CIBO 40th Annual Meeting

Oct. 24 – 26, 2018

Tucson, AZ

I. CIBO Annual Business Meeting (Open to Members Only)

Opening Remarks and Introductions

Ann McIver, Citizens Thermal, CIBO Chair

Ann welcomed all to the 40th Annual Meeting. The theme for the meeting is Industrial Energy at a Crossroads. CIBO was started in 1978 and was initially focused in industrial energy use. Coal was the main fuel in the US. Over the years, the environmental issues came to the fore, culminating in the Boiler MACT rules that held our attention for the last 20 years. With the compliance date having passed last year, renewed attention to energy use and sustainability has risen to prominence once again. The Board members were introduced. There are 6 standing committees. The leaders were introduced. CIBO staff continues to provide support and coordination of all of our meetings and operations. **Bob Bessette** continues as president of CIBO.

II. President's Report – **Robert (Bob) Bessette**, CIBO

Bob started with CIBO 24 years ago and has been president for 23 years. Industrial energy was very different in that period. There was a lot of technical activity due to the Clean Air Act and the Fuel Use Act. The perceived unavailability of oil and natural gas, along with the higher prices, pushed plant owners to look for alternative fuels in addition to coal to keep their plants running. Boilers were the heart of these power houses. New technologies were being developed both to burn these fuels and to burn all fuels more cleanly. Back end clean up technologies were being developed. It was engineering heaven and it was exciting. CIBO was right in the center of this activity. CIBO was the one

place where energy, environmental, and economic issues came together. It still is. With the advent of fracking technology, the availability of natural gas, along with its lower price in the US, has made this fuel the fuel of choice. This has reduced the need for back end environmental equipment. Energy use is trending towards electrification and renewables. We are at a crossroads with regard to energy use and its future direction. This is the time to capitalize on this change of direction. Our financial position is sufficient to keep us going through this transition.

III. Membership Report – Membership Committee

Denis Oravec, AAI-JMP Engineering, Chairman of the Committee, noted that several committee members will report on membership statistics, activities, market analysis, and the focus for 2019. It was noted that membership is CIBO's life blood, but also volunteerism is a considerable aspect of membership. The mission statement was reviewed with the aim of addressing our activities that support that mission. CIBO delivers "products" and the challenge for the future is to determine the validity of our products going forward.

Robert (Bob) Corbin, CIBO Consultant for Membership, reported on the membership statistics. We are now at 74 members, evenly split between owners and suppliers. We lost 5 actives, 11 associates, and 1 university and gained 4 associates. Our peak membership was 125. This year we fell below the retention target significantly (80% vs 88%). We had a number of actions for 2018 to attempt to address some of the membership issues. We asked the membership to provide potential membership leads. Thirteen companies provided leads. Operator contacts were requested. Only 3 companies responded. A list of solid fuel fired boilers from the EPA CEDRI database was prepared to help identify potential members. A new membership category was approved for independent consultants. Two prospects have been identified. The September Meeting was converted to a conference on sustainability to help address member concerns.

Mark Bitto, ABB, Inc., Vice Chair, reported on the results of the market analysis that was carried out during the year. The trends include the declining base of solid fueled boilers, the increase in the use of gas, the increase in electrification, the perception that the current administration will not press environmental

issues, and the impact of mergers and acquisitions. Members recognize 3 major strengths for CIBO, including knowledge, advocacy, and networking. The opportunities (or threats) include energy, environmental, economic, sustainability issues. The key is to identify what needs CIBO can address with our strengths. Rising fuel costs and fuel switching combined with the knowledge drain due to reduced headcount and retirements presents an area where CIBO strengths can apply.

On energy, fuel switching, alternative sources, electrification, big data, and the internet of things will impact our members.

On environment, water, citizen science, and GHGs are areas of interest that CIBO can address. For sustainability, "connecting the dots" with the other 3 areas can help members address the perceived sustainability needs (stakeholders, standards, SASB, etc.). The members were asked about what things CIBO can do to help meet these needs. Technical programs and membership issues were identified. Specific issues for natural gas and solid fuels were identified, particularly with respect to communications to counter perceived myths, inconsistencies, and non-ideologies, that exist in the world that are less than flattering to industry in general.

