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VIA WEBSITE POSTING AND E-MAIL

January 11, 2010

California Air Resources Board
Headquarters Building
1001 "I" Street
P.O. Box 2815
Sacramento, CA 95812

Subject: Preliminary Draft Regulation for a California Cap and Trade Program issued November 24, 2009

To Whom It May Concern;

Praxair, Inc. thanks the California Air Resources Board for the opportunity to submit the following comments concerning the subject pre-proposal. Praxair, Inc. (NYSE:PX) is a global, Fortune 300 company that supplies atmospheric, process and specialty gases, high-performance coatings, and related services and technologies to a wide diversity of customers. Praxair has 27,000 employees and operations in more than 30 countries. Praxair serves a wide range of industries: aerospace, food and beverages, chemicals, refining, healthcare, semiconductors, ore and gas production, primary metals and metal fabrication, as well as other areas of general industry.

Praxair has more than 1,000 employees working at 80 locations in California and primary products are oxygen, nitrogen, hydrogen, carbon dioxide, helium, and argon. Praxair operates numerous air separation, hydrogen production, carbon dioxide, cylinder filling/retail operations, and one cogeneration plant in California. Our comments focus on the potential impact to Praxair's California operations.

Item #1: Free Allocations versus Auctions

§3862(b)(1), (5) and (7) of the California Global Warming Solutions Act of 2006 states the following;

"(1) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions."

"(5) Consider cost-effectiveness of these regulations."

"(7) Minimize the administrative burden of implementing and complying with these regulations."

This regulation will create a significant additional financial burden during difficult economic times that businesses may not be able to support. This makes California business less competitive both nationally and globally.

To minimize the economic impact on the regulated community and the California economy, free allowances of 80% of an entity's baseline should be granted and the remaining available allowances should be auctioned. This will still have the intended impact of creating a cap and trade program while helping to minimize the financial impact on the regulated entities while complying with §3862(b)(1), (5) and (7) of the California Global Warming Solutions Act of 2006.

Item #2: § 95910 - Modification to the Annual Base Budget

This program will be requiring significant capital expenditure and long term planning from energy producers, distributors and consumers. It is essential for these regulated entities to have a reasonably stable and predictable market place so that the appropriate and most effective planning decisions can be made. As seen with the volatility in oil prices over the last few years, speculation from outside entities that enter the market place for strictly financial reasons with no capability of utilizing the commodity being purchased can lead to unstable prices and volatile price swings. This volatility was also experienced in the European Union's Emission Trading System during the startup of their program.

This can be challenging to the regulated entity that must purchase this commodity to forecast the market place and make the most effective decisions on how to comply with the regulation. It will drive the financial impact of the program up. This would discourage long term investment in greenhouse gas reducing technologies because of uncertainties in the market place.

The following mechanisms should be built into the cap-and-trade system to minimize this volatility:

- Only covered entities that are in the program that have a need for using allowances should be allowed to purchase or trade them.
- A mechanism should be put into place for administrative adjustments to the Base Allowance Budgets to prevent any severe under- or over-allocation of allowances.
- "Hard collars" that set maximum and minimum price controls should be utilized
- "Soft collars" should be added that adjust supply of compliance instruments in the market once price triggers are reached, including the following mechanisms.
    a. Use of reserve accounts to release additional allowances when prices are high
    b. Relaxation of the quantitative usage limit on offsets.
    c. Expansion of the list of acceptable offset project types

d. Allowing use of allowances from the next compliance period ("borrowing")

Item #3: § 9940 - Moving smaller facilities from 2015 to 2012

ARB has given indications that they are considering moving smaller sources that are less than 25,000 metric tons per year and fuel deliverers into the program in 2012 instead of 2015. This regulation will be very complex, and like many new regulations, there will be growing pains associated with its implementation.

Considering that the large facilities that are greater than 25,000 metric tons per year make up the majority of the state's CO2 emissions, and that there are opt-in provisions for those who have desires to be in the program earlier, Praxair supports keeping these smaller sources out of the program until 2015. This will provide time for the credit market to stabilize, help ensure program stability and minimize cost and regulatory impacts to the California economy..

Item #4: § 95970(a) - Limitation of Offsets to 4%

The intent of this regulation is to address global warming. Unlike regional air quality issues, global warming is a worldwide issue. The location of where the CO2 gets emitted is not a factor. Therefore, limiting the use of "offsets" and the geographical area those offsets can come from is not consistent with the main intent of the regulation. It is important that any offsets used be verifiable and meet AB 32 and ARB criteria for what constitutes an offset credit for compliance purposes. The 4% limitation of using offsets for the allowances needed should be removed and there should be no geographical limitation to where these offsets can be generated from.

