

CAIR Replacement Rule
Discussions between CIBO, AF&PA, ACC, Auto Alliance and EPA
April 14, 2009

I. Introduction

On Tuesday, April 14, 2009, EPA held a meeting/call with the Council of Industrial Boiler Owners (CIBO) and other manufacturers that operate industrial boilers to discuss the CAIR replacement rule. The summary that follows covers the key issues discussed during the call. More detailed notes, including a list of all participants in the call, are being prepared.

II. EPA Opening Comments

Bill Harnett, OAQPS, began with a short introduction, explaining that EPA was beginning the process of creating a replacement rule for CAIR. The Agency is reviewing all options, setting up analyses, and preparing technical models. The goal is to finalize a replacement rule within two years.

The primary objectives are to explore options for the replacement rule to help states comply with the NAAQS and to reduce interstate transport. Therefore, EPA has decided that it would be best to start working with states and stakeholders immediately. EPA has already held a number of meetings with state groups and would like to hear from stakeholders about what type of replacement rule would be most practical while also achieving the required emission reductions. Bill stressed that this is the beginning of a dialogue process, and that EPA intends to continue these types of discussions throughout the rule development process.

This is a chance for the stakeholders to talk to the key EPA staff that will actually develop and write the rules, as well as the OGC attorneys assigned to the rule development. Bill stressed that EPA is interested in hearing the stakeholders' thoughts and concerns. Everything is on the table as EPA puts together ideas for the new Assistant Administrator for Air and Radiation, who should arrive within the next couple of weeks. EPA would like the rule to be as legally defensible as possible, and stakeholder input will help with the process. Bill said the current schedule is to have a proposal out by January 2010, and a final rule by January 2011.

III. CIBO Opening Comments

Bob Bessette, CIBO, asked that EPA elaborate on what the Agency had heard about the CAIR replacement rule from the states and other stakeholders. He noted that CIBO worked closely with the states, often sharing data and information.

IV. Summary of Past Discussions

Bill Harnett noted that states have done analyses on industrial boilers and want EPA to seriously consider including them in a replacement CAIR rule. NACAA is also interested in including industrial boilers and cement kilns, as well as any other large sources of SO₂ or NO_x that EPA could identify. Most of the modeling had been done by LADCO in a joint effort with the northeastern states. In general, the regional groups have not released official positions. However, all the states represented in the regional groups have expressed concern that there is a significant amount of transport that needs to be addressed.

States have also expressed interest in basing the replacement program on the newer PM and ozone NAAQS rather than on the 1997 standards. They indicated a strong preference that the implementation dates for the replacement CAIR rule correlate with the SIP dates so that the states can account in their SIPs for the reductions a new interstate rule would provide.

Ideas differ among states about contribution levels, thresholds to trigger inclusion, and levels of control. However, almost every state agreed that EPA's top priority should be to develop a rule that will survive legal challenge. Ideas for such a rule ranged from a strictly command-and-control regime to a rule including trading. States stressed that a program that gets reductions needs to be in place in time for them to meet attainment and maintenance deadlines.

Leslie Hulse, American Chemistry Council, asked EPA which environmental NGOs it had spoken with and what their overarching points were. Bill replied that EPA had heard from the National Parks Conservation Association, Environmental Defense Fund, Sierra Club, Natural Resources Defense Council, the Clean Air Task Force, American Lung Association, and others. He said the NGOs were focused more on electric utilities and stressed that older, inefficient units, that continue to operate only because they have not been forced to make investment decisions, should be forced to put on controls or shut down. EPA should consider all authorities available to it such as MACT, NSPS, section 110, and section 112, as well as the different rules that could affect electric utilities. It should then coordinate rulemakings so as to drive utilities to invest in cleaner generation facilities.

NGOs suggested that EPA should also consider CO₂ and hazardous air pollutants beyond mercury in developing a comprehensive plan to address future electric generation. NGOs agreed with states about the importance of considering sources beyond EGUs.

Sam Napolitano, CAMD, stressed that any decisions about future air policy would be made by the new Assistant Administrator for Air in consultation with other administration officials. The purpose of these meetings is to start gathering ideas and information so that staff can present the new Assistant Administrator with a full range of options. Sam also noted that EPA would be doing a range of analyses on multiple source

categories and that because an analysis was being done did not mean sources involved would be included in a future program.

