Environmental Standard Operating Procedure			
Originating Office: **MCAS Miramar Environmental Management Department**	Revision: Version 2	Prepared By: Environmental Management Department	Approved By:
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Title: Aircraft Arresting Gear Operation and Maintenance

1.0 PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to provide environmental guidelines for managing hazardous materials and hazardous waste (HW) generated by aircraft arresting gear (AAG) operations and maintenance (O&M) activities.

2.0 APPLICATION

This guidance applies to those individuals who perform daily operations and maintenance on AAG onboard Marine Corps Air Station (MCAS) Miramar.

- 40 CFR (Part 262)
- MCO 5090.2 (USMC Environmental Compliance and Protection Manual)
- MCO P5100.8F
- Station Order P13810.1
- SDAPCD Rule 10, 67, 50 (Air Pollution Control District)
- SDAPCD Permits to Operate (Aircraft Arresting Gear)
- NPDES General Permit CAS000001 Section A (10)(a)

3.1 Discussion:

Aircraft arresting gear are comprised of the arresting engine, retrieving engine and cooling system. AAG operations require the use of hazardous materials such as oil, antifreeze, fuel, lubricants and batteries. These materials must be managed properly to avoid impacts to human health and the environment. All hazardous materials must be stored in appropriate, approved containers. Units are equipped with approved containers and aboveground storage tanks (ASTs), as necessary. Units should contact the Environmental Management Department (EMD) for replacement of or to request additional containers.

Aircraft arresting gear operations and maintenance also generates HW such as used oil and

antifreeze. Generators of HW are the first link in the "cradle-to-grave" chain of HW management established under the Resource Conservation and Recovery Act (RCRA) and must comply with the regulations developed under Subtitle C (40 Code of Federal Regulations (CFR) Part 262). Subtitle C requires generators to ensure and fully document that the HW they produce is properly identified and transported to a RCRA treatment, storage, or disposal facility.

3.2 Operational Controls:
The following procedures apply:

1. Ensure SDSs (Safety Data Sheets) for California Reformulated Gasoline Fuel (RGF), oil, and antifreeze and all materials associated with this practice are available and current.

2. Operation Manual for the AAG engine is available and is in a designated location known to all shop personnel.

3. Conduct new hire orientation and initial training.

4. Maintain required current training and certifications for all staffs.

5. All shop personnel must wear appropriate Protective Personal Equipment (PPE) including eye protection, ear protection, chemical–resistant clothing, gloves, and steel-toed boots.

6. Limit the operation of the AAG engines to hoisting the cable to assist in capture of errant aircraft landing.

7. Limit the operation of the engine to no more than 200 hours per year.

8. Check engine hours (run time) weekly.

9. Ensure that only California RGF is used in the engines.

10. Ensure that the fuel supply truck or fuel container is grounded during refueling operations.

11. Ensure that total fuel consumption and/or engine run time is recorded using a non-resettable fuel meter and/or run time recording device on the engine.

12. Ensure that visible emissions, including crank case smoke, comply with San Diego Air Pollution Control District (SDAPCD) Rule 50.

13. Conduct periodic maintenance as recommended by manufacturer.

14. Ensure that used fluids are not cross-contaminated with any other fluids or materials (e.g. keep POL separated from antifreeze). This includes dedicated transfer containers for each waste stream.

15. Keep HW containers closed except when HW is being added or removed.

16. Ensure drums and ASTs are not overfilled. Drums and ASTs are considered full when 3 to 4 inches of head space remain to allow for thermal expansion.

17. If there are any specific situations or other concerns not addressed by this procedure, contact the Environmental Management office.

3.3 Documentation and Record Keeping:
The following records must be maintained for the accumulation of used oil and antifreeze:

1. SDSs for all materials associated with this practice. These materials include, but are not limited to the following: oil, gasoline, lubricants, solvents, ethylene glycol, battery acid (sulfuric acid), paint, etc.

2. Training records.

3. Operation manuals, model number, brake horsepower rating, and supplier fuel certification.

4. Daily log containing dates and times of operation, total cumulative hours of operation (hours checked weekly).

5. Record of aircraft arresting traps.

6. Hazardous materials inventory (must match Authorized Usage List).

7. Scheduled maintenance logbook. This includes fluid and filter changes and other parts replacement activities (e.g., spark plugs).

8. Storm-water Pollution Prevention Plan.

9. Required permits (e.g., air, NPDES, health, etc.).

3.4 Training:
All affected personnel must be trained in this SOP. This includes, but is not limited to, the following:

1. Hazard Communication (HazCom) Training.

3.5 Emergency Preparedness and Response Procedures:
Refer to Marine Corps Order (MCO) 5090.2, Subject: Oil/Hazardous Substance Spills (OHSS) and Spill Prevention Containment & Countermeasures (SPCC) for MCAS Miramar.

3.6 Inspection and Corrective Action:

The Environmental Compliance Coordinator (ECC) shall designate personnel to perform inspections. The ECC shall ensure deficiencies noted during the inspections are corrected immediately. Actions taken to correct each deficiency shall be recorded on the inspection sheet.

Aircraft Arresting Gear O & M – Inspection Checklist	
Date:	Time:
Installation:	Work Center:
Inspector's Name:	Signature:

Inspection Items	Yes	No	Comments
1. Are SDSs for California Reformulated Gasoline Fuel, oil and antifreeze are current and available? *[29 CFR 1910.1200(g)(8)]*			
2. Is a fully stocked spill kit kept nearby in a designated location known to all shop personnel? *(40 CFR, 29 CFR, CCR 66265.31, HWMP)*			
3. Are fire extinguishers kept nearby in known locations? *(29 CFR 1910)*			
4. Are training and inspection records maintained and available for inspection for up to three years? *[MCO 5090.2]*			
5. Are all required permits current and available for inspection (e.g., air, NPDES, health, etc.)? *(MCO 5090.2)*			
6. Is the engine operation limited to hoisting the cable to assist in capture of errant aircraft landing?			
7. Is the engine operation limited to no more than 200 hours per year? *(MCO 5090.2)*			
8. Are engine hours (run time) checked weekly?			
9. Is only California RGF used in the engine? *(SDAPCD Rule 50)*			
10. Is total fuel consumption and/or engine run time recorded using a non-resettable fuel meter and/or run time recording device on the engine?			

11. Do visible emissions, including crank case smoke, comply with SDAPCD Rule 50? *(SDAPCD Rule 50)*			
12. Is periodic maintenance conducted as recommended by manufacturers at least once a year?			
13. Are all containers free from cross-contamination? If not, are cross-contaminated wastes stored separately?			
14. Is an under fill of 3"- 4" left in drums to allow for liquid expansion? *[CCR 66265.173(b)]*			
15. Are spills recorded in a spill log book with the spill date, time, product spilled, quantity, location, cleanup actions taken and the name of the person reporting the spill? *[CCR 66265.56(j), HWMP Sec: 4.2]*			

ADDITIONAL COMMENTS:

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CORRECTIVE ACTION TAKEN:

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_____

Environmental Compliance Coordinator

Name: _____

Signature: _____

Date: _____