



CRWI Membership

MEMBER COMPANIES

Clean Harbors Environmental Services
Dow Chemical U.S.A.
E. I. Du Pont de Nemours
Eastman Chemical Company
Heritage Thermal Services
INVISTA S.à.r.l.
3M
Ross Incineration Services, Inc.
Veolia ES Technical Services, LLC

GENERATOR MEMBERS

Eli Lilly and Company

ASSOCIATE MEMBERS

AECOM
Alliance Source Testing LLC
Amec Foster Wheeler PLC
B3 Systems
Coterie Environmental, LLC
Focus Environmental, Inc.
Franklin Engineering Group, Inc.
METCO Environmental, Inc.
O'Brien & Gere
SGS North America, Inc.
Strata-G, LLC
SYA/Trinity Consultants
TestAmerica Laboratories, Inc.
TRC Environmental Corporation

INDIVIDUAL MEMBERS

Ronald E. Bastian, PE
Ronald O. Kagel, PhD

ACADEMIC MEMBERS

(Includes faculty from:)

Clarkson University
Colorado School of Mines
Lamar University
Louisiana State University
Mississippi State University
New Jersey Institute of Technology
University of California – Berkeley
University of Dayton
University of Kentucky
University of Maryland
University of Utah

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Who are we?

- CRWI is an organization made up of Full, Associate, Generator, and Academic members.
 - Full members are those companies that own/operate a hazardous waste combustor.
 - Associate Members are those companies that provide goods and services to the hazardous waste combustion industry.
 - Generator Members are those companies that generate hazardous waste but do not thermally treat that waste.
 - Academic members are researchers at universities who are interested in basic and applied research on combustion processes.
- CRWI was founded in 1987.
- CRWI has developed an extensive network of contacts within EPA and other agencies.

What are our goals?

- To help lawmakers and regulators develop practical and responsible laws and regulations to govern the management of hazardous waste.
- To help members comply with current regulations.
- To help members improve their combustion operations.
- To provide a forum for sharing industry best practices.

Where are we today?

- The 2005 HWC MACT replacement standards have been remanded. EPA is unlikely to restarting this rulemaking until 2017. When they do, the issues in play will be:
 - Whether to use the existing database or to develop a new one;
 - Methods used to develop the next set of standards;
 - How to modify current startup, shutdown, and malfunction provisions to make them consistent with recent court rulings;
 - Whether to retain or withdraw the current health-based chlorine alternative standard; and
 - How to define a sealed unit.

- CRWI members decided that all of the major decision on MACT rules would be made before EPA gets back to the HWC MACT rule. As such, we should become more active in other MACT rules, especially combustion related MACT rules.
- CRWI filed petitions for review with the U.S. Court of Appeals for the District of Columbia Circuit challenging the major source boiler MACT rule and the Commercial and Industrial Solid Waste Incineration (CISWI) rules. We wrote the malfunction portion of the opening boiler brief and provide the technical expertise for the standards arguments in both the boiler and CISWI briefs. The Court released their opinion on July 29, 2016. The court upheld EPA on all issues that industry groups raised. However, the court vacated all emissions standards for certain boiler source categories because the Agency improperly excluded data when calculating the floor standards. The court also remanded the rule to the Agency to explain why carbon monoxide is a valid surrogate for non-dioxin organic hazardous air pollutants. In addition, the court told EPA to regulate cyclonic burn barrels as CISWI units and to make a determination of whether burn-off ovens should be covered under CISWI and if so, to develop regulations.
- CRWI intervened on behalf of EPA in Sierra Club's challenge to the definition of non-hazardous secondary materials rule. Our primary purpose was to help EPA defend any challenge to the "contained gaseous materials" issue. Neither party raised this argument. The court released their decision on June 3, 2015, upholding EPA against all challenges.
- EPA published a final reconsideration boiler rule on November 20, 2015. Environmental groups challenged the 130 ppmv carbon monoxide threshold and the use of work practices during startup and shutdown. CRWI joined an industry group that has intervened to support the Agency in their defense of these two issues.

How did we get here (in reverse chronological order)?

- CRWI filed comments opposing the removal of the emergency affirmative defense provisions in state and federal operating permit programs.
- CRWI filed comments on EPA's proposed rule to revise current generator requirements.
- CRWI filed comments on EPA's proposed rule to modify the import and export of hazardous waste provisions.
- CRWI suggested a number of corrections to the current test methods, performance specifications, and procedures.
- CRWI filed extensive comments on the second major source boiler reconsideration proposed rule supporting the Agency's decision to limit the carbon monoxide standard to a lower threshold of 130 ppmv at 3% oxygen (equivalent to 100 ppmv at 7% oxygen).
- CRWI filed comments on the second Commercial and Industrial Solid Waste Incineration reconsideration proposed rule supporting the use of a fuel variability factor when setting emission standards.

