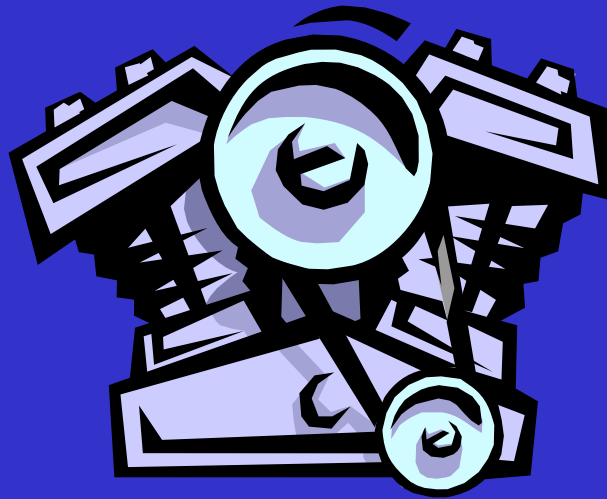


Understanding and Living with Internal Combustion Engine Rules: An Industry Perspective

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What Are We Going To Cover?

- **Brief Overview of the Rules for Reciprocating Internal Combustion Engines (RICE)**
- **Issues Encountered While Developing A Program To Manage Both Leased And Permanent RICE**
- **What Are (And How To Avoid) The Potential Pitfalls Of Implementing An RICE Regulatory Compliance Program**
- **What Factors Influence Whether Or Not A Given RICE Engine Has To Be Incorporated Into One Of The Refinery's Title V Permits Or Permitted Under Some Other Regulatory Mechanism**

Part 1

Brief Overview Of The Recent Air Rules For Reciprocating Internal Combustion Engines (RICE)

What Are The Recent Air Regulations For Internal Combustion Engines?

- **National Emission Standard For Hazardous Air Pollutants (NESHAP) For Reciprocating Internal Combustion Engines (RICE) – 40 CFR 63, Subpart ZZZZ [Note: This Is Also Referred To As A Maximum Achievable Control Technology (MACT) Standard]**
- **New Source Performance Standards (NSPS) For Stationary Compression Ignition Internal Combustion Engines – 40 CFR 60, Subpart IIII [Note: Compression Ignition Engines Are Virtually Always Diesel-fired Engines]**

What Equipment Is Subject To NESHAP Subpart ZZZZ?

A RICE With A Rating of More Than 500 Brake Horsepower Located At Major Sources Of HAP Emissions?

Yes

Is RICE Located At The Facility > 12 Consecutive Months or Will Replace A RICE That Is Intended To Perform the Same or Similar Function > 12 Months ?

Yes

Subpart ZZZZ Applies

No

No

Subpart ZZZZ Does Not Apply

Are There Exclusions For Limited Use Engines?

- The Rule Contains Certain Exclusions For Limited Use Engines That Operate Less Than 100 Hr/Yr And Emergency RICE, Which Includes RICE That Are Used In Emergencies To Produce Electricity Or Pump Water For Flood And Fire Control

What Are The Requirements of ZZZZ Applicable RICE Equipment?

- The Requirements for Regulated Stationary RICE Depend on Their Design (Size and Type), Length of Use, Service (See Charts at the End of Presentation)
- Which Pollutants Are Regulated?
 - CO - Low CO Represents Good Combustion, Which Reduces HAP Emissions
 - Formaldehyde

What Are The Requirements of ZZZZ Applicable RICE Equipment?

- **Types of Recordkeeping & Reporting Requirements**
 - Initial Notifications
 - Both Annual and Semi-annual Reports
 - Compliance Records
 - Emissions Testing
 - Maintenance Conducted
 - CEMS Data (If Using to Show Compliance for CO)

What Are The Requirements of ZZZZ Applicable RICE Equipment?

- **Compliance Deadlines**
 - Existing RICE Units are Those That Were Constructed or Reconstructed Before Dec. 19, 2002 and Must Comply with the Requirements By June 15, 2007
 - New and Reconstructed RICE Units Are Those That Were Constructed or Reconstructed After Dec. 19, 2002 and Must Comply with the Requirements By August 16, 2004 or Must Comply Upon Startup

What Equipment Is Subject To Subpart III?

RICE Ordered/Constructed
After July 11, 2005

Yes

Is RICE in Facility > 12 Consecutive
Months or Will Replace A RICE That
is Intended to Perform the Same or
Similar Function > 12 Months ?

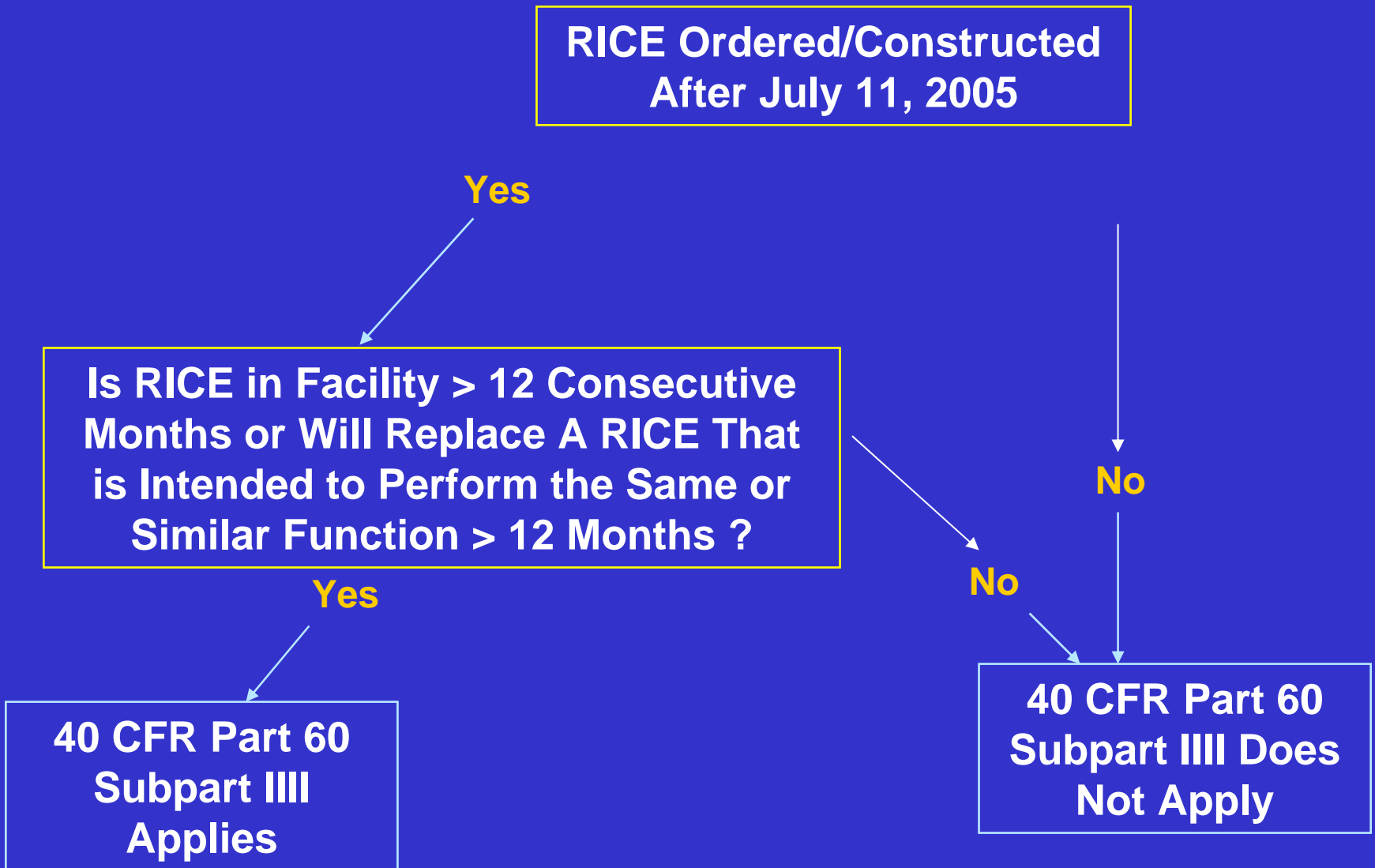
Yes

40 CFR Part 60
Subpart III
Applies

No

No

40 CFR Part 60
Subpart III Does
Not Apply



What Are The Requirements of IIII Applicable RICE Equipment ?

- **Tiered system where the standards are phased in based on:**
 - Power Rating, Where Engines With A Rating As Low As 11 HP Can Become Subject To The Regulation
 - Model Year
 - Cylinder Displacement (Expressed In Liters Per Cylinder)
 - Whether The Engine Is An Emergency Or Fire Pump Engine
- **Which Pollutants are Regulated?**
 - NO_x, PM, CO, NMHC

What Are The Requirements of IIII Applicable RICE Equipment?

- **Types of Recordkeeping & Reporting Requirements**
 - **Initial Notification on Certain RICE Pending Capacity, HP and Model Year**
 - **All Records Needed to Demonstrate Compliance**
 - **Emissions Testing Required**
 - **Maintenance Conducted**
 - **Hour Meter Readings**

What Are The Requirements of III Applicable RICE Equipment?

- **Operational and Monitoring Requirements**
 - **Must Operate All Engines and Control Devices According to Manufacturer**
 - **May Require Training to Make Sure Being Followed**
- **Fuel Usage**
 - **October 1, 2007 – Burn Low Sulfur Diesel (LSD) (<500 ppm)**
 - **October 1, 2010 – Burn Ultra Low Sulfur Diesel (ULSD) (<15 ppm)**

When is a RICE a Non-road Engine And Not Applicable To The Standard?

- **Very Similar Language Is Used In Both Regulations For Definition – Cannot Be Considered Non-road *If* :**
 - **Used To Propel A Motor Vehicle, An Aircraft, Or Equipment Used Solely For Competition**
 - **Subject To Standards Promulgated Under Section 202 Of The Act (42 U.S.C. 7521) or A Federal New Source Performance Standard Promulgated Under Section 111 Of The Act (42 U.S.C. 7411)**
 - **Remains Or Will Remain At A Location For More Than 12 Consecutive Months Or A Shorter Period Of Time For An Engine Located At A Seasonal Source**

What In The Significance of the Terms In Nonroad Definition?

■ Location

- Any Single Site At A Building, Structure, Facility, Or Installation
- Facility Site Is A Location

■ Same Or Similar Service

- RICE That Replaces An Engine That Is Intended To Perform The Same Or Similar Function As The Engine Replaced Will Be Included In Calculating The Consecutive Time Period

■ Seasonal Source

- RICE Located At A Seasonal Source Is An Engine That Remains At A Seasonal Source During The Full Annual Operating Period Of The Seasonal Source. A Seasonal Source Is A Stationary Source That Remains In A Single Location On A Permanent Basis (I.E. , At Least Two Years) And That Operates At That Single Location Approximately Three Months (Or More) Each Year

What Is The Significance of The Nonroad Definition?

- **When A RICE Is Brought On Site For Less Than 12 Months, And If It Is Transportable (e.g., Skid Mounted), Then It Conforms To The Definition Of A “Non-road Engine” And Consequently It Does Not Meet The Definition Of A “Stationary RICE” In Either NESHAP Subpart ZZZZ Or NSPS Subpart IIII**
- **Many Facilities Lease Transportable RICE-driven Equipment For Periods Of Less Than 12 Months, So This Is A Very Common Situation**
- **Note RICE Compliance Program Described In This Paper Does Not Depend On This Regulatory Exemption Because It Was Decided That Tracking The Time A RICE Stays On Site Is Overly Difficult**
- **However, Other Facilities May Decide To Take Advantage Of This Regulatory Exclusion In Their RICE Compliance Programs And Need To Be Aware Of Its Existence**

Part 2

Managing Compliance Of Leased Equipment

First Phase of The Audit

What Equipment Do We Have?

- First Step - Appoint An Environmental RICE Champion**
 - **Responsible For Maintaining Facility's Compliance With RICE Regulations**
 - **Point Of Contact Surrounding RICE Issues**
- Second Step - Field Survey To Identify Gaps**
 - **Audit Equipment In Field To Assess What Equipment Is Being Utilize**
 - **Review Any Programs In Place**
 - **Review RICE Equipment Records**

What Gaps Were Identified?

- **The Rental Contractors Did Not Have Adequate Records To Confirm Compliance With Standards**
- **RICE Equipment Housed In A General Lay-down Yard With No Controls On How Equipment Was Accessed, Utilized Or Maintained**
- **Equipment From The Yard Was In Some Cases Sent By The Rental Companies To Other Facilities**

Developing RICE Program Structure

- **Two Primary Objectives**
 - **Address Tracking of Equipment**
 - **Ensuring Continuous Compliance With RICE Standards**
- **Solution – Streamline The Process To Gain Control and Maintain Compliance**

Developing *Leased* RICE Program Structure How To Streamline The Process?

- **Conservatively Assumed that All Leased RICE Managed In This Part of The Program Will Not Qualify For The Non-Road Engine Exclusion**
- **Streamlines The Regulatory Applicability And Removes Tracking The Amount Of Time RICE Equipment Is In The Facility**

Developing *Leased* RICE Program Structure How To Streamline The Process?

- **Limit Size of RICE that Contractor Leasing Company Can Bring Into Refinery Without Requiring Refinery Environmental Department Approval**
 - **Allow Without Refinery Environmental Approval – Only RICE ≤ 500 HP and ≤ 30 Liters Per Cylinder displacement**
 - **Removes All ZZZZ Applicability - Much More Cumbersome Regulation With Many Additional Requirements**
 - **If > 500 HP or > 30 Liters Required - Utilize Much More Comprehensive System With Refinery Environmental Personnel Managing All Aspects of Program**

Developing *Leased* RICE Program Structure How To Streamline The Process?

- **Limit Manufacture Date of Equipment That Contractor Leasing Company Can Bring Into Refinery Without Requiring Refinery Environmental Department Approval**
 - **Allow Without Refinery Approval RICE Built Before July 2005, or After January 2007**
 - **Avoids Required Performance Test for Transition RICE Equipment**
 - **More Difficult to Enforce – Will Require at Least Quarterly Audits by Refinery Environmental Personnel**

Developing *Leased* RICE Program Structure

How To Track The *Leased Equipment*?

- **Develop Inventory Sheet to Identify RICE Equipment**
 - Manufacture Date
 - Horse Power Rating
 - Engine Capacity in Liter Per Cylinder
- **Training**
 - Train Leaser on Spreadsheet
 - Train Maintenance on General Regulatory Overview of Regulations and Stress Importance of Operating Equipment According to Manufactures Guidelines (Do Not Modify Equipment)

Developing Leased RICE Program Structure How To Maintain and Certify Compliance?

- **Institute Controls**
- **Contractually**
 - Engage Purchasing Department to Incorporate Specific Language Pertaining to Regulations in Contracts or Purchase Orders
 - Interview Potential Leasing Companies on Knowledge of Regulatory Requirements
 - Request Copies of Policies, Procedures or Systems from Lessors

Developing Leased RICE Program Structure How To Maintain and Certify Compliance?

- **Conservatively Decided Not To Distinguish Which Rented RICE Equipment Required LSD and Eventually ULSD**
- **Provide LSD and ULSD as RICE Fuel Per Compliance Dates**
 - **October 1, 2007 – LSD**
 - **October 1, 2010 - ULSD**

Developing Leased RICE Program Structure How To Maintain and Certify Compliance?

- **Develop Audit Program**
 - **Review Inventory Sheet on Routine Frequency at Least Once a Quarter**
 - **Field Audit to Confirm Information in the Spreadsheet on a Semi Annual Basis to Coincide With Title V Certifications**

Part 3

Louisiana Permitting Alternatives for RICE Equipment

To Permit or Not to Permit RICE Equipment?

- **In Louisiana Four Options For Utilizing RICE Equipment**
 - **Not Permit Based On The Non-road Engine Exclusion**
 - **Emergency Variance Under LAC 33:III.917**
 - **Insignificant Case By Case Determination Under LAC 33:III.501.B.5.D**
 - **Permitting An Emission Source Or A Capped Source In A Title V Permit**

Not Permitting Based On The Nonroad Engine Exclusion

- **Exclusion Exempts RICE Transportable and Temporary Provided Meets The Definition in 40 CFR 1068.30 – Do Not Have To Permit**
- **Liberal Interpretation Contend No Permitting Or Notification To LDEQ Required (i.e. variance...) If Non-road Definition Meet Because Not Subject To Title V or Any Other Type of Stationary Source Permitting Requirements Under The Clean Air Act**
- **Facility Elected Not To Pursue This Option**

How About An Emergency Variance Under LAC 33:III.917?

- **Best Option If Equipment Is Needed For Limited Amount or Time (Generally Less Than Six Months)**
- **Extremely Quick Approval – As Little As Same Day Approval**
- **Authorize Equipment Less Than Six Months – With Potential For An Extension At LDEQ's Discretion**
- **Cannot Authorize Violation of Any Applicable NSPS/NESHAP Standards, or Waive PSD or NNSR Requirements**
- **Can Be Used For RICE Equipment Where ZZZZ/III Are Applicable - Variance Will Specify Which RICE Regulations Are Applicable**

Why Not Insignificant Case by Case Determination Under LAC 33:III.501.B.5.D?

- **Less Than 5 TPY Potential To Emit of Any Regulated Pollutant**
 - **Note That Per 501.B.4.a.i The Emissions Must Be Calculated As If The RICE Will Be Emitting The Entire Year Even Though The Source May Be Utilized For Less Than A Year**
- **No Federally Enforceable Permit Condition is Necessary Applicable**
- **Does Not Trigger any MER for LA Toxics Rules**
- **Fairly Quick – Default Approval Process Allows Up To 30 Days (Can Work With LDEQ To Rush)**
- **No Time Constraints – Must Incorporate into Next Title V Permit Renewal/Modification**

Permitting as an Emission Source or a Capped Source in a Title V Permit

- **Basic Approach Permit Each RICE As An Individual Emission Source In Title V Permits**
 - Most Time-consuming Permitting Mechanism
 - Triggers Many Regulatory Burdens
- **Emissions Cap**
 - Used To Establish Annual Emission Limits For A Group Of Combined Emission Sources
 - Assign Each Individual RICE Within The Capped Source With Separate Maximum Hourly Emission Limits

Permitting as an Emission Source or a Capped Source in a Title V Permit

- **Mechanisms In Permitting - Currently Pursuing an Emissions CAP – Still in Discussions with LDEQ on Approach**
 - **Emissions Based on Survey of Vendor Emission Data**
 - **Maximum Hourly Emission Limit Not Specified But Specific Condition That RICE Will Meet The NSPS Subpart III Or NESHAP Subpart ZZZZ Emission Standards Where Applicable**
 - **Proposing to Monitor Diesel Usage of Equipment**
 - **Note: Cannot Circumvent NSPS And NESHAP Requirements Due To Cap - Must Be Applied On An Individual RICE-Applicable Engine Basis**

Incorporating Engines Into Title V Permits

- **LDEQ Expects Permittees to Provide in the Application the Specific Values Needed from the Tables to Fill in the Limitation**
- **The Applicability of the Regulations is Based Upon the Volume of the Cylinder, So Provide That Value in Addition to the Horsepower Rating**
- **When Options Are Allowed, LDEQ Expects Permittees to Indicate in the Application, Which Option the Facility Wishes to Comply With**

QUESTIONS?

*Additional Regulatory
Information For Reference
Provided in the Following
PowerPoint Slides*

EPA Regulations For Internal Combustion Engines:

- National Emission Standards for Hazardous Air Pollutants (NESHAP) ZZZZ (Final with Proposed Amendments)
- New Source Performance Standards (NSPS) IIII (final)
- NSPS JJJJ (Proposed in Conjunction with the NESHAP ZZZZ Amendments)

- The Following Table Lists, in Chronological Order, Proposed and Final NSPS and NESHAP Regulations for Stationary IC Engines:

Promulgated FR Notices for NSPS III, JJJJ, & NESHAP ZZZZ for Stationary Internal Combustion Engines

Promulgation Date	Citation	Description
12/19/02	67 FR 77829	New Proposed Rule 40 CFR 63 NESHAP ZZZZ For Reciprocating Internal Combustion Engines
6/15/04	69FR 33473	Final rule 40 CFR 63 NESHAP ZZZZ for Reciprocating Internal Combustion Engines

Promulgated FR Notices for NSPS IIII, JJJJ, & NESHAP ZZZZ for Stationary Internal Combustion Engines (cont.)

Promulgation Date	Citation	Description
7/11/05	70FR 33804	New Proposed Rule 40 CFR 60 NSPS IIII for Stationary Compression Ignition Internal Combustion Engines
6/12/06	71 FR 33804	New Proposed Rule 40 CFR 60 NSPS JJJJ for Stationary Spark Ignition Internal Combustion Engines: & Proposed Rule 40 CFR 63 NESHAP ZZZZ For Reciprocating Internal Combustion Engines

Promulgated FR Notices for NSPS III, JJJJ, & NESHAP ZZZZ for Stationary Internal Combustion Engines (cont.)

Promulgation Date	Citation	Description
6/26/06	71FR 36394	Correction to 6/12/06 Proposal: Proposed Rule 40 CFR 60 NSPS JJJJ for Stationary Spark Ignition Internal Combustion Engines & Proposed Rule 40 CFR 63 NESHAP ZZZZ for Reciprocating Internal Combustion Engines

**Promulgated FR Notices for NSPS IIII, JJJJ, & NESHAP ZZZZ for
Stationary Internal Combustion Engines (cont.)**

Promulgation Date	Citation	Description
7/11/06	71FR 39154	Final Rule 40 CFR 60 NSPS IIII Stationary Compression Ignition Internal Combustion Engines
7/27/06	71FR 42622 [1]	Extension of Public Comment. Comments Due 10/11/06: Proposed Rule 40 CFR 60 NSPS JJJJ for Stationary Spark Ignition Internal Combustion Engines & Proposed Rule 40 CFR 63 NESHAP ZZZZ for Reciprocating Internal Combustion Engines

The EPA Contact And ATW Webpage Links For These Regulations

NESHAP (MACT) STANDARD Source Categories Affected	CFR Subparts	Final Federal Register Date & Citation	Compliance Date	Project Lead	Compliance Lead
New Source Performance Standards (NSPS) Stationary Compression Ignition Internal Combustion Engines EPA/TTN/ATW website http://www.epa.gov/ttn/3tw/nsps/cinspe/cinspspg.html	IIII	FINAL 7/11/06 (71FR39514)	7/11/05 (earliest)	Jamie Pagan 919-541- 5340 Pagan.jamie@epa.gov	Not Listed

The EPA Contact And ATW Webpage Links For These Regulations (cont.)

<p>Reciprocating Internal Combustion Engines (RICE) (NESHAP/NSPS) EPA/TTN/ATW website http://epa.gov/ttn/atw/rice/riceepg.html</p>	<p>ZZZZ</p>	<p>FINAL 38153 (69FR33473)</p>	<p>6/15/07</p>	<p>Jamie Pagan 919-541- 5340 Pagan.jamie@epa.gov</p>	<p>Greg Fried 202-564- 7016 fried.greory@epa.gov</p>
<p>NSPS/NESHAP For Spark Ignited Engines (Docket ID No. OAR-2005- 0030) EPA/TTN/ATW website: http://eee.epa.gov/ttn/atw/nsps/sinspspg/html</p>	<p>JJJJ</p>	<p>PROPOSED 38880 (71FR33804)</p>	<p>TBD</p>	<p>Jamie Pagan 919-541- 5340 Pagan.jamie@epa.gov</p>	<p>Not Listed</p>

Sources:

- Bureau of National Affairs. Environment & Safety Library Online.
<http://esweb.bna.com/eslw4/>
- LDEQ Rules & Regulations website:
<http://www.deq.louisiana.gov/portal/tabid/96/Default.aspx>
- USEPA TTN Air Toxics website:
<http://www.epa.gov/ttn/atw/eparules.html>
- US GPO Federal Register Access website:
<http://www.gpoaccess.gov/fr/index.html>
- US GPO Code of Federal Regulations Access website:
<http://www.gpoaccess.gov/fr/index.html>

On June 12, 2006 EPA Proposed New NSPS JJJJ Regulations and Amendments to NESHAP ZZZZ Stating:

- “We Are Proposing These Two Sets of Regulations Under One Notice of Proposed Rulemaking Because the Source Categories Being Addressed Are Practically Identical. In Other Words, Stationary Engines Located at Major and Area Sources of HAP Will Also be Affected by NSPS Regulations.” (71FR33805, Mon 6/12/06)