

# How to Comply with EPA Regulations for Stationary Reciprocating Internal Combustion Engines (“RICE”)



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## Some Useful EPA Web-based Assistance

- [www.epa.gov/region1/RICE](http://www.epa.gov/region1/RICE) - “plain language” summary of RICE NESHAP & NSPS, sample Initial Notification and Notification of Compliance Status Forms, events, state contacts, links
- [www.epa.gov/ttn/atw/rice/ricepg/html#IMP](http://www.epa.gov/ttn/atw/rice/ricepg/html#IMP) - Technology Transfer Network includes proposed and final rules, fact sheets on Jan. 2013 NESHAP & NSPS amendments, link to e-CFR, Q & A
- [www.combustionportal.org](http://www.combustionportal.org) - summary of NSPS standards

# Suggested Procedure for Determining EPA RICE Compliance Requirements

- Step-by-step procedure - not required, suggested
- Gather the key data on all your RICE that determine compliance requirements
- Use web tools & your data to determine requirements
- Call EPA or state if you get stuck

## Suggested Step-by-Step Procedure

- Step 1 - Determine if your RICE are Stationary
- Step 2 – Classify Each RICE by Key Factors
- Step 3 – Determine if Your Source is Area or Major
- Step 4 – Determine if Your RICE are New or Existing
- Step 5 – Determine if Your RICE are Emergency or Non-Emergency
- Step 6 – Determine if Your Emergency RICE are Subject to RICE NESHAP
- Step 7 – Determine Compliance Requirements
- Step 8 – Review Compliance Dates & Address Any Noncompliance

# Step 1 – – Determine if your RICE are Stationary

- Not used in a motor vehicle and not a non-road engine
- See Melanie King Powerpoint for details

## Step 2 – Classify Each RICE by Key Factors

- CI or SI
- SI - 2 or 4-stroke, lean or rich burn, etc.
- Horsepower
- Date constructed/reconstructed
- Annual hours of use in emergency/non-emergency situations
- Annual hours of use for maintenance/testing
- Contract obligations and annual hours of use for emergency demand response, financial arrangement for local system reliability, peak shaving

## Step 3 – Determine if Your Source is Area or Major

- Major -  $\geq 10$  tons/year single Hazardous Air Pollutant (HAP) or  $\geq 25$  tons/year combined HAPs
- Area – not major



## Step 4 – Determine if Your RICE are New or Existing

- RICE NESHAP - >500 hp at major source – existing if construction commenced before December 19, 2002
- RICE NESHAP -  $\leq 500$  HP at major source, and all HP at area source – existing if construction commenced before June 12, 2006
- Construction date for RICE NESHAP – entered into contractual obligation for on-site installation of engine
- Construction date for CI & SI NSPS – date ordered (7/11/2005 for CI NSPS and 6/12/2006 for SI NSPS)



## Step 5 – Determine if Your RICE are Emergency or Non-Emergency

- Note that following 2013 amendments emergency RICE definition now includes up to 100 hours of annual use for combination of maintenance/testing and EDR
- Use engine too much (time limits) – sources may become subject to RICE NESHAP non-emergency engine requirements!

## Step 6 – Determine if Your Emergency RICE are Subject to RICE NESHAP

- Only engines not subject: existing emergency engines located at residential, institutional or commercial area sources used or obligated to be available  $\leq 15$  hr/yr for emergency demand response or voltage/frequency deviation, and not used for local reliability
- Refer to table of NAICS codes on EPA air toxics TTN website RICE webpage –  
[http://www.epa.gov/ttn/atw/rice/guidance\\_emergency\\_engine\\_def.pdf](http://www.epa.gov/ttn/atw/rice/guidance_emergency_engine_def.pdf)

# Step 7 – Determine Compliance Requirements

- Refer to 2013 Melanie King Powerpoints - today's presentation, Powerpoint from February-March 2013 webinars posted on TTN site & Region 1 RICE webpage
- e-CFR is current
- Region 1 RICE webpage recently up-dated to include new tables with revised compliance requirements
- Other EPA online tools being up-dated to include 2013 amendments (Regulation Navigation Tool) – check back

## Step 8 – Review Compliance Dates & Address Any Noncompliance

- Engines with emission limits will often need to install controls and have notification requirements
- Submit overdue initial notifications ASAP - due 8/31/2010 for existing non-emergency CI RICE with emission limits and 2/16/2011 for existing non-emergency SI RICE with emission limits
- By RICE NESHAP compliance dates (5/3/13 CI, 10/19/13 SI) non-emergency engines must have controls installed & meet all other compliance requirements; stack test due 180 days after
- One year compliance extensions to install controls – due date 1/3/13 for CI; 6/21/13 for SI

# Compliance Requirements to Remember

- If operating an emergency engine, record hours of use (non-resettable hour meter required)
- Determine and conduct required maintenance (e.g., oil & filter change, inspect air cleaner, inspect hoses and belts)
- Record maintenance performed
- Operate/maintain acc. to manufacturer's written instructions or develop maintenance plan
- Properly operate Continuous Parameter Monitoring System (CPMS)

# Preparing for a Performance Test

- Submit Notification of Performance Test at least 60 days in advance of test date
- EPA region may require test protocol for performance tests (submit with notification); may observe test; procedures vary by region; Region 1 requires protocol
- EPA Guidance Documents 042 and 043 for Test Protocols and Test Reports
  - <http://www.epa.gov/ttn/emc/guidInd.html>
- Address proper operation (performance evaluation) of Continuous Performance Monitoring System (CPMS) in test protocol



# Considering Engine Retrofit or Replacement

- Explore availability of new technologies
- Get several quotes – they may vary widely
- Compare efficiency of current & new engines & fuel costs
- Carefully assess capital and operating cost tradeoffs – use business math techniques like calculating Net Present Value of investment & rate of return



# Need More Help or Info?

Roy Crystal, Region 1 RICE Assistance Lead  
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Susan Lancey, Region 1 Air Toxics Coordinator  
(contact for RICE applicability determinations)  
[Lancey.Susan@epa.gov](mailto:Lancey.Susan@epa.gov), 617-918-1656

## Regional RICE Contacts

for Other EPA Regions – direct your questions to  
RICE contact for the region where the engine is -  
<http://www.epa.gov/ttn/atw/rice/EPARegionalRICEcontacts.pdf>