Denis noted that, as a result of the analysis, we will broaden the marketing of CIBO's technical and operations expertise and define the needs of those using natural gas. Again, each member was requested to recruit one referral for a potential new member. We would like to make better use of the Higher Logic platform as a means of improving the networking and technical transfer of information. More webinars are anticipated to enable technology transfer to those individuals that have no travel budget. We should consider the institution of a new committee for Operations and Maintenance. There is a perception amongst many plant owners that the use of natural gas solves all their problems. There are issues with natural gas that need to be addressed so that our members are not blind-sided.

Amber LeClair, The Babcock and Wilcox Company, Board Member representative on membership, pointed out that we need to address what we need to do for the next 40 years. We need to identify the "products" beyond our current offerings that make us viable into the future.

IV. Treasurer's Report – **Carl Bozzuto**, CIBO Consultant on behalf of John (**Jay) Hofmann,** Trinity Consultants, Inc., Secretary/Treasurer

Carl noted that with the loss of membership last year and this year, we had a significant loss last year. We still have a significant reserve balance and continue to budget on a break-even basis. This year, as of Sept. 30, we are still slightly favorable to budget. Membership dues still provide 75% of the funds. Further, members are the ones that mostly attend the conferences and meetings. Going forward, new members are needed. Existing members need to work hard to help the membership committee meet their goals.

V. Strategic Planning Report – **Mark Calmes**, Archer Daniels Midland Company, Vice Chair

Mark noted that the basic plan has not changed since last year. The plan is being implemented. We need increased participation from our members to work through our transition period. In order to remain relevant in the future, we need to hear from our members on what is important and what is needed. The future of CIBO is in your hands and we look forward to your participation.

VI. Nominating Committee – **Steve Gossett**, Eastman Chemical Company

Steve nominated **Ann McIver**, Citizens Thermal, **Mark Calmes**, Archer Daniels Midland Company, and **Rob Kaufmann,** Koch Companies Public Sector, to another term on Board of Directors. The motion was seconded and put to a vote. The 3 nominees were elected by unanimous vote.

CIBO Business meeting was adjourned:

CIBO General Session Begins: Open to all Attendees

I Sustainability, the Meaning, the Measurement

Dan White, Moody's Analytics

Moody's Analytics helps companies assess and evaluate the various risks facing their operations. The idea is to help companies prepare for when things go wrong. The 3 main risks that are evaluated are economic risk, environmental risk, and security risk. The key is to understand that many of these risks are not predictable in terms of timing and extent. Therefore, being prepared to address risks is critical. On economic risk, Moody's has 10 economic scenarios that are used for stress testing an entities preparation. There is a business cycle. It is important to be prepared for a downturn in the business cycle, even if we don't know exactly when it will occur. Likewise, environmental risk includes both weather related risk as well as regulatory risk. For the longer term, government Policy Development, Legislation and Regulations are important and can also impact the near term requirements for things like GHG emissions and other emission standards. Security risk includes both physical risk and cyber risk. Protecting against these risks is just as important as the other two risks. The first step in risk protection is to identify the key important risks. These will be different for each entity.

For states, the stress tests would indicate that each state should have 11% of their budget in a rainy day fund to withstand 2 years of an economic downturn. There also needs to be a plan to address how to deal with the next economic downturn. States without a plan did nearly as poorly as those with no reserve at all. A plan is necessary to direct the use of the rainy day fund when an emergency occurs. Finally, the rainy day fund has to be fully funded. The means have to be there to follow through on the plans.

II Energy Star Program – **Walt Tunnessen,** EPA

The Energy Star Program covers products, commercial buildings, homes, and industrial plants. The energy intensity of the economy is the lowest it has ever been.

A major approach has been to improve energy efficiency. The industrial program aims to improve energy performance to reduce GHG emissions. A

combined approach involving effective energy management, strong company energy programs, and an organizational culture focused on efficiency is necessary. Recognition helps to raise awareness among both consumers and participants.

For industrial companies there are 2 types of awards: best in class and achieved reductions. There tools and resources that provide pathways to achieve these objectives. There are activities available to all manufacturers and to specific sectors. There are resources that are available on the web at the EPA Energy Star website (www.energystar.gov). A key feature for a company is building an energy efficiency culture. One example is challenging employees to have energy treasure hunts, to find opportunities to save energy.