Item #5: Double counting carbon (supplier & user)

During the development of the Mandatory Reporting of Greenhouse Gas Emission Rule great effort was taken to identify and correct any aspect of the rule where double counting of emissions may occur. However, in the event that there exists some unforeseen double counting that has not been addressed yet, this rule needs a mechanism to address it.

The regulation needs to explicitly state that it is not the intent for double counting to occur. In the event an entity determines a raw material, fuel or energy source has already been accounted for in the program, the entity should not be required to obtain the corresponding CO2 allowances.

In the event that double counting is discovered that has not been addressed by the rule, the regulation should have a mechanism to allow the entity to be exempt from having to obtain the corresponding CO2 allowances.

A suggested mechanism could be that if a facility determines that double counting is occurring that they document where this double counting is occurring and include this documentation with the final surrender of allowances which would not include the double counted allowances. The Executive Officer will then review the documentation supporting the double counting. If the

Executive Officer agrees with the double counting then no action is required. If the Executive Officer disagrees with the documentation then a determination can be made as per§95980(f) that more sufficient number of valid compliance instruments need to be surrendered.

Item #6: § 95820 and Attachment 6 - Additional Narrow Scope Sources Under Consideration (Not in Current ARB Reporting Regulation). CO2 Supplier or Transfer Recipient

§ 95820 and table in Attachment 6 of the draft give indication that the ARB is considering adding "CO2 Supplier or Transfer Recipient" to the regulation. This category has not been identified in the WCI Essential Reporting Requirements.

Some emitters of CO2 (e.g., hydrogen production facilities) may capture some or all of the CO2 normally vented to atmosphere and supply it to downstream entities that further process the gas for sale to end-use markets. In the absence of an operational definition, we are anticipating that "transfer recipient" may include those downstream receiving entities.

Such downstream recipients should be excluded from this regulation. Virtually all the CO2 gas produced by the supplier is eventually vented to atmosphere by the end users. The tracking and reporting of losses along the supply chain (such as fugitive emissions) will provide no impact whatsoever on the reduction of CO2 emissions and will impose an undue additional compliance burden on downstream entities. All those in the CO2 product end-use supply chain will already share the cost of CO2 emissions reductions as those costs are passed along from CO2 producer to downstream recipients.

There should be one optional exemption to this where the end use of the CO2 does result in the emission not being emitted into the atmosphere (e.g. CO2 sequestration as part of well fracing operation) and therefore the CO2 producer should be able to take credit for this.

Item #7: § 95980(f)(3)(B) & 95980(f)(4) - 30 days not long enough

More time should be given to make remedial transfers if the Executive Officer determines that an entity has failed to surrender a sufficient number of valid compliance instruments for its verified reported emissions. Time may be required to located and transfer a sufficient number of compliance instruments, especially if the facility has to go outside to the market place to obtain the instruments.

Praxair suggests that CARB change the amount of time that remedial transfers need to occur from 30 days to 60 days when the Executive Officer determines that an entity has failed to surrender a sufficient number of valid compliance instruments for its verified reported emissions.

Item #8: § 96080 Trading - Transferring Credit Simplification for Certain Transactions

To transfer credits from one facility to another, the draft requires the transaction to go through the trading mechanism that is presented in Section 96080. This adds unnecessary complexity, and if outside trading facilities are utilized, monetary fees could be charged for each transaction, further increasing the cost of compliance.

A company with multiple facilities in the program should have the capability to move credits from one facility to the next without having to go through the trading mechanism. This will allow the company to most effectively manage their allowances.

There are many situations where a company is integrated with their suppliers and customers. Raw materials, products, co-products, by-products, waste material and energy go back and forth between facilities. These facilities act more as a single entity rather than the multiple entities that the rule would partition them out as because of the ownership situation.

Therefore Section 95870 - Registration and Tracking should allow for a more simplified transferring mechanism for the following two situations.

- Between two facilities that are owned or operated by the same entity
- Between two facilities that have a direct and interconnected relationship to each other such as a supplier /customer relationship.

Item #9: Sub Article 8 - Accounting for Abnormally Low Base Year Emissions

A mechanism needs to be in place for issuing allowances for those facilities that had abnormally low emissions during the base year. This may be caused by shutdown periods during the base year or permitted facilities may have still been in the construction phase during the base year.

Facilities that were existing prior to the base year but whose emissions were low during the base year should have an option to petition the ARB to look at another base year for allowance determination.

Facilities that were not constructed before the base year should be allowed to use their average emission since startup.

Item #10: § 95930 - 3-Year Compliance Period (as opposed to 1-year)

The utilization of the 3-year versus a 1-year compliance cycle period will support minimizing the potential volatility of the market place and will provide some stability. This will also allow for some time to work out any issues with the auction system prior to the final surrender of emission allowances.

Praxair supports retaining the 3-year compliance period as currently proