



New Source Performance Standards - NSPS

September 15, 2016

Two Types of Engines

- CI: Compression Ignition (Diesel)
- SI: Spark Ignition (gas [natural gas, landfill gas, gasoline, propane, etc.])

Stationary CI Engine NSPS

- 40 CFR part 60 subpart IIII
- Affects new, modified, and reconstructed stationary CI engines
- Originally promulgated July 11, 2006
- Provided a phase in schedule for various emission Tier levels
- Amended June 28, 2011



Federal Register

Tuesday,
July 11, 2006

Part II

Environmental Protection Agency

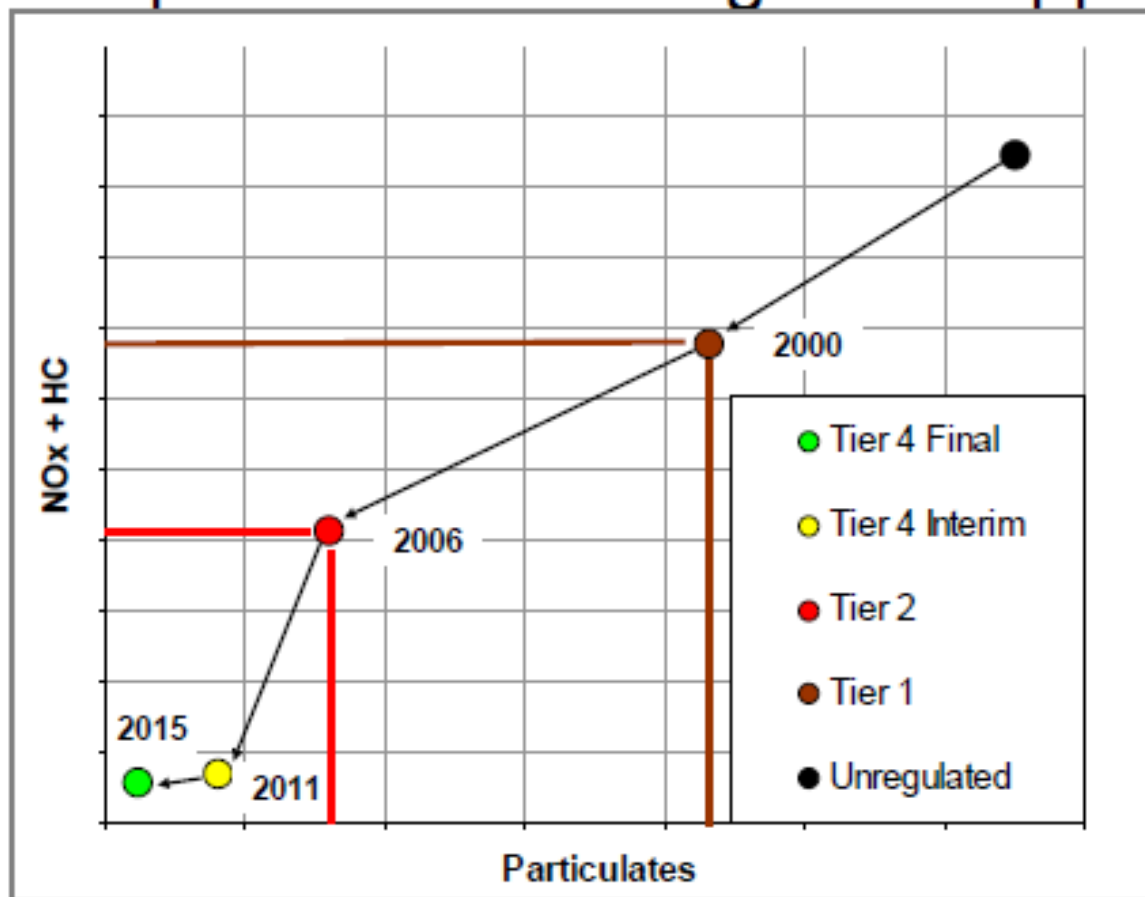
40 CFR Parts 60, 85 et al.
Standards of Performance for Stationary
Compression Ignition Internal
Combustion Engines; Final Rule

CI Engine NSPS – Compliance

- Purchase certified engine
 - Basically all engines must be Tier 4 Certified... **unless** they are for Stationary Emergency Use, then they may be Tier 2 or Tier 3
- Install, configure, operate and maintain engine per manufacturer's instructions or manufacturer-approved procedures
 - Owner/operator performance testing not required
- Per June 28,2011 amendments (76 FR 37954), can operate differently than manufacturer's recommendations, but must do performance test to show compliance

