



Navy Perspective of Clean Air Act Regulations- NESHAPS

Presented by:

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for Air Media



- **National Emission Standards for Hazardous Air Pollutants (NESHAPS) are stationary source standards for hazardous air pollutants.**
 - Hazardous air pollutants (HAPs) are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects.
- **Existing Regulations that affect Shipbuilding and Repair industry**
 - Ship Building and Ship Repair NESHAP
 - Reciprocating Internal Combustion Engine (RICE) NESHAP
 - State Regulations
- **Future Regulatory Impact**
 - National Ambient Air Quality Standards (NAAQS) Ozone

- **Background**

- In November 1995, the U. S. EPA issued national regulations to control hazardous air pollutant (HAP) materials from shipbuilding and ship repair facilities coating operations that are designated as major sources.
- Major sources are shipbuilding and repair facilities coating operations emitting over 10 tons/yr of an individual HAP or over 25 tons/yr of total HAP are regulated.

- **Some affected Navy Facilities include:**

- Naval Station Norfolk
- Norfolk Naval Shipyard
- Joint Expeditionary Base Little Creek
- SUBASE New London

Visual Acuity Test: How Many Ships Do You See?



Visual Acuity Test: How Many Ships Do You See?

Ship means any marine or fresh-water vessel used for military or commercial operations, including self-propelled vessels, those propelled by other craft (**barges**), and navigational aids (**buoys**). This definition includes, but is not limited to, all military and Coast Guard vessels, commercial cargo and passenger (cruise) ships, ferries, barges, tankers, container ships, patrol and pilot boats, and dredges. For purposes of this subpart, **pleasure crafts** and offshore oil and gas drilling platforms **are not considered ships**.

Now How Many Ships Do You See?

In recent years, the Navy has increased pier side ship maintenance.

VOC Control

- **Procure and use NAVSEA approved paints**
 - Ensuring that all “ship” are coated with marine paint
- **Batch Certifications**
 - Ensuring that Environmental obtains all Batch Certifications, including Contractor work, in a timely manner
 - **VOC Batch Certification language provided by manufacturer**
 - Regulator finding – Certification did not indicate “minus solvents exempt VOHAPs” (VOCs that are HAPs)
 - Working to revise the NAVSUP contract language so that Manufacturers Batch Certifications meet the NESHAP requirements



VOC Control

•Work Practices

- containers are kept closed** unless material/waste is being added/removed
- containers are not air dried** for disposal unless all liquid possible has been transferred to appropriate waste container AND no more than 1 inch paint residue remains
- paint brushes/rags/rollers used with any solvent or non-latex paint are disposed as hazardous waste/**not air dried**
- spills are cleaned up** immediately, properly containerized, and containers repackaged as necessary to prevent reoccurrence
- Use of good **Best Management Practices (BMPs)** such as shrouding, tarps, etc... to reduce emissions to air and material spills to water

- **Particulate Matter (PM) control from Blasting and sanding processes (State Regulations)**
 - Work practices - Use barriers or shrouds for outdoor activities
 - Permitting for ongoing process activities
- **Insufficient labeling of equipment (Tanks, compressors, etc...) on the piers**
 - If there are issues it is unclear who to contact

Residual Risk & 8-Year Technology Reviews

Proposed Decisions and Amendments



- **Shipbuilding NESHAP**
 - Sign Proposal - December 21, 2010
- **Residual Risk**
 - Acceptable
- **8-Yr Technology Review**
 - No Changes
- **Other Issues**
 - Start up, Shutdown and Malfunction (SSM)/Affirmative Defense Revisions

Two Rules

- **Standards of Performance for Stationary Compression Ignition Internal Combustion Engines**
 - 40 CFR Part 60, Subpart IIII
 - Promulgated 11 July 2006
- **Standards of Performance for Stationary Spark Ignition Internal Combustion Engines**
 - 40 CFR Part 60, Subpart JJJJ
 - Promulgated 18 January 2008
- **The 2010 amendments to the RICE NESHAP rule are intended to reduce emissions of hazardous air pollutants such as formaldehyde, acetaldehyde, acrolein, methanol and other air toxics from several categories of previously unregulated stationary engines**

Brief History of the RICE NESHAP



	Major Sources		Minor (Area Sources)	
	New	Existing	New	Existing
> 500 HP	2004 Rule	2004 Rule 2010 Rule Non-Emergency CI	2008 Rule	2010 Rule
≤ 500 HP	2008 Rule	2010 Rule	2008 Rule	2010 Rule

