

REINHOLD ENVIRONMENTAL Ltd.



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New NESHAP Testing Requirements



**WHAT IS THE EPA PLANNING FOR US IN
2014**



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NESHAP



- NATIONAL
- EMISSIONS
- STANDARDS for
- HAZARDOUS
- AIR
- POLLUTANTS



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NESHAP



- All Coal and Oil fired EGUs (Electric Generating Units) that generate over 25 MW of electricity for sale are affected.
- Sets standards for TPM, HAP Metals, Hg and HCl (HF for oil fired plants)
- Sets a work practice of annual tune-ups for D/F emissions



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NESHAP



- Proposed 40 CFR Pt. 63 Subpart UUUUU
- Comment Period extended until August 4th, 2011
- Expected to be law by end of this year and in effect by 2014



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Initial Performance Tests

- Remember the ICR?
- Extended test times
 - PM 2 to 4 hours
 - HAP Metals 4 hours
 - HCL 1 to 4 hours
 - Hg 1 to 240 hours



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Initial Performance Tests



- **Fuel Selection**
 - Maximum Cl concentration
 - Maximum F concentration
 - Maximum Hg concentration
 - Maximum HAP Metal concentration



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Initial Performance Tests



- All tests do not have to be performed simultaneously
- Different fuel blends can be used for each test
- If you change fuels and they have higher concentrations of pollutants you may have to retest



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Initial Performance Tests



- Operational parameters must be monitored during the performance test
- They are used to develop Operating Limits
- This may require detuning control equipment



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Additional Testing Required



- The frequency of additional testing is based on air pollution control systems and CEMS installed on the unit
- Frequency can be monthly, bimonthly annually or every 5 years



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Additional Testing Required



- Frequency can be reduced if emissions are less than 50% of the standard for 3 years straight
- Repeated performance tests are required if the fuel or operation changes



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Other Testing Changes



- Must sample a minimum of 4 dscm per run on most tests
- Method 5 for filterable PM, filter temperature at 320°F instead of 248°
- New Method 202 for CPM (very important to perform purge immediately at end of test)



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Other Testing Changes



- ERT (Electronic Reporting Tool) must be used to report test results
- AETB requirement (starts 2012)



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Limits



- Particulate Matter limit of 0.03lb/MMBtu similar to Subpart Da limit except it now includes CPM
- Many individual HAP Metals limits near or lower than detection limits
- Be for example .000000002 lb/MMBtu



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Output Based Limits



- All New Source Standards based on output instead of input
- lb/MW_{hr} instead of lb/MMBtu
- Output based standards will include the high bias associated with Method 2



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Output Based Limits

- $$\frac{lb}{MWhr} = \frac{\frac{lb}{dscf} * dscf/hr}{MW}$$

- The flow from Method 2 (which is performed with Methods 5, 29 and 26A is known to have up to a 10% high bias
- As a result Methods 2G, 2F and 2H were developed for Flow Monitor RATAs



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Output Based Limits



- Alternative flow measurement like Precision Flow or the Autoprobe may be beneficial in meeting some of the output based standards
- The table of Emissions Limits in subpart UUUUU has inconsistencies in some output based standards



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Testing Requirements



Source	Pollutant	Option	Methods	Special Requirements	Test Frequency	Continuous Compliance
Coal Fired, IGCC and Solid Oil Derived Fuel	PM, HAP Metals	elect to comply with total PM	29, 5, 202 and 3A	320 filter temp on 29 and 5	initially and 5 years	PM CEMS vs filterable PM
Coal Fired, IGCC and Solid Oil Derived Fuel	PM, HAP Metals	elect to comply with total HAP	29, 5, 202 and 3A	320 filter temp on 29 and 5	initially and 5 years	M29 every 2 months/monthly
Coal Fired, IGCC and Solid Oil Derived Fuel	PM, HAP Metals	elect to comply with individual HAP	29, 5, 202 and 3A	320 filter temp on 29 and 5	initially and 5 years	M29 every 2 months/monthly
Coal Fired, IGCC and Solid Oil Derived Fuel	Hg	None	Hg CEMS or Appendix K		30 days of CEMS data	CEMS or Appendix K
Coal Fired, IGCC and Solid Oil Derived Fuel	HCl	SO2 controls and SO2 CEMS	SO2 CEMS	None	30 days of CEMS data	SO2 CEMS
Coal Fired, IGCC and Solid Oil Derived Fuel	HCl	with or without SO2 controls, with HCl CEMS	HCl CEMS	None	30 days of CEMS data	HCl CEMS
Coal Fired, IGCC and Solid Oil Derived Fuel	HCl	NO SO2 control no HCl CEMS	3A, 26 or 26A if water drops present	None	monthly	Monthly testing 26 or 26A
Coal Fired, IGCC and Solid Oil Derived Fuel	HCl	With SO2 control but no SO2 or HCl CEMS	3A, 26 or 26A if water drops present	None	every 2 months	Every 2 months 26 or 26A
Liquid Oil Fired	Non Hg HAP Metals	With controls for Metals or Acid Gases	3A and 29	320 filter temp on 29	every 2 months	every 2 months 3A and 29
Liquid Oil Fired	Non Hg HAP Metals	No controls for Metals or Acid Gases	3A and 29	320 filter temp on 29	every month	every month 3A and 29
Liquid Oil Fired	Hg	None	3A and 29 or 30B	320 filter temp on 29	initially and annually	Annual 3A and 29 or 30B
Liquid Oil Fired	HCl and HF	With controls for Metals or Acid Gases	3A, 26 or 26A if water drops present	None	every 2 months	every 2 months 3A and 26 or 2
Liquid Oil Fired	HCl and HF	No controls for Metals or Acid Gases	3A, 26 or 26A if water drops present	None	every month	every month 3A and 22 or 26A
Low Emitting EGUs	Hg?	None	3A, 29 or 30B	None	test every 5 years	Fuel analysis every month

My Questions



- Is anyone looking at the New Source Performance Standards?
- .005 lb/MMbtu for TPM, .01 lb/Tbtu for Hg (100 times lower than for existing plants)



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My Questions



- Where did the correlation of 0.2lb/MMBtu SO₂ CEMS reading proving compliance with a .002lb/MMBtu HCl Standard come from?



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HCl to SO2 Comparison

HCl Emissions lb/MMBtu	SO2 Emissions lb/MMBtu	HCl Standard lb/MMBtu	Alternate SO2 Standard lb/MMBtu	
0.0003	0.21	0.002	0.20	
0.0002	0.20			
0.0006	0.27			
0.0004	0.27			
0.0006	0.10			
0.0008	0.11			
0.0003	0.09			
0.0002	0.30			
0.0002	0.29			
0.0002	0.31			



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Discussion?



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Questions?



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Answers?



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