CI Engine NSPS – Tier levels

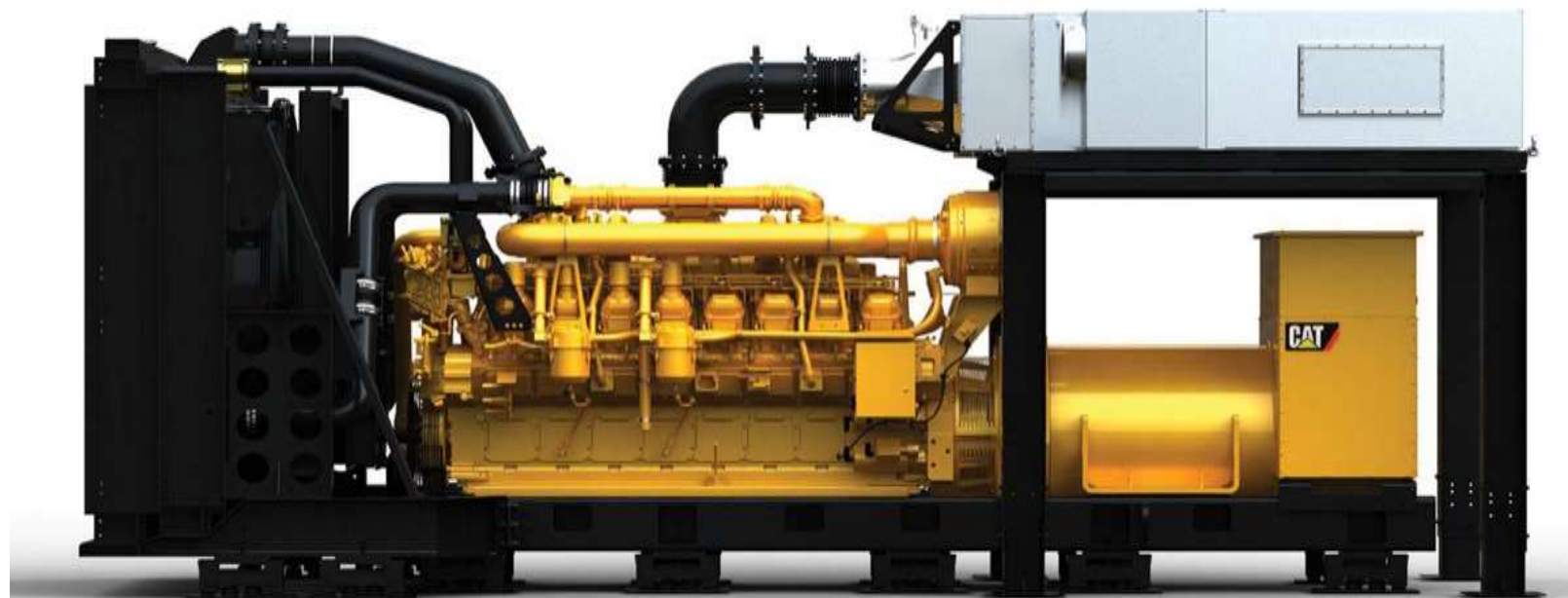
Example - >900 bkW genset applications



Monitoring/Recordkeeping/Reporting

- Emergency engines
 - Non-resettable hour meter and records of operation if engine does not meet non-emergency engine standards
- Engines equipped with diesel particulate filter (DPF)
 - Backpressure monitor and records of corrective actions

CI Engine NSPS



Example of a Tier 4 generator set with a SCR on exhaust

Stationary SI Engine NSPS

- 40 CFR part 60 subpart JJJJ
- Affects new, modified, and reconstructed stationary SI engines
- Initially promulgated on January 18, 2008
- Amended June 28, 2011



Federal Register

Friday,
January 18, 2008

Part III

Environmental Protection Agency

40 CFR Parts 60, 63, 85 et al.

Standards of Performance for Stationary
Spark Ignition Internal Combustion
Engines and National Emission Standards
for Hazardous Air Pollutants for
Reciprocating Internal Combustion
Engines; Final Rule

Stationary SI Engine NSPS

Emission Standards

- Phased in over time with increasing levels of stringency
- Output-based, units of g/kW-hr (g/HP-hr)
- ppmvd@15% O₂ standards for some engines
- Pollutants: NO_x, CO, VOC

Compliance

- Engine manufacturer's must certify engines ≤ 25 HP, gasoline engines, and rich burn LPG engines
 - Certification = EPA Certificate of Conformity
- Engine manufactures can elect to certify other engines

Compliance Requirements - Owner/Operators

Certified Engines

- Install, configure, operate and maintain engine according to manufacturer's instructions
- If you do not operate/maintain according to manufacturer's instructions:
 - Keep maintenance plan and maintenance records, operate consistent with good air pollution control practices
 - $100 \leq \text{HP} \leq 500$ – initial performance test
 - >500 HP – initial performance test and subsequent every 8,760 hours or 3 years, whichever is first

Compliance Requirements - Owner/Operators

Non-Certified Engines

- Maintenance plan
- Performance testing
 - $25 < \text{HP} \leq 500$ – initial performance test
 - > 500 HP – initial performance test and subsequent every 8,760 hours or 3 years, whichever is first

Recordkeeping/Reporting

Requirements include:

- Documentation of certification
- Records of engine maintenance
- Records of hours of operation for emergency engines
- Initial notification for non-certified engines >500 HP
- Results of performance testing within 60 days of test

NSPS Emergency Engine Requirements

- No limit on hours of operation for emergency service
- Maintenance checks/readiness testing limited to 100 hours/year
 - Can be more if mandated by Federal, State, or local standards
 - Owner/operator can also petition for more hours
- 50 hrs/yr allowed for non-emergencies
 - Counts as part of the 100 hr/yr maintenance & testing limit
- Engines cannot be used for peak shaving, to supply power to electrical grid, or to supply power as part of financial arrangement with another entity

Engine Name Plates



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Engine Name Plates



Generator Set Serial Number...

CATERPILLAR ®		Caterpillar Inc. 100 N.E. Adams Street Peoria, IL 61629 USA
		AU3508 29NN
GENERATING SET – ISO8528		
MODEL	1000SCZ	
SERIAL NUMBER	CAT00C32EJAZ03110	
SALES ORDER REFERENCE	0000561363/000010	
MONTH/YEAR OF MANUFACTURE	02/2016	
DUTY	STANDBY	
RATED POWER	1250.0	kVA
	1000	kW

The dealer retrieves the emissions data for that serial number.

EMISSIONS DATA [PRH06054]

(PRH06054)-ENGINE (G1B01879)-GENERATOR (JAZ03110)-GENSET

SEPTEMBER 09, 2016

For Help Desk Phone Numbers [Click here](#)

Print

[TMI Emissions Data Survey](#)

[Dealer.cat.com Emissions Certification Search](#)

Engine Emissions Data

For Emissions / Certification feedback and questions, please submit a ticket via our ERC [Request Portal](#)

This emission data is Caterpillar's best estimate for this rating. If actual emissions are required then an emission test needs to be run on your engine.

Serial Number (Machine)	
Serial Number (Engine)	PRH06054
Sales Model	C32
Build Date	2016-01-22
Interlock Code Progression	No Interlock Code Progression
As Shipped Data	
Engine Arrangement Number	4447558
Certification Arrangement	
Test Spec Number	0K8987
Regulatory Status	EPA Emergency Stationary @ Constant Speed
Labeled Model Year	2016
EPA Family Code	GCPXL32.0NZS
Flash File	4764144

Which is used to retrieve the EPA Certificate.

	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 2014 MODEL YEAR CERTIFICATE OF CONFORMITY WITH THE CLEAN AIR ACT OF 1990	OFFICE OF TRANSPORTATION AND AIR QUALITY ANN ARBOR, MICHIGAN 48105	
Certificate Issued To: Caterpillar Inc. (U.S. Manufacturer or Importer) Certificate Number: ECPXL32.0NZS-006	Effective Date: <u>06/20/2013</u> Expiration Date: <u>12/31/2014</u>	 <hr/> Byron J. Bunker, Division Director /Compliance Division	Issue Date: <u>06/20/2013</u> Revision Date: <u>N/A</u>
Model Year: 2014 Manufacturer Type: Original Engine Manufacturer Engine Family: ECPXL32.0NZS	Mobile/Stationary Indicator: Stationary Emission Power Category: 560-kW<=2237 Fuel Type: Diesel After Treatment Devices: No After Treatment Devices Installed Non-after Treatment Devices: Electronic Control, Engine Design Modification		
<p>Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.</p> <p>This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60.</p> <p>It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void <i>ab initio</i> for other reasons specified in 40 CFR Part 60.</p> <p>This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.</p>			

Questions