Sonja Rodman, OGC, noted that under the D.C. Circuit Court decision the entire CAIR rule had been sent back for reconsideration and that the Agency is exploring all available options. The replacement rule will do more than just tinker with the existing CAIR rule. Bill added that EPA was not expecting a legislative fix of the CAIR rule and that he anticipated the rulemaking would continue. EPA would prefer a legislative solution to the issue, preferably something like the Carper 3-P approach, and the Agency will work with Congress if legislation is proposed.

V. CIBO Presentation

Sam Napolitano noted that the purpose of the call was for EPA to hear what CIBO members and other industry representatives think and asked industry representatives to respond to topics in the agenda EPA had distributed, and to share thoughts or ideas that may not be on the agenda.

John deRuyter, DuPont, presented data outlining the current situation with respect to industrial sources. He began by noting that EPA's data show a downward trend for NO_x and SO₂. Projected emission trends from 2005 forward also show significant reductions in those two pollutants. He then discussed curves for marginal cost for NO_x and SO₂ controls provided in the CAIR Final Rule Federal Register notice. He noted the line indicating the \$1,500 per ton cost effectiveness for NO_x at the EPA limit selected for 2015 as well as the cost effectiveness line on the SO₂ curve at \$1800 per ton indicating EPA's selected SO₂ limit of around 2.6 million tons in 2015.

He discussed industrial boiler NO_x and SO₂ control cost estimates and noted that these calibration points provided an idea of the cost, and that the data were from a recent OTC meeting and might not be final. However, the data show that there is a wide range in removal costs, and that those costs are significantly higher than the highly cost-effective controls CAIR required EGUs to install. These cost estimates are based on an assumed 66 percent boiler capacity factor, which CIBO believes, in many cases, normal operation is at considerably lower capacity factor, skewing both tons removed and control costs; when the boilers are on stand-by, the cost per ton increases dramatically.

John noted that there is a wide range of costs because industrial facilities, especially older ones, have very little available space, making retrofit costs site-specific, which in some cases can be very high. Requiring controls on all facilities would have a major impact on operations and jobs at some facilities. SNCR and SCR installation and operation would be very costly, as would FGD and dry FGD. Space would be a critical issue, particularly with FGD retrofits. Also, scrubbers and other control devices often make it impossible for companies to sell some of the combustion byproducts. EPA should consider all of these costs, not just the cost of control equipment.

Bill Harnett indicated that there was some internal concern at EPA that the court decision limited the Agency's ability to consider cost as a factor when developing a replacement program. EPA is still grappling with the decision and the issue of cost-effectiveness.

John noted that there were many combined-fuel boilers in existence and that most served an industrial function. Most industrial and commercial boilers use natural gas and many use byproducts as fuel, such as biomass generators at pulp and paper mills and various off-gasses from commercial and chemical processes. He concluded that the data he was presenting show that NO_x and SO₂ levels dropped and that further reductions (primarily from EGUs under CAIR) are expected. Even in its current state, CAIR has driven reductions, especially in SO₂ levels. Control costs for industrial boilers are considerably higher per ton than those for EGUs, and the reductions gained by controlling industrial sources are less certain. Finally, industrial sources have significant load-variability, which also detracts from the effectiveness of controls.

A copy of John's presentation is submitted as a separate document with this summary.

VI. Discussion of CIBO Presentation

Sam Napolitano asked John de Ruyter how confident he was in the data presented. John noted that the data for the trends came from EPA. He was less certain of the accuracy of the inventory data. He suggested that the cost data were reasonable, but reiterated that because costs vary widely from unit to unit average cost is not necessarily representative of the actual costs a specific unit would incur. Tim Hunt, American Forest & Paper Association, noted that AF&PA previously had shared its best estimates of costs with EPA, which showed that on a per ton basis, reductions from industrial sources were far more expensive than those from EGUs. Furthermore, pulp and paper mills are already showing significant SO₂ and NO_x reductions.

Industrial sources across the board are facing challenging economic conditions, and with the MACT rules already in place further NO_x and SO₂ rules could be extremely expensive. Tim noted that many industrial sources are installing co-generation and trying to use by-products such as biomass and off-gasses for fuel. It makes no sense to place additional costs on sources which are working to develop green energy.

Tim noted that EPA modeling shows that pulp and paper emissions are not significantly impacting regional air quality. Reductions at individual sources can be achieved through the SIP process and tailored to the individual situation at the affected source where needed. The CAIR replacement rule should not include industrial boilers at pulp and paper mills and should focus on regional transport of emissions from electric utilities, especially given the current economic situation.

EPA asked if most facilities were using as much alternative fuel as possible, and whether facilities were maintaining the ability to switch back to conventional fuels. Al

Clary from Eastman Chemical responded that chemical manufacturers try to make as little of the off-gasses as possible because it is a by-product. However, those facilities do use all of the generated gas. In response to environmental regulations and the rising prices of fossil fuels, pulp and paper mills have been increasing their already high utilization of biomass (currently about 2/3 of total energy usage) and continue to extract more from their biomass feedstock. Most facilities are able and would want to maintain the ability to switch back to conventional fuels in the permits due to concerns about fluctuating energy prices and feedstock availability.

Bill Harnett asked about how industrial sources were already affected by MACT and BART. Tim responded that many of the paper facilities went through BART analysis and were shown not to be contributing to Class 1 nonattainment. Just because a facility was a BART eligible unit did not mean it ended up with additional controls, which again suggested that a case-by-case SIP-based approach would be best, not a one-size-fits-all approach that included all industrial boilers. Bill said that EPA did not plan to conduct an ICR to gather data, but may rethink this preliminary decision after consulting with EPA management; for now, EPA will start with state-level data.

VII. Discussion of Agenda

1. Baseline

Given present economic conditions, CIBO members suggested EPA use the most current data, which would include reductions achieved through the NO_x SIP Call. They suggested that using a future year for creating a baseline would not work because of the uncertainty of possible CO₂ regulations and an ever-changing economic environment.

Sam Napolitano noted that EPA was exploring the possibility of using a future-year baseline because additional mobile source controls will come online in a few years, which should provide large NO_x reductions. Also, there are scrubbers and other control systems that EPA knows will come online in the near future. Thus, the nature of the problem as it would appear based on the 2007 data may differ from the problem that will actually exist when the replacement CAIR program is implemented.

A CIBO member expressed a preference for using real measured data as a starting point. EPA could use the 2007 data in conjunction with other data to help forecast, but it should ground the baseline in data that had actually been measured. 2007 was the highpoint in terms of the levels of economic activity. Thus, EPA has a clear picture of the fuel mix at a time of high energy costs and of the impact of the NO_x SIP Call. EPA should be able to integrate that measured data with other datasets and forecast under different economic conditions.

2. Quantifying Significant Contribution

Sonja Rodman said that significant contribution was a big area to address, with many options for the replacement rule. For CAIR, EPA established significant

contribution through a two step process. EPA first conducted air quality modeling to determine which states should be included in the region and then looked at the cost-effectiveness of controls to determine significant contribution. EPA established regional caps and developed the state budgets for each pollutant involved. The D.C. Circuit Court ruled that EPA had failed to quantify individual state significant contributions and thus also did not require the specific state to eliminate its significant contribution. As EPA develops the new rule it is considering alternate ways to define significant contribution. The Agency welcomes suggestions.

CIBO members noted that industrial sources generally have shorter stacks and so their contribution to transport is inherently less than sources with taller stacks. They suggested that further modeling would need to account for this factor. Also, they felt strongly that cost-effectiveness had to be considered because many industrials cannot pass along control costs due to global competition and they have higher cost of capital. In addition, EPA needs to note that site specific factors for additional controls on industrial boilers are very important and tend to drive costs up significantly.

One Industrial member participant expressed concerns that in relying on modeling EPA would end up requiring similar controls on all the sources in an area when one source might be having 90 percent of the impact. It is critical that EPA assess the difference between local emissions and transport. Industrial sources clearly can have a high level of local impact, but EPA should not confuse this with transport as the two must be addressed differently. If EPA is using modeling to justify reductions, the Agency should allow units to demonstrate that they are not actually having an impact. Such units should be exempt from reductions.

3. Remedy

Tim Smith, OAQPS, raised the issue of remedy: What remedy should be applied to the quantified significant contribution? What types of approaches should be considered? Is the trading option practical? Tim noted that EPA had heard suggestions ranging from a strict command-and-control program to a trading program and various combinations of the two. Some states expressed interest in combining looser standards with a trading program in an effort to leverage the increased reductions that can be gained by allowing trading.

In response to a question from Vince Albanese, Fuel Tech, EPA indicated uncertainty as to whether the court decision made it impossible to incorporate trading in the replacement program. EPA believes that some type of trading might be consistent with the decision, but there are concerns especially about an interstate trading program. Clearly trading as it existed in the original CAIR would not be included. EPA believes additional assurances that reductions would take place in nonattainment areas would need to be provided. EPA is generally supportive of trading because modeling has shown that it works and provides deeper reductions at a lower cost.

John deRuyter suggested an opt-in program for industrial units. CIBO members in general were supportive of at least some kind of trading. They expressed concern that an intrastate trading program would not have enough liquidity to function.

A number of industry participants also expressed concerns about the feasibility of requiring industrial units to put on controls. They noted that industrial sources, more than EGUs, faced serious challenges in raising fresh capital. Given the nature of their product and global competition they cannot pass along price increases in the way EGUs can.

4. Affected Area/National Ambient Air Quality Standards (NAAQS)

Which states or regions should be covered by the rule? What should the timing of the rule look like? Should EPA start with existing NAAQS? Or, should it try to integrate the newer NAAQS into a replacement rule? Timing becomes a key element when considering which NAAQS to target.

Sam Napolitano raised the issue of the NAAQS, noting that the original CAIR was based on the 1997 standards. There is currently interest in looking at the 2006, and possibly the 2008 NAAQS. A key question for EPA is what standards the new rule should include to help states comply. States have expressed interest in having as much help as possible with the most recent NAAQS. Should EPA try to address the more recent standards, or wait and address those through a later rulemaking?

CIBO members agreed that one rulemaking process would be better than three. The members again expressed concern about local emissions versus transport emissions and cautioned the Agency to be very careful in determining whether a particular unit was contributing to transport. Any new rule should not consider local impacts; that should be left to the states who can better understand site specific circumstances.

In response to questions about the ozone season and annual program, Sam explained that the ozone season was in response to northeastern states' concerns about summer emissions. He noted that it was unclear whether the replacement program would continue to have an ozone season. Sam then raised the issue of high demand days, noting that both Connecticut and New Jersey have done a lot of work on high demand days. He asked the group whether they thought special attention should be paid to these days. CIBO members expressed concern that regulating high demand days could set a precedent for quantity over distance and suggested that high demand days might be regulated better in a program smaller than the CAIR replacement rule.

An industrial company participant also suggested that EPA bear in mind reductions that might be gained by meeting requirements of other regulations, especially in the context of a carbon-constrained world. Reductions will be made in other areas, and it is important to consider what capital investments will be required by the different rules and possible trade-offs between pollutants. It is critical to leave long lead times so companies can make decisions comprehensively.

As a follow up to the meeting and in addition to that which was discussed, it is important to consider the interrelationship of all pollutants and energy efficiency (CO₂ emissions) as it relates to the operation of industrial boilers, especially existing boilers. In light of this, CIBO submitted a graph showing the interrelationship of efficiency, NO_x, and CO as they relate to changes in excess air from the optimum amount at maximum efficiency for a natural gas fired Package Boiler. While the actual curves will be different for every boiler, fuel, and load, the relationships will always be the same. For solid fuel, especially high moisture biofuel, as excess air is increased beyond the optimum level in order to obtain low CO emissions, significant decreases in efficiency can occur. Further increases in excess air will lead to increased CO and VOC emissions. Consideration of any industrial provisions under a CAIR rule should carefully evaluate the requirements to be proposed under the forthcoming Industrial Boiler and Process Heater MACT Rule.

VIII. Concluding Points

CIBO members concluded by asking EPA to ensure that the definitions for EGUs and non-EGUs be consistent across programs, using Acid Rain provisions as the guide. They asked that EPA pay careful attention to the exemptions about independent power producer long-term contracts and Combined Heat and Power operations. In addition, as CAIR gets revisited, EPA should make sure biomass units don't inadvertently get classified as EGUs again. Finally, EPA needs to consider the uniqueness of small units creating steam for municipalities which had issues under CAIR.

Sam Napolitano thanked CIBO members and said EPA would take all of their suggestions under consideration. He mentioned that meeting notes would be sent out to all the participants and suggested that they include additional comments as addenda to the notes. This will help continue the dialogue process. Sam also offered to send CIBO members the SO₂ and NO_x emissions data that had been shared at earlier meetings.