Companies can become an Energy Star Partner. Participation in the Energy Star Challenge for Industry has resulted in significant energy savings. Feedback indicates the Challenge heightened the awareness in the company and that these activities continued after the challenge. The goal is a 10% reduction in energy use in 5 years for a given plant. Nearly 500 plants have achieved the Challenge since the introduction of the program. Energy Star Certification provides best in class recognition for a plant based on industry wide data sets.

In general, most facilities can save 10% in energy through basic efficiency measures. Companies with strong energy programs can save 3 – 5% annually. Some companies are looking at 25% energy reduction on their 3rd cycle. Barriers to success include low priority for energy, lack of staff, no one in charge, lack of awareness, and belief that they have already done everything.

III. Today's New Corporate Responsibility

Bob Perciasepe, Center for Climate and Energy Solutions

The Center works directly with companies to help them understand how to maintain their product capabilities and still address climate and energy issues. Recently the IPCC issued a document that looked at the feasibility of holding the potential temperature increase to 1.5 C rather than 2 C. Their conclusion was that we are late in trying to do something to achieve these goals.

Not that long ago, the average concentration of CO2 in the atmosphere was around 300 ppm. It is now around 400 ppm. If the range of acceptable levels is in the 450 – 500 ppm, at the current level of CO2 emissions, we will get to these levels in 20 – 30 years.

CIBO has long been constructively engaged in the complexity and activity in appropriate environmental issues. We have made tremendous progress in the last 40 years. The US air is cleaner now that it was in the 1970s when much less fuel was being used. While there may be a lull in the regulatory process at this time, the issues are still here. One of the questions is how there can be a path forward during this period. The dynamic in the business world is changing as the investment community starts to look at sustainability goals and hold companies accountable from an investment point of view.

Companies that recognize risk now can prepare for the time when there might be a regulatory program on this issue. The Center is working with companies on these issues rather than the eNGOs. The electric power sector has reduced its GHG emissions by 27% since 2005. The industrial sector has also reduced emissions, if only by improved energy efficiency. Progress can be made by working together.

In the tax legislation, there is a credit for carbon capture and sequestration of $35/ton that was signed off by this administration. That makes president Trump the first US president to actually sign legislation that put a price on carbon. The private sector is playing an increasing role in climate and sustainability progress. The goal of reducing GHG emissions by 80% in 2050 is daunting, but can be done.

IV. Water Management in Arizona – **Jeff Tannler**, State Water Management

About 38% of the Arizona water supply is from the Colorado River. Some 41% is from ground water. About 18% is from in-state rivers. The rest is from recycled water. There have been a number of agreements and pacts that have looked at the management of water and water use in the state.

Critical agency functions include ground water preservation, state representation for interstate pacts and agreements, and overall water

resource management. Active management areas have mandatory conservation requirements, withdrawal authority, measurement standards, and permits. Management plans are set up to achieve the management goal.

Industrial users (non- agriculture or non-municipal water supply) have conservation programs and plans. Power plants greater than 25 Mw have management plans, including monitoring and reporting requirements. Recently, requirement tailored for combustion turbines (primarily combined cycles) have been issued. These primarily apply to cooling tower use and blowdown concentrations.

Assured water supply programs require developments to demonstrate where the water comes from. Underground storage is used as a hedge against water shortages. There is a banking authority that banks Colorado River water to be used during shortages. Altogether, over 10.8 million acre feet are in storage. Water use has decreased steadily over the last 40 years while the population has increased substantially.

Challenges include low water levels in Lake Mead, Colorado River delivery shortfalls, and declining ground water levels. There are still drought areas in the state and at this time every part of the state has some level of drought.

The governor has set up the Arizona Water Initiative to address rural Arizona water resource challenges. Long term strategies are looking at additional conservation, water recycle, and desalination. Some groundwater sources are somewhat brackish and may be amenable to desalination. There is some risk of long term depletion issues relative to Lake Mead. More risk sharing will be required amongst the 7 states involved to forestall longer term shortages.

