EPRI ICR Testing Guidance

Presented by Scott Evans - Clean Air Engineering

Source Evaluation Society march 7-11, 2010 Panama City, Florida

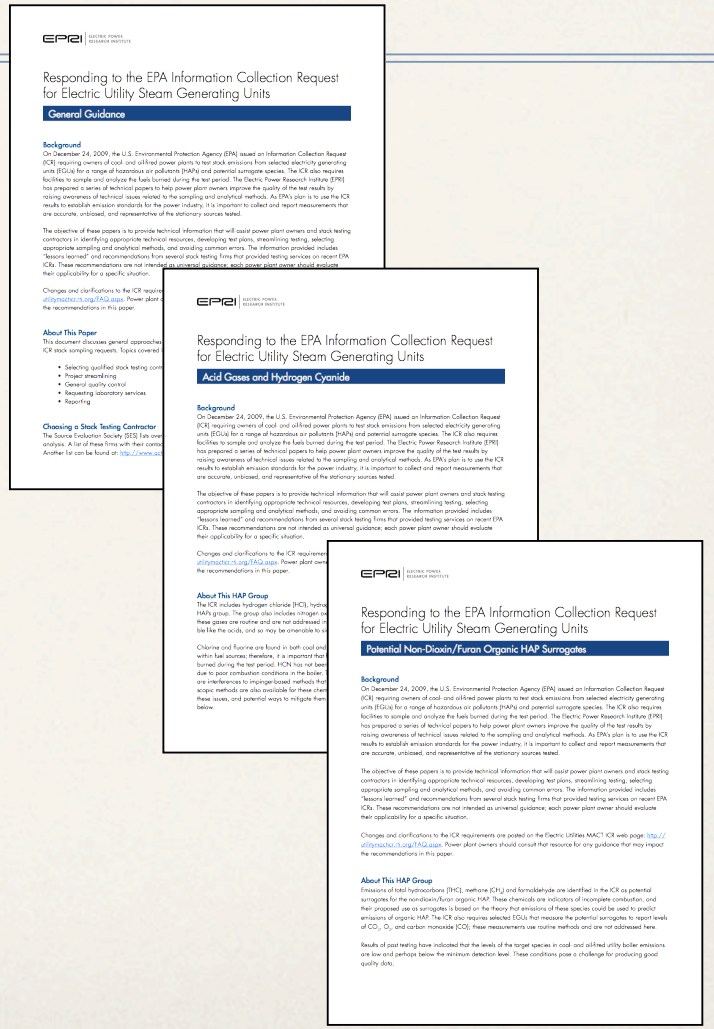
Overview

The Electric Power Research Institute (EPRI)
has issued a series of guidance documents
on performing testing for the Utility MACT ICR

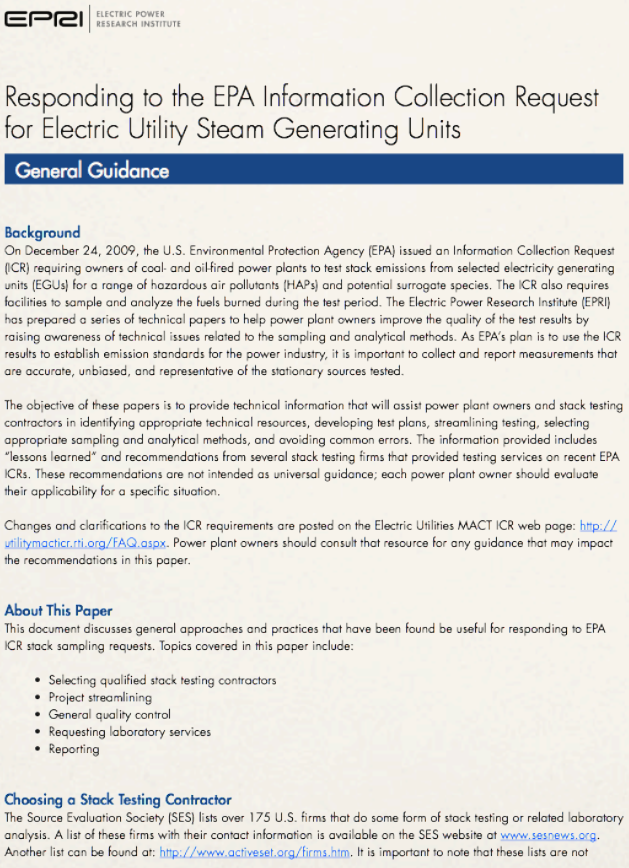
These documents were prepared by
TRC
and
Clean Air Engineering

Available Guidance Documents

- General Guidance
- Acid Gases and Hydrogen Cyanide
- Potential Metallic HAP Surrogates
- Potential Organic HAP Surrogates
- Mercury and Non-Mercury Metallic HAP
- Dioxin/Furan HAP
- Non-Dioxin/Furan Organic HAP
- Fuels



General Guidance



EPRI | ELECTRIC POWER RESEARCH INSTITUTE

Responding to the EPA Information Collection Request for Electric Utility Steam Generating Units

General Guidance

Background

On December 24, 2009, the U.S. Environmental Protection Agency (EPA) issued an Information Collection Request (ICR) requiring owners of coal- and oil-fired power plants to test stack emissions from selected electricity generating units (EGUs) for a range of hazardous air pollutants (HAPs) and potential surrogate species. The ICR also requires facilities to sample and analyze the fuels burned during the test period. The Electric Power Research Institute (EPRI) has prepared a series of technical papers to help power plant owners improve the quality of the test results by raising awareness of technical issues related to the sampling and analytical methods. As EPA's plan is to use the ICR results to establish emission standards for the power industry, it is important to collect and report measurements that are accurate, unbiased, and representative of the stationary sources tested.

The objective of these papers is to provide technical information that will assist power plant owners and stack testing contractors in identifying appropriate technical resources, developing test plans, streamlining testing, selecting appropriate sampling and analytical methods, and avoiding common errors. The information provided includes "lessons learned" and recommendations from several stack testing firms that provided testing services on recent EPA ICRs. These recommendations are not intended as universal guidance; each power plant owner should evaluate their applicability for a specific situation.

Changes and clarifications to the ICR requirements are posted on the Electric Utilities MACT ICR web page: http://utilitymacticr.rti.org/FAQ.aspx. Power plant owners should consult that resource for any guidance that may impact the recommendations in this paper.

About This Paper

This document discusses general approaches and practices that have been found be useful for responding to EPA ICR stack sampling requests. Topics covered in this paper include:

- Selecting qualified stack testing contractors
- Project streamlining
- General quality control
- Requesting laboratory services
- Reporting

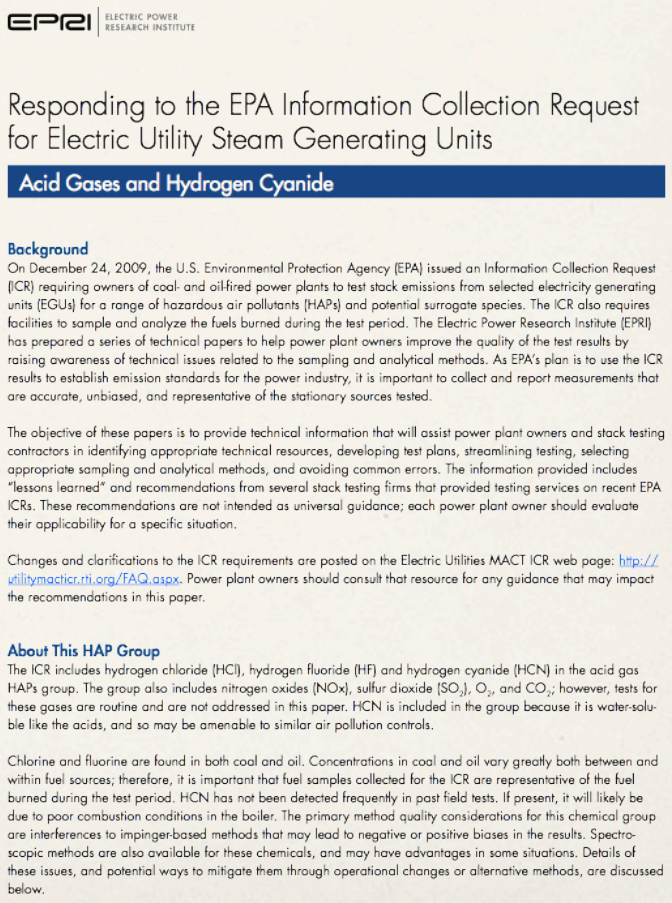
Choosing a Stack Testing Contractor

The Source Evaluation Society (SES) lists over 175 U.S. firms that do some form of stack testing or related laboratory analysis. A list of these firms with their contact information is available on the SES website at www.sesnews.org. Another list can be found at: http://www.activeset.org/firms.htm. It is important to note that these lists are not

- Choosing a Stack Test Contractor
- Project Streamlining
- General Quality Control
- Requesting Lab Services
- Reporting

Analyte Specific Guidance

- Safety Tips
- Method Overview
- Method Limitations
- Method Details
  - Material
  - Sampling
  - Analytical



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Acid Gases and Hydrogen Cyanide

Background

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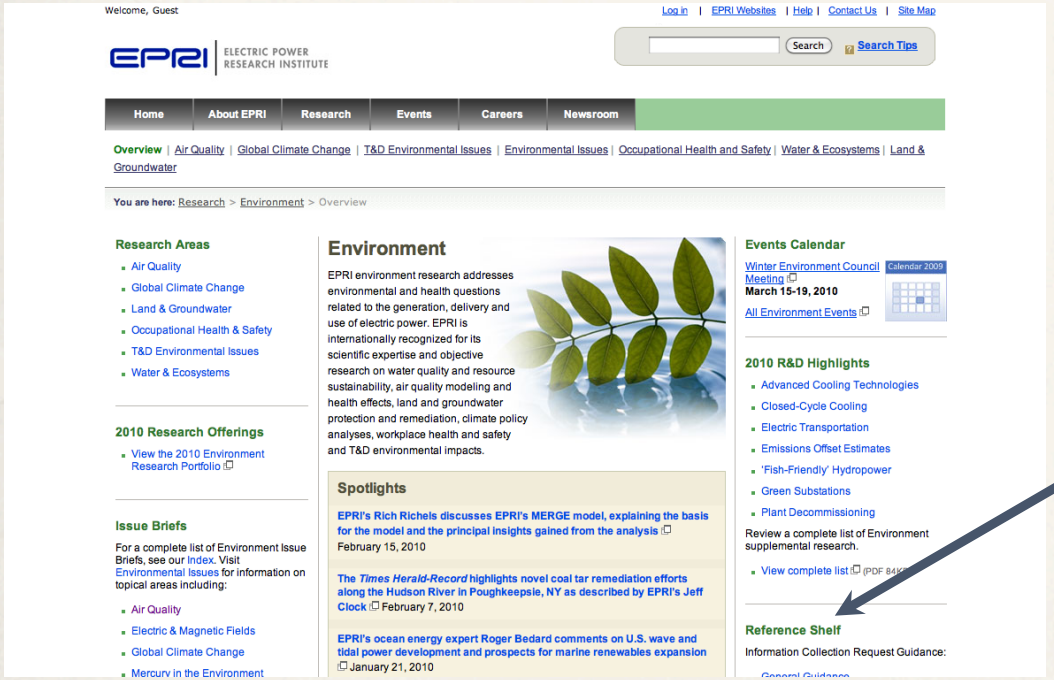
About This HAP Group

The ICR includes hydrogen chloride (HCl), hydrogen fluoride (HF) and hydrogen cyanide (HCN) in the acid gas HAPs group. The group also includes nitrogen oxides (NOx), sulfur dioxide (SO_2), O_2, and CO_2; however, tests for these gases are routine and are not addressed in this paper. HCN is included in the group because it is water-soluble like the acids, and so may be amenable to similar air pollution controls.