- CRWI filed comments on Veolia Sauget's second draft Title V permit opposing the requirement to install a multi-metals CEMs, arguing that EPA does not have the authority to require multi-metal CEMs;
- CRWI filed comments on the risk and technology review revisions to the Off-Site Waste and Recovery Operations rule.
- CRWI filed comments on the 2014 revisions to the Waste Analysis Plan guidance document.
- CRWI filed comments on the Performance Specification 18 and Procedure 6 proposed rule.
- CRWI filed comments on the affirmative defense provisions of the generic MACT and phenolic resins risk and technology review proposed rule.
- CRWI filed comments on the affirmative defense provisions of the flexible polyurethane foam production risk and technology review proposed rule.
- CRWI filed informal comments on the 2013 draft guidance manual for Waste Analysis Plans.
- CRWI filed informal comments on the draft Performance Specification 18 (HCl CEMs).
- CRWI filed comments on the State Implementation Plan call of 38 state's startup, shutdown, and malfunction plans. We made suggestions on the definition of a malfunction, the use of an affirmative defense, and supported the use of flexibility in startup and shutdown plans.
- CRWI filed comments on Veolia Sauget's draft Title V permit expressing concern over the restrictions in feed rate extrapolation, the requirement to install a multi-metals CEMs, and the feed sampling and analysis requirement.
- CRWI filed comments on the Mercury and Air Toxic Standards reconsideration rule supporting the use of stack testing as an alternative to PM continuous parameter monitoring systems, supporting the use of work practices, supporting the use of renewable fuels, and suggesting modifications to the definition of natural gas.
- CRWI filed comments on the affirmative defense provisions, the use of a PM continuous parameter monitoring system, the use of Performance Specification 15 for HCl CEMs, and requiring facilities to meet the standard at all times for the Portland Cement MACT reconsideration proposed rule.
- CRWI filed comments on the proposed revisions to testing methods.
- CRWI filed comments on the proposed CO standards, the use of work practices, emission limits and floor methodologies, and the affirmative defense provisions as proposed in the first reconsideration of the major source boiler MACT proposed rule.
- CRWI supported the decision not to regulate burn-off ovens and putting the definition of contained gases back into the regulations and suggested modifications to the affirmative defense provisions, and the use of a PM continuous parameter monitoring system in the first Commercial and Industrial Solid Waste Incineration reconsideration proposed rule.
- CRWI filed comments on the definition of contaminants and the definition of contained gaseous materials for the Non-Hazardous Secondary Materials reconsideration proposed rule.

- CRWI filed comments on the method of developing standards, the use of startup, shutdown, and malfunction plans, and the use of data below the detection limit to develop standards for the Sewage Sludge Incinerator proposed rule.
- CRWI filed comments on the method of developing standards, the use of startup, shutdown, and malfunction plans, and the use of data below the detection limit to develop standards for the major source boiler MACT rule and the Commercial and Industrial Solid Waste Incineration proposed rules.
- CRWI filed comments on the Portland Cement MACT rule and joined an industry group that filed an amicus brief in industry's challenge to the final rule.
- CRWI filed comments on the Hospital/Medical/Infectious Waste Incineration rule and intervened to support industry in the challenge to the final rule.
- CRWI and ACC filed a joint response opposing Sierra Club's motion for summary vacatur of the 2005 hazardous waste combustor (HWC) MACT rule.
- CRWI and ACC filed joint responses opposing Sierra Club's request to file out of time, supporting EPA's two motions, and requesting that the court not develop a hybrid approach between EPA and Sierra Club's motions (i.e., vacate the standards to be redone instead of remand them) as a part of the litigation of the 2005 HWC MACT rule.
- ACC, ETC, and CRWI convinced EPA to defend most of the 2005 hazardous waste incinerator and solid fuel-fired boiler standards. This decision was later reversed by a new Administration and EPA took a voluntary remand of the 2005 HWC MACT rule.
- EPA corrected the errors in the 2005 rule on April 8, 2008. The majority of these corrections are the ones CRWI pointed out to them right after the final rule was published.
- EPA granted our petition for reconsideration of the 2005 HWC MACT rule and agreed to the majority the suggested corrections. CRWI filed comments supporting the EPA changes but opposing the one issue dealing with how tie-breakers were used to set the new source mercury and LVM standards for incinerators.
- EPA published the final replacement standards rule on October 12, 2005. CRWI filed a petition for review with the U. S. Court of Appeals for the District of Columbia Circuit and a petition for reconsideration with EPA. CRWI also submitted a list of 25 potential corrections to the 2005 rule to EPA.
- EPA proposed replacement standards on April 20, 2004. CRWI filed extensive comments.
- The court vacated the first HWC MACT rule on July 24, 2001. All parties negotiated interim standards that were published on February 13, 2002. CRWI was a part of these negotiations.
- The first final rule was published on September 30, 1999. CRWI filed a petition for review with the U.S. Court of Appeals.
- EPA proposed HWC MACT standards on April 19, 1996. CRWI filed extensive comments on the proposed rule. There were five additional requests for comments from EPA on this proposed rule. CRWI filed comments on each.