V. Electrification – **Perry Stephens**, EPRI

Electrification is the application of efficient electric technologies as an alternative to existing fuel uses while increasing customer and social benefit. EPRI is completely member funded on a program basis. There are 38 utilities that are participants in the electrification program. The overall goal is an integrated energy network. Efficiency applies to productivity, energy, grid,

emissions, and water, as well as health and safety. Increased electrification can lead to reduced GHG emissions.

State assessments are underway. The biggest impact potentially comes from the electrification of the transportation industry. The idea is that the grid is getting greener (less GHG emissions) and that electric vehicles will then further contribute to lower GHG emissions.

Heat pumps can contribute to residential and commercial building reductions. Process heating is used by the petroleum, chemicals, forest products, and iron and steel industries. Currently these are supplied by steam generation. There may be some applications for infrared curing and drying and induction heating that may be helpful. Heat pumps can also be utilized for HVAC use.

Electric boilers can be used provided the grid has been decarbonized. A 4 kV boiler can fit reasonably well within the current power delivery system. There is also a price point for the electric boiler compared to the gas fired boiler. A power cost of 3.1 cents/Kwhr and a gas price of $5.50/MMBTU is roughly breakeven.

VI. Storage and the Future – **Carl Bozzuto**, CIBO Consultant

Carl filled in for **Marissa Gillett** of the Energy Storage Association who could not attend. Energy storage has been around for a long time. Storage options include pumped hydro, phase change materials, hot oil, steam, hot solids, electric components, fly wheels, and batteries. In recent years, batteries have gotten a lot of attention.

Lithium ion batteries have dominated the battery market capturing 97% of the market. Battery costs have been coming down and are now around $200/Kwhr. Batteries can provide up to 13 services in the electric system in all parts of the grid.

Drivers include increased electrification of the economy, the rising cost of disruption, and demands for reliability, flexibility, and resilience. Emergency power, black start capability, and backup power are all part of the reliability

and resilience question. Renewable integration is facilitated by battery application.

Storage valuation is difficult as there are many variables and most of them are site specific. In a very rough cost analysis, a roof top solar installation with battery backup was analyzed for a New England application without subsidies. A 5 Kw roof top system with 2 x 5 Kw batteries, each with 4 hours of storage was selected. The overall installation cost was estimated to be $60 K.

In New England, roof top solar averages only an 11% capacity factor. Thus, only 5,000 Kwhrs can be generated. Just using straight line depreciation over 20 years gives and annual cost of $3 K/yr. This would amount to 60 cents/Kwhr power cost. The use of the battery may have resolved the availability of the power through the night, but did not resolve the cost problem.

For industrial users, the capacity charge is in addition to the energy charge for electricity (along with T&D and other charges). The capacity charge generally persists for one year even if that energy peak is not reached again. If the load can be managed by using batteries, the capacity charge can be reduced (i.e. load leveling or load shifting). This application appears to be the most likely, near term use for batteries by industry. Of course significant plant studies and simulations will be needed to assess the value of this approach.

VII. Knowledge Loss

Gale Hoffnagle, TRC Environmental Corporation, noted that TRC did an analysis of their employees in terms of years of service. The largest group were those with 0-5 years with company. That means a lot of training is required. The smallest group were those with more than 25 years with the company. There was also a gap in the 11 – 15 year period. This was due to the Title V preparation period. This was a very busy period, so little training was done.

When the Title V Preparation period ended most of the employees went on to something else. Interns have been used to fill the gap. Understanding the motivations of millennial personnel is key factor. With good training, these

interns tend to return to the company. Retirements will cut into the training offered by senior staff.

Steven Taylor of Ware Inc., reported on the Ware Boiler University. Ten years ago Ware started the Boiler University as they saw that training on boilers and steam was lacking. A facility was created to show people what happens in the operation of a boiler and steam system. They have found that demand for this type of training has increased beyond what they originally thought.

The operators and technicians are aging and retiring. The younger generation does not want to work with their hands. They prefer to work with computers and work from home. They prefer to attract high school graduates to train them from scratch. Farm kids have been best. Finding young kids with a good work ethic is a challenge.

Boiler operators are becoming obsolete. Companies are using maintenance people to perform the same duties. Maintenance personnel are not being trained properly. Maintenance budgets continue to be trimmed back resulting in boiler reliability issues. True boiler room technicians are rare. At Ware Inc. there are 3 technicians in training at all times. It takes 5 years before a trainee can go to the field.

Eric Hallman of Cargill Incorporated, reported on some of the perceptions of his facilities are seeing concerning boiler operators and training. They are seeing the same difficulties with hiring boiler operators.

One observation was that those plants that had coal fired experience found that those operators were better at operating the gas units. On the other hand, with the increased automation, the understanding of the boiler or the plant was less.

There has also been a trend toward less experienced or longer term operators. For in house training, it is helpful to have an experienced operator at one plant train employees at another plant. CEMs training is now a requirement. It is desirable to have operators prepared for upset conditions, if possible.

VIII. 2019 Topics and Issues – **Mike Zebell**, Environmental Resources Management and **Todd Young**, HDR

In the interest of generating some ideas for topics for our technical meetings and activities for next year. One suggesting was to team up with another group or agency to do some kind of challenge or activity that members can be a part of. Then perhaps one of the outcomes can provide material for a presentation at one of the meetings. Also, there are some online type of programs for sustainability that could be used for the members. One suggestion was to provide an update on CO2 controls.

Another topic in a similar vein is setting up an internal cost of carbon. From the Boiler Ops Conference, more case studies were requested on fuel switching. Fuel and electric costs can impact the cost of products. The availability of reasonably priced fuels and the flexibility to use those fuels is important to the owners.

Biomass fuels present some issues. More case studies on the handling and use of these fuels in existing units could be presented. Regarding energy efficiency, the policy goal is reduced GHG emissions.

One issue that is important to the members is getting credit for early reductions in GHG emissions. There will likely be requirements for getting such credits. Policy makers will need CIBO input on these issues.

Water issues are likely to become more important. NPDES standards are being tightened. Municipalities are pushing more of the costs of handling storm waters on to users, including industrials. Fees are typically based on land area rather than water quantities.

Safety issues also need to be reviewed as fuel switching is being done and various NFPA requirements are being changed. State activities on climate change are going on even without the current administration.

States are making adaptive plans to accomplish some of these goals. Pulling together what states are doing and understanding what seems to be working and what can be done would be particularly useful.

Citizens' actions are another topic. Tort cases are increasing. An overall status on this issue would be helpful. Regulatory agencies are required to respond to a citizen "complaint". The various agencies, most likely, do not have the staff resources to handle a substantial increase in such activities.

IX. Government Affairs – **Lisa Jaeger**, Bracewell LLP

It is election time again. This year, support or opposition to President Trump is expected to be a major factor in the voting. Energy has not been on the polls. Instead, climate change and environmental issues have been substituted. Although low overall in importance, this issue has been major for Democrats.

In the Senate, 26 out of 35 seats that are up for election are held by Democrats. They are on the defensive in many of these states. There are a significant number of "toss-up" races. Currently, the thinking is that the Senate will stay with the Republicans.

On the House side, The Democrats need to take back 25 seats. Democrats appear to be leading for the House. However, there are also a number of "toss-up" races in the House. With a split legislature, more gridlock can be expected. If the Democrats take the House, there could be impeachment proceedings, as this starts in the House.

Relative to EPA, Andy Wheeler is currently the acting administrator. Recently, the President has praised Andy for his work at EPA. His Deputy is Henry Darwin from Arizona and appears to be doing well. The General Counsel is Matt Leopold. He changed some of the succession rules to support the political appointees when an opening occurs.

X. Environmental Policy – **Chuck Hallier**, Cargill Incorporated

Jim Powell of Mostardi Platt QEP reported on water issues including NPDES and 316(a) and (b). For NPDES, a waste water permit had to be reviewed at a cost of $30 K for a 2 inch pipe emitting treated water. Industrial Effluent Guidelines cover over 60 different types of sources.

On 316(b), water intake of more than 2 MM gal/day requires impingement and impact of the intake system on fish and aquatic species. Discharge is also part of 316. Mixing zones and impacts need to be addressed. A lot of people will be involved in these activities.

Citizen science is being promoted. EPA is funding these science projects. The goal is to get more data and involve the community. Low cost sensors can be carried by drones to take measurements. This applies to air, water, and waste discharges. At one particular plant, noise from a foam discharge into a river became a problem due to a complaint registered by cell phone. The solution was to install a diffuser system under the surface of the water at a cost of $15 million.