Chlorine and fluorine are found in both coal and oil. Concentrations in coal and oil vary greatly both between and within fuel sources; therefore, it is important that fuel samples collected for the ICR are representative of the fuel burned during the test period. HCN has not been detected frequently in past field tests. If present, it will likely be due to poor combustion conditions in the boiler. The primary method quality considerations for this chemical group are interferences to impinger-based methods that may lead to negative or positive biases in the results. Spectroscopic methods are also available for these chemicals, and may have advantages in some situations. Details of these issues, and potential ways to mitigate them through operational changes or alternative methods, are discussed below.

Download Info

www.epri.com/environment

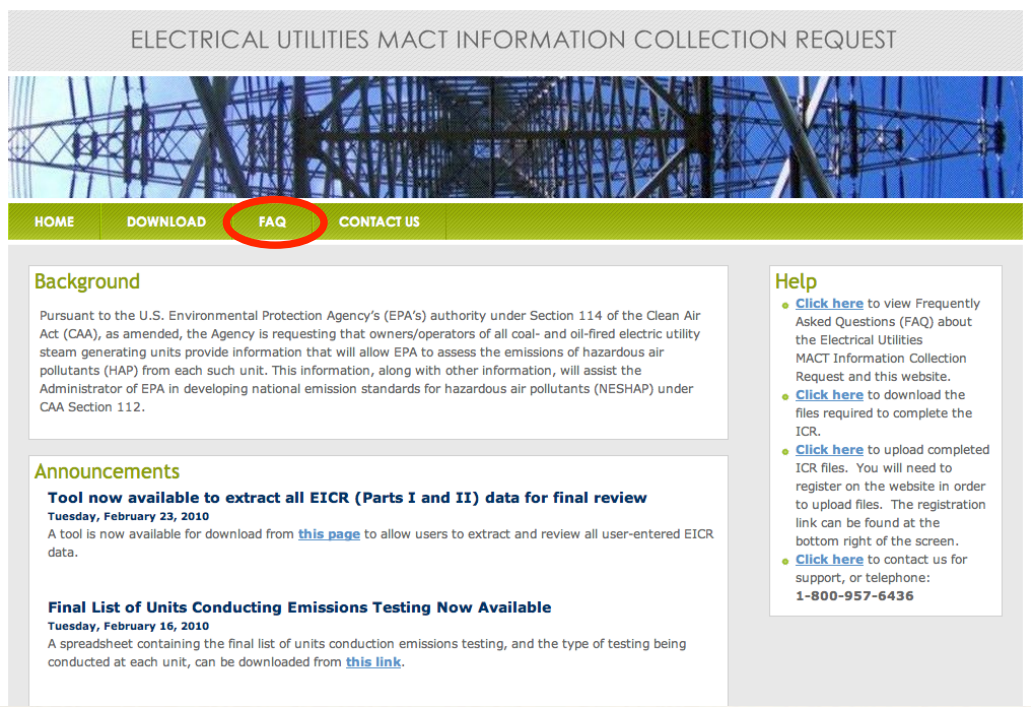


Look for the Reference Shelf in the right navigation pane

Top SES ICR Issues

- 1. Maintaining pH in CTM 33 and Modified M26A
- 2. Definitive list of analytes for SW846 0010 and 0031
- 3. When audit sample program begins do they apply to ICR testing?
- 4. Long run time/high volume issues with silica gel
- 5. Proper orientation of PM 2.5 head when sampled vertically

Beware…



ICR Testing requirements are very fluid.

Some of the information in the EPRI Guidance documents may already be outdated

Always check the ICR website for the most current info

utilitymacticr.rti.org