What has CRWI done for its members?

- Through all of the changes and uncertainty caused by the litigation of the HWC MACT rule, CRWI has kept its members informed of what has happened and worked to minimize impacts on member company operations.
- CRWI was successful in convincing the Agency under the Bush Administration to defend most of the existing source standards for incinerators and solid fuel-fired boilers. When the Obama Administration took office, the new Administration changed their minds and took a voluntary remand of all HWC MACT standards.
- There are a number of MACT rules that are currently being redone. The methods EPA uses for these rules will impact how the Agency redoes the HWC MACT rule. CRWI filed comments on the proposed Hospital/Medical/Infectious Waste Incinerator rule, the proposed Portland cement rule, the proposed major source boiler MACT rule, the proposed Commercial and Industrial Solid Waste Incineration (CISWI) rule, and the proposed sewage sludge incineration rule. We were also parties in the major source boiler MACT and CISWI litigations.
- CRWI was successful in keeping the replacement standards consistent with the interim standard for Phase I sources
- Most members can meet the current Phase II standards with minimal upgrades. CRWI was instrumental in accomplishing this.
- Following the hurricane damage to Louisiana and Texas in 2008, CRWI coordinated the development of a model request for an extension of the compliance date and determined who this request should be sent to.
- CRWI has helped member companies stay in compliance with current regulations by developing consistent interpretations of the regulations, sharing of best practices, and site tours.
- CRWI has helped member companies stay current with changing technologies by:
 - Having presentations on advances in PM, mercury, and HCl CEMs;
 - A lecture on how to optimize what is being fed into a rotary kiln;
 - Routine discussions on industry incidents;
 - A lecture on slag management;
 - A presentation by Region 6 on delisting petitions; and
 - Tours of outside research groups (e.g., Hazen Research).
- CRWI is a cost-effective organization. We continue to maintain a low overhead while providing excellent service to our members.
- CRWI is a technically competent organization, meeting regularly with EPA and other agencies on topics of interest.
- CRWI is looked to as a leading voice in real-world application of hazardous waste combustion technology and for maintaining compliance with current regulations.

What will CRWI do for its members in the future?

- In the future, EPA will start making decision on re-writing the HWC MACT rules (see list above). When that happens, CRWI will work with the Agency prior to

proposing a rule to minimize impacts on member companies. When a proposed rule is published, CRWI will coordinate developing comments among members and other trade organizations.

- CRWI will monitor and comment on all combustion MACT rules that could impact how the Agency will revise the current HWC MACT rules.
- Where appropriate, CRWI will file petitions for reconsideration, petitions for review, or motions to intervene on other MACT rules.
- CRWI will monitor EPA activities (e.g., residual risk, electronic manifests, definition of solid waste, etc.) and will develop comments on regulations that will impact members.
- CRWI will continue to help members comply with existing regulations through information sharing and tours.
- CRWI will continue to monitor Congressional activities (e.g., hazardous waste, CO₂ as a pollutant, etc.) that will impact hazardous waste incinerator activities.
- CRWI will hold meetings at Universities to promote information sharing on new research relating to hazardous waste combustion.
- CRWI will monitor emerging technologies that may impact hazardous waste combustion operations.

What happens if we fail?

- Future laws and regulations may not lead to intended results and thus, be more difficult and expensive with which to comply.
- Current fines under the Clean Air Act are up to \$93,750 per day per event. If CRWI membership can help a facility avoid one violation per year, that will have saved approximately three years of dues.