North Carolina is hosting a 2 day course in basic macro environmental science. NCADH is hosting a benthic macroinvertebrate trainer certification and volunteer monitoring program manager course. There are college courses in these subjects. A 2 day course is insufficient. It is critical to know which rules and regulations apply to your plant. There are many permits and requirements for plans, records, and data that must be kept up to date.

Rob Kaufmann, Koch Companies Public Sector, reported on NAAQS and MOG issues. On the NAAQS, there is a statutory mandate to review the standards every 5 years. Costs are not considered in setting the standards. EPA has planned to accelerate the review of the ozone and PM2.5 standards by the end of 2020. EPA has decided to eliminate the special subcommittees on CASAC for ozone and PM2.5. The "back to basics" memo has changed the composition of CASAC to eliminate conflict of interest issues with those that get EPA grants on these subjects.

The NAAQS science reviews will be conducted by the full 7 member CASAC. A key piece of review with the statutory charge to consider adverse impacts associated with the implementation of any new standard. EPA has issued a "Call for Information" to get help in the reviews. The best guess at this point is that the current ozone standard is sufficiently protective.

The PM2.5 is much more problematic, as recent studies show health effects at annual standard levels as low as 5 micrograms/m3 or below. The current

standard is 12. Further, ultrafine particles are being investigated (nanometer scale).

The SO2 NAAQS review has been completed and the standard has not been changed. There has been a lot of activity to look for potential flexibilities in the rules. Exceptional events are getting a lot of attention. The "good neighbor" requirements are being challenged by MOG (Midwest Ozone Group). At this point, there should be no requirements for upwind states having to make changes because the downwind state is not in attainment. International emissions are being identified as impacting coastal areas.

MOG has been helping states with modeling to show that outside emissions are a significant source (Southeast Asia for the West Coast and Africa for the East Coast). MOG continues to file comments on the New York Section 126 petitions naming plants upwind to deny such petitions.

Amy Marshall of AECOM pointed out that electronic reporting is required for test reports and compliance reports. The first CEDRI compliance reports were due Jan. 30, 2018 and every 6 months thereafter. Compliance issues include not including all supporting information, improperly setting the parameter limits, forgetting to calculate the monthly maximum fuel pollutant input, not having up to date plans, not enough detail for the monitoring plan, lack of clarity in startup and shut down plans, not stating which definition of startup is being used, failing to submit the CPMS performance evaluation notification, failing to keep calibrations current for all monitors.

On reporting, some have not been submitted or not submitted on time, confusion as to what is reported electronically and what still goes on paper (usually to the state), failure to submit compliance reports for boiler only subject to tune-ups, and failure to set up the CEDRI account.

For testing, exceeding other state permit limits during a Boiler MACT test can be a problem. For tune-ups, some parts are done during operation and some during a shut down. A burner inspection needs to be done when the unit is down. If the controls are tuned during operation, the burner inspection needs to be done at the next shutdown. Don't forget. There are still 2 unresolved issues from court cases.

The CO as a surrogate issue and the 130 ppm level was remanded to EPA. A technical paper is being prepared to be sent to EPA. The MACT floors have to be recalculated for multi fuel boilers. The MACT rules required RTRs (technical reviews) for standards every 8 years.

EPA has missed most of their dates. Several are now on a Court ordered schedule.

On CISWI, certain units were remanded to EPA. Technical corrections have been issued to the rule on June 15. A federal plan to implement CISWI emission guidelines was proposed by EPA last January. The plan has not been issued yet. The Court has not imposed a date on plan issuance.

Gale Hoffnagle of TRC Environmental Corporation reported on Affordable Clean Energy and NSR Reform. The Affordable Clean Energy Plan proposed in August replaces the Clean Power Plan. Many challenges to the CPP were submitted. The Supreme Court stayed the CPP.

The ACE rule stays within the fence limit. EPA determined that the Best System of Emission Reduce (BSER) is energy efficiency improvements. Several potential improvements are cited in the rule including such things as neural networks, improved turbine blades, pumps, etc. The proposed rule leaves the State to determine which improvements are to be applied. This begs the question as to why such improvements have not been done in the past. This has been attributed to New Source Review (NSR). For this rule, for those covered sources, the exemption mechanism for NSR would put the basis for calculation on an hourly basis instead of an annual basis.

