or adjacent and the operations are under 'common control'. In the case of MCAS, the HAP emissions are to be evaluated on a facility wide basis.

**II. FACILITY DESCRIPTION**

**Process Description**

NAICS Code 481 covers boilers, heaters, ICEs, welding, engine test cells, gear arrestors, parts washers, soil vapor extraction unit, and other miscellaneous equipment. MCAS Yuma operates 24 hours per day, 365 days per year.

**III. EMISSIONS**

The potential to emit for this NAICS code 481 is provided in Table 1. Boilers and heaters are assumed to be operating for 8,760 hours a year. ICEs operate for 500 to 1,000 hours per year and gear arrestor engines operate for a cumulative 1,500 hours per year. The facility has accepted voluntarily operating limits on the operations of ICEs to stay below the major source threshold.

**Table 1: Facility wide Potential Emissions based on hourly limits**

Pollutant	Emissions			Permitting Exemption Threshold
	LTF #63582 (Renewal)	LTF #53234 (Operating)	Change	
	Ton/year			
CO	31.60	31.32	0.28	50
NO <sub>x</sub>	58.74	64.68	-5.94	20
SO <sub>2</sub>	0.70	1.22	-0.52	20
VOC	18.16	43.64	-25.48	20
PM/ PM <sub>10</sub>	11.19	11.31	-0.12	7.5/10
HAPs	7.68	5.11	2.57	

Table 1 compares the facility wide potential to emit with the PTE of existing operating permit. It can be seen that none of the increases in emissions are greater than the permitting exemption threshold and therefore this renewal permit application does not trigger Minor NSR.

**IV. APPLICABLE REGULATIONS**

The applicable regulations were identified by the Applicant as part of the application packet. If necessary, the source is required to list any additional regulations that may be applicable. Table 2 displays the applicable requirements for each piece of equipment under this proposed permit.

**Table 2: Verification of Applicable Regulations**

Unit	Date of Construction / Modification	Control Device	Rule	Verification
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Unit	Date of Construction / Modification	Control Device	Rule	Verification
Internal Combustion Engines	1992, 1998, 2002, 2004, and 2005	N/A	A. A. C. R18-2-719  NESHAP Subpart ZZZZ	<p>Applicability date for NSPS Subpart III is April, 2006 for compression ignition ICEs. NSPS is not applicable since these ICEs are manufactured before 2006. Therefore, Standards of Performance for Existing Stationary Rotating Machinery are applicable.</p> <p>In accordance with 40 CFR 63, Subpart ZZZZ the ICEs identified here are 'existing emergency engines' at an area source. Therefore, requirements of NESHAP Subpart ZZZZ are applicable.</p>
Internal Combustion Engine;	2011 and 2012, 2013	None	New Source Performance Standard (NSPS) Subpart III  NESHAP Subpart ZZZZ	<p>NSPS Subpart III is applicable to ICEs manufactured after April, 2006. This Subpart is applicable to these ICEs.</p> <p>These are 'New Engines' under NESHAP Subpart ZZZZ. Requirements of NESHAP ZZZZ are met by their meeting the requirements of NSPS Subpart III.</p>

Unit	Date of Construction / Modification	Control Device	Rule	Verification
Gear Arrestor Engines	2013	None	A. A. C. R18-2-719  NESHAP Subpart ZZZZ	<p>The engines for gear arrestors were replaced with engines manufactured in the year 2013 since the manufacturer could not replace the old engines. The new engines are the replacement engines for the engines of pre 2001 and are exempt from EPA and CARB standards.</p> <p>In accordance with 40 CFR 63, Subpart ZZZZ the ICES identified here are 'existing emergency engines' at an area source. Therefore, requirements of NESHAP Subpart ZZZZ are applicable.</p>

Unit	Date of Construction / Modification	Control Device	Rule	Verification
Boilers, Heaters, and Furnaces	Various	None	A.A.C. R18-2-724	<p>NSPS Subpart Dc is applicable to each steam generating unit for which construction, modification, or reconstruction commenced after June 9, 1989 and has a maximum design heat input capacity between 10 and 100 MMBtu/hr. The capacity of these boilers and heaters is below 10 MMBtu/hour. Hence NSPS is not applicable. Therefore, A.A.C. R 18-2-724 is applicable.</p> <p>NESHAP Subpart JJJJJ defines 'Gas-fired boiler' as any boiler that burns gaseous fuels and burns liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. The boilers at MCAS shall be using natural gas only. The hot water heaters at the facility are below 120 US Gallons capacity. Therefore, these are exempt from the requirements of NESHAP Subpart JJJJJ.</p>
Engine Test Cells, Welding, Soil Vapor Evaporator Unit, and Parts Washer		None	A.A.C. R18-2-730	This standard for unclassified equipment applies to engine test cells, welding, parts washer, and SVEU.
Spray Painting Activities	N/A	Filters	A.A.C. R18-2-727	This standard applies to spray painting activities.
Fugitive dust sources	N/A	Water and other reasonable precautions.	Article 6 of the A.A.C.	These standards are applicable to all fugitive dust sources.

Unit	Date of Construction / Modification	Control Device	Rule	Verification
Mobile sources	N/A	Water Sprays/ Water Truck for dust control	Article 8 of the A.A.C.	Opacity requirements for smoke and dust for mobile sources (construction equipment, etc.)

**VI. COMPLIANCE HISTORY**

Inspections are being conducted on this source to ensure compliance with the permit. No cases or violations have been developed as a result of inspections.

**VII. PREVIOUS PERMITS AND PERMIT CONDITIONS**

**A. Previous Permits**

**Table 3: Details of Previous Permit**

Date of Permit Issuance	Permit Number	Application Basis
November 17, 2011	53234	Operating Permit
June 21, 2012	56112	Minor Permit Revision

**B. Previous Permit Conditions**

Operating Permit #53234

Condition #	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Att. A	x				General Provisions - Revised to represent most recent permitting language
Attachment "B"					
I	x				Facility wide requirements revised by adding the camera method for opacity check.
II	x				This Section renamed as "Requirements for Boilers, Heaters, Furnaces, and Infra Red Heaters"

Condition #	Determination				Comments
	Revise	Keep	Delete	Stream-line	
III		x			Requirements for Emergency ICEs and Gear Arrestor Engines
IV	x				This Section renamed as "Requirements for Test Cells, Welding, Parts Washer, and Soil Vapor Evaporation Unit"
V		x			This condition for requirements for facility-wide HAP renumbered as Condition VI
VI	x				This condition for "Fugitive Dust Requirements" revised to represent most recent permitting language and renumbered as Condition VII.
VII	x				This Conditions Specific to Mobile Sources revised to represent most recent permitting language and renumbered as Condition VIII.
VIII	x				This condition for "Other Periodic Activities" revised to represent most recent permitting language and renumbered as Condition IX.
Attachment "C"					
Equipment List	x				Equipment list revised in line with the permit renewal application

Minor Permit Revision #56112

Condition #	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Attachment "B"					
IX		x			This condition for the requirements for SVEU revised and renumbered as Condition V.
Attachment "C"					
Equipment List	x				Equipment list revised in line with the permit renewal application

**VIII. MONITORING AND RECORDKEEPING REQUIREMENTS**

**A. Boilers and Heaters**

1. Opacity

The boilers and heaters are subject to a 15 percent opacity standard and are natural gas fired. Minimal visible emissions are expected from the boilers and humidifiers; therefore, no opacity monitoring is required.

2. Particulate Matter

The Permittee must keep records of fuel supplier certifications.

**B. Emergency ICEs not subject to NSPS**

1. The Permittee must maintain a record of the name of the supplier of fuel and sulfur content of the liquid fuel used.

2. The Permittee must maintain a record of daily, monthly and rolling 12-month totals of the operating hours of each emergency ICE and all gear arrestor engines to show compliance with the hourly limitations.

3. Opacity

a. A certified EPA Reference Method 9 observer must conduct monthly survey of visual emissions from the emergency ICE and gear arrestor engines stacks when in operation. If the opacity of the emissions observed appears to exceed the standard, the observer must conduct a certified EPA Reference Method 9 observation.

b. The Permittee must record the emission point being observed, date, time and the results of all visible emission surveys or Method 9 observations made, as well as the name of the observer who conducted the test. In the event of opacity going beyond the limit, the Permittee must keep a record of the corrective action taken to bring the opacity below the standard.

**C. ICEs subject to NSPS**

1. The Permittee must keep documentation that the engines meet all applicable emission standards.

2. The Permittee must maintain a record of daily, monthly and rolling 12-month totals of the operating hours of operation of the ICEs to show compliance with the hourly limitation for each of the ICE.

3. The Permittee must record the time of operation of the ICE and the reason of operating the ICE.

**D. ICEs subject to NESHAP**

1. The Permittee must keep a record of the hours of operation of the ICEs recorded through the non-resettable hour meter. Records must include the date, start and stop times, hours run for emergency operation, including what classified the operation as emergency, and hours run for non-emergency operation.
2. The Permittee must keep records of the parameters analyzed and the result of the oil analysis, if any, and the oil changes for the ICEs.
3. The Permittee must keep records of the maintenance conducted on the ICEs to demonstrate that the ICEs were operated and maintained in accordance with the maintenance plan.

**E. Test Cells**

The Permittee must keep a record of daily, monthly, and rolling 12-month totals of the fuel used in the engine test cells to show compliance with the fuel limitation.

**F. HAPs**

MCAS has, at the time of this renewal permit, eight separate permits with different NAICS codes with respect to criteria pollutants. All these permits are under common control of MCAS and are adjacent or contiguous location wise. As discussed in Section I, HAP emissions at the facility have to be evaluated cumulatively. The facility has voluntarily agreed to limit its emission of single HAP to 9 tons per year and total HAPs to 22.5 tons per year.

1. The HAP emission limit for single HAP and any combination of HAPs is facility wide.
2. The Permittee must record the type, name, and location of any HAP-containing material used facility wide.
3. The Permittee must keep records of the daily usage of all solvents, paints, or other HAP-containing materials.
4. The Permittee must determine the monthly facility-wide total HAP-containing material usage.
5. The Permittee must perform a mass balance for all HAP containing materials to calculate annual HAP emissions.

**G. Fugitive Dust**

1. A certified EPA Reference Method 9 observer must conduct monthly visual survey of visible emissions from fugitive dust sources.
2. The Permittee must record the emission point being observed, date, time and the results of all observations made, as well as the name of the observer who conducted the observation. In the event of opacity going beyond the limit, the Permittee must keep a record of the corrective action taken to bring the opacity below the standard.

**H. Booth/Non-booth Painting**

The Permittee must keep a record of surface coating used in booth/non-booth painting activity to show compliance with the accepted annual paint limitation.

**IX. LIST OF ABBREVIATIONS**

A.A.C.....	Arizona Administrative Code
ADEQ .....	Arizona Department of Environmental Quality
CFR.....	Code of Federal Regulations
CO.....	Carbon monoxide
DOD.....	Department of Defense
EPA.....	Environmental Protection Agency
HAP.....	Hazardous Air Pollutants
MCAS .....	Marine Corps Air Station
MSL .....	Mean Sea Level
NAICS.....	North American Industry Classification System
NESHAP.....	National Emission Standards for Hazardous Air Pollutants
NO <sub>x</sub> .....	Oxides of Nitrogen
PM.....	Particulate Matter
PM <sub>10</sub> .....	Particulate Matter below 10 micron size
PTE.....	Potential to Emit
SIC .....	Standard Industrial Classification
SO <sub>2</sub> .....	Sulfur dioxide
VOC .....	Volatile Organic Compounds