Requirements for Existing CI Engines at Major Sources



	Non-Emergency Compression Ignition				Emergency CI
	< 100 HP	100 ≤ HP ≤ 300	300 < HP ≤ 500	> 500 HP	< 500 HP
Emission Standard (except start-up)	-	Yes (CO)	Yes (CO)	Yes (CO)	-
Ultra Low Sulfur Diesel?	-	-	Yes (if <30L/cyl)	Yes (if <30L/cyl)	-
Work Practice Standards? (oil changes, inspections)	Yes	-	-	-	Yes
Metallic HAP Reduction (closed/filtered crankcase ventillation)	-	-	Yes	Yes	-
Operating Limitations (catalyst temperature and pressure drop)	-	-	Yes	Yes	-
Startup (< 30 min warmup before loading)	Yes	Yes	Yes	Yes	Yes
Demonstrating Compliance	Manuf. Recommended Maintenance	Initial Source Test	Initial Source Test	Triannual Source Tests and monitors on catalyst	Manuf. Recommended Maintenance
Reporting Requirements	-	Yes	Yes	Yes	Yes
Recordkeeping Requirements	-	-	Maintenance Records	Maintenance records and monitoring data.	Hours of emergency and non-emergency use.

Note: This table has been significantly simplified for presentation purposes.

Requirements for Existing CI Engines at Minor (Area) Sources



	Non-Emergency Compression Ignition				Emergency CI
	< 100 HP	100 ≤ HP ≤ 300	300 < HP ≤ 500	> 500 HP	All HP
Emission Standard (except start-up)	-	-	Yes (CO)	Yes (CO)	-
Ultra Low Sulfur Diesel?	-	-	Yes (if <30L/cyl)	Yes (if <30L/cyl)	-
Work Practice Standards? (oil changes, inspections)	Yes	Yes	-	-	Yes
Metallic HAP Reduction (closed/filtered crankcase ventillation)	-	-	Yes	Yes	-
Operating Limitations (catalyst temperature and pressure drop)	-	-	Yes	Yes	-
Startup (< 30 min warmup before loading)	Yes	Yes	Yes	Yes	Yes
Demonstrating Compliance	Manuf. Recommended Maintenance	Manuf. Recommended Maintenance	Initial Source Test	Triannual Source Tests and monitors on catalyst	Manuf. Recommended Maintenance
Reporting Requirements	-	Yes	Yes	Yes	Yes
Recordkeeping Requirements	-	-	Maintenance Records	Maintenance records and monitoring data.	Hours of emergency and non-emergency use.

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Requirements for Existing SI Engines at Major Sources



	Non-Emergency Spark Ignition			Emergency SI
	< 100 HP	100 < HP ≤ 500	> 500 HP	All HP
Emission Standard (except start-up)	-	Yes	Yes	-
Work Practice Standards? (oil changes, inspections)	Yes	Yes	Yes	Yes
Operating Limitations (catalyst temperature and pressure drop)	-	-	Yes	-
Startup (< 30 min warmup before loading)	Yes	Yes	Yes	Yes
Demonstrating Compliance	Manuf. Recommended Maintenance	Initial Source Test	Semiannual Source Tests and monitors on catalyst	Manuf. Recommended Maintenance
Reporting Requirements	-	-	Yes	-
Recordkeeping Requirements	-	Maintenance Records	Maintenance records and monitoring data.	Hours of emergency and non-emergency use.

Note: This table has been significantly simplified for presentation purposes, and does not distinguish between 4SLB, 4SRB, Landfill Gas engines, and does not address requirements for Limited Use engines.

Requirements for Existing SI Engines at Minor (Area) Sources

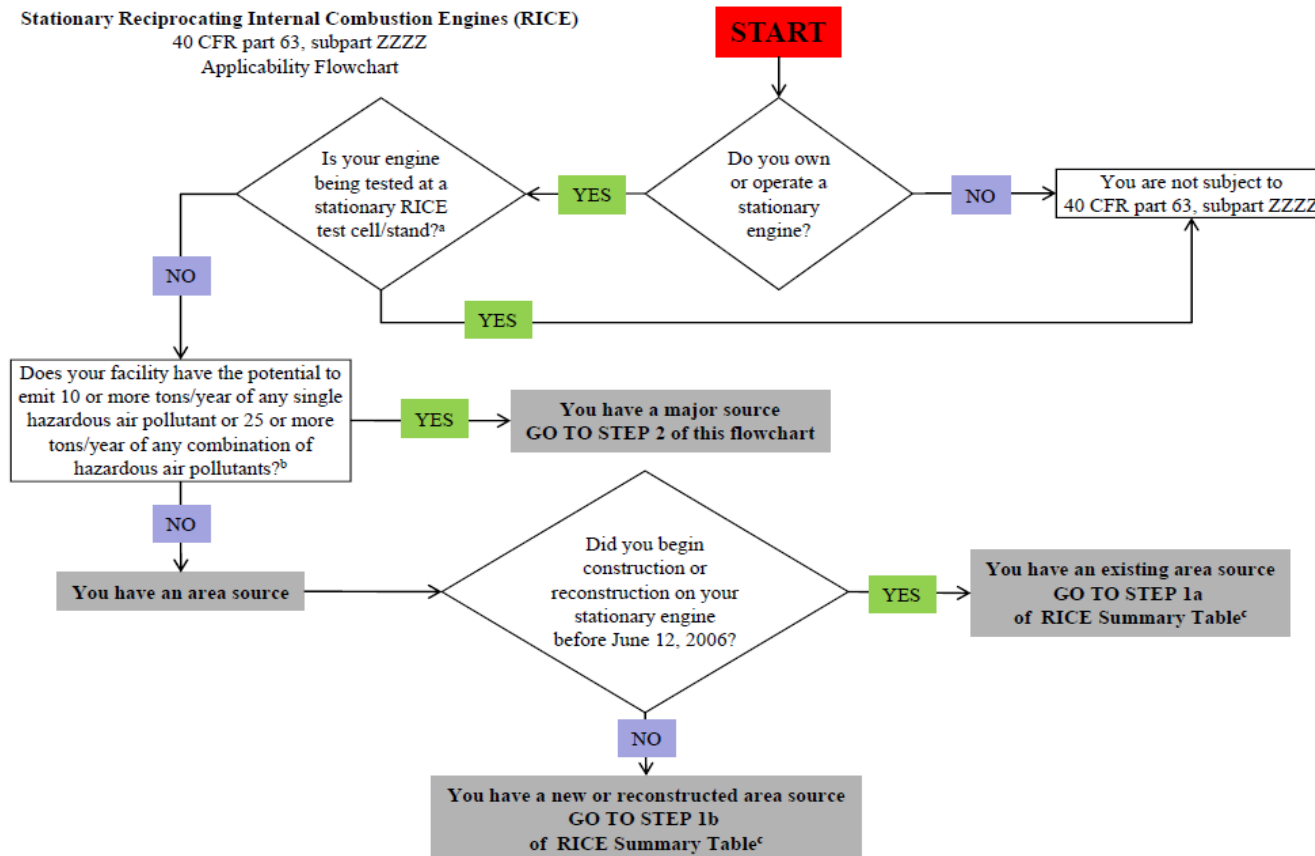
	Non-Emergency Spark Ignition			Emergency SI
	< 100 HP	100 < HP ≤ 500	> 500 HP	All HP
Emission Standard (except start-up)	-	-	Yes	-
Work Practice Standards? (oil changes, inspections)	Yes	Yes	Yes	Yes
Operating Limitations (catalyst temperature and pressure drop)	-	-	Yes	-
Startup (< 30 min warmup before loading)	Yes	Yes	Yes	Yes
Demonstrating Compliance	Manuf. Recommended Maintenance	Manuf. Recommended Maintenance	Triannual Source Tests and monitors on catalyst	Manuf. Recommended Maintenance
Reporting Requirements	-	-	Yes	-
Recordkeeping Requirements	-	Maintenance Records	Maintenance records and monitoring data.	Hours of emergency and non-emergency use.

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Concerns – RICE NESHAP



Stationary Reciprocating Internal Combustion Engines (RICE) 40 CFR part 63, subpart ZZZZ Applicability Flowchart



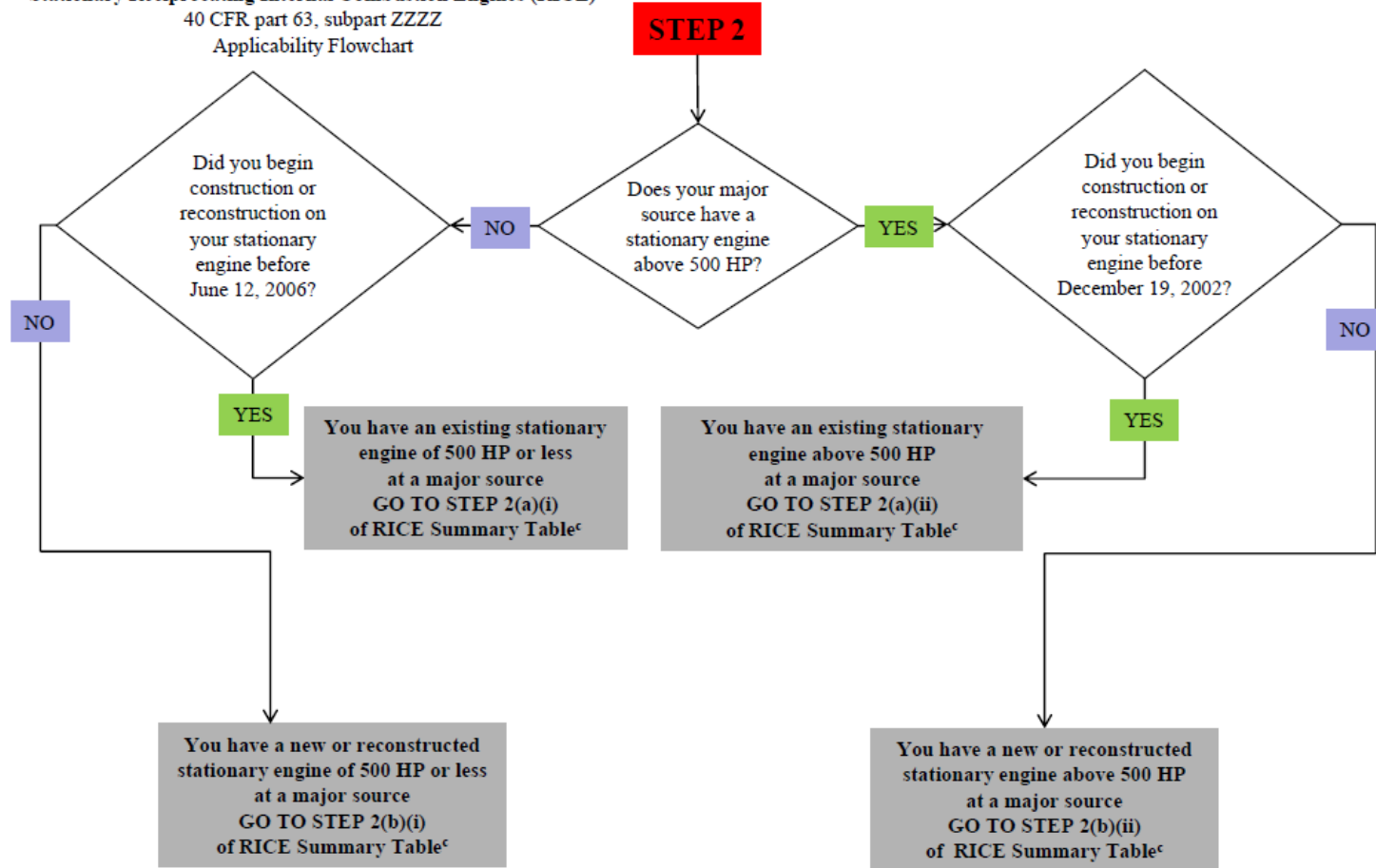
^aAn engine test cell/stand is any apparatus used for testing uninstalled stationary or uninstalled mobile (motive) engines.

^bFor assistance in determining the potential to emit, please refer to <http://www.epa.gov/ttn/chief/ap42/index.html> or contact your EPA regional office or state permitting staff.

Concerns – RICE NESHAP



Stationary Reciprocating Internal Combustion Engines (RICE)
 40 CFR part 63, subpart ZZZZ
 Applicability Flowchart



^cThe RICE Summary Table of Requirements provides additional information on 40 CFR part 63, subpart ZZZZ requirements and is available at <http://www.epa.gov/ttn/atw/rice/ricepg.html>.

Determining applicability

- **Taking inventory of ALL stationary generators, fire pumps, and compressors**
 - Emergency or Non-Emergency
 - Compression ignition or Spark ignition
 - Size (KW)
 - New, Reconstructed or Existing
 - Based on manufacture date or construction date
 - Model number/ serial number/ Family number
 - Emission certifications for new or emissions factors
- **Capturing new generators to add to the inventory**
 - Tenant owned and maintained
 - Long term (> 1 year) processes
 - Replacement of existing units are “new”



- **EPA has delayed issuance of the final standard to allow additional time to review the science and to select the most appropriate standard**
- **EPA will announce the final standard by 29 Jul 11**
 - 1997 8-hour ozone standard – 0.08 ppm
 - Proposed standard (0.06ppm – 0.075 ppm)
- **Expect the Hampton Roads area to be reclassified as Non-Attainment**
 - **Nonattainment – area that is out of compliance with the NAAQS.**
 - Area that has violating monitor or that contributes to an area with a violating monitor.

What is the impact for Hampton Roads Facilities?

- **General Conformity applicable 1 year after effective date of being designated nonattainment**
- **Applicable requirements 3 years after new standard**
 - **Permitting**
 - Lower thresholds for permitting. Projects that did not require permitting in the past will now require a permit.
 - **Air pollution control programs**
 - Inspections and maintenance on vehicles
 - Stage 2 Vapor Recovery