EPA calculates that the 600 coal fired plants would reduce CO2 emissions by 30 million tons by 2025. The cost will be less than the CPP. NSR reform issues are being reviewed by EPA. Several actions have been completed. Actual to projected guidance, project emissions accounting, source aggregation guidance, and PM2.5/ozone SILs guidance have been issued. Several more are underway. These are policy guidance actions that are details in the rules, but are important. For example, on project emissions, netting is now done before the calculation of the SIL so that a lower value compares to the SIL.

Common control now means under one entity and actually adjacent (i.e. next to) as opposed to some distance. However, there is still no bright line. The new Significant Impact Levels (SILs) are more stringent, but are at least in place. EPA defines ambient air as that portion of the atmosphere external to buildings to which the general public has access. A fence is usually required to deny "public access". Support facilities are not public access. Managed forest biomass CO2 is being treated as CO2 neutral. The petition process for Title V was requested but not yet acted upon by EPA. This has to do with eNGOs submitting petitions to deny Title V permits.

Industry has asked for several other improvements that EPA has yet to work on. The BACT/RACT/LEAR Clearinghouse needs to be improved. In some cases, a BACT permit was issued but the plant never made it and shut down. The shutdown information is never recorded, but the BACT limit is still in the system.

Gary Merritt, Inter-Power/AhlCon Partners, L.P., reported on ash issues and NPDES. EPA finalized the first set of amendments to CCR performance standards. There are 2 types of standards: full state program and certified engineer certification. The ground water protection standards were also revised.

The CCR rule was published in the Federal Register in July. An eNGO has filed a petition for review of the Circuit Court ruling on CCR standards. Another group filed a petition on seepage from coal ash storage ponds into ground water. Discharges to groundwater with a direct connection to surface are controlled. If these petitions are successful, every industrial plant with storage materials could be impacted. EPA has requested input on this issue (hydrological connection). Ground waters are not considered "Waters of the US" and are not subject to regulations. On Oct. 23 environmental groups have asked the Supreme Court to uphold the 4th Circuit ruling regarding hydrologic connection.

Lisa Jaeger of Bracewell LLP reported on the policy outlook. Justice Kavanaugh has been sworn in to the Supreme Court. He has worked in the Bush administration in the past and has been helpful to industry. He is a textualist and will start with the clean text of the Constitution. However, having been on

the DC Circuit Court, he will have to recuse himself on those issues in which he has already participated. These water issues concerning "point sources" and "hydrological connection" will likely be heard by the Supreme Court and Judge Kavanaugh will be involved. More details on the status of court suits will be given at the December Meeting.

XI. At the Crossroads Strategic Thinking – **Scott Darling**, Alcoa Corp

Scott noted that we have heard a lot in the last day and a half. We need to think about the future.

One issue that is not going away is climate concerns. The Affordable Clean Energy plan gives us a view of what would be coming at us. Energy efficiency will be a major activity going forward. Steam demand still has a role to play. Automation and robotics will impact the operations impacts of our plants. Part of our customer base is still steam driven.

Many companies are changing their business model to purchase intermediate products and assemble to final products. These companies have less demand for steam.

One suggestion was that our strength is really combustion. The major steam users are pulp and paper, agricultural, and refinery, or petrochemical. If we focus our efforts on these customers, then we need to identify our products for those customers.

Some time back, we looked at a potential international component, but were not able to find anything that fit to our organization.

In the short term, we can focus on the traditional members, but move towards a more energy oriented approach. We need to do more to alert our members who now burn gas as to what to expect in terms of pressures going forward.

There is a need to get our story out to both existing members and potential members. We need to also tell our story to the regulators, the legislators, the states, and the communities.

We haven't had hill visits in some time. There is always room for education. However, we need to get the talking points and "take aways" prepared well in advance.

There are 4 issues that could be "life threatening" to CIBO members: energy efficiency, water issues, natural gas issues, and operations. Perhaps we can use these issues to aim at the major steam users and those that have converted to gas to create the talking points that can help us get our message out.

The committee chairs need to prepare for the December Meeting to come up with these points. Follow up work should be done in January so that prepared material can be sent out in February. This will allow members to get necessary approvals ahead of the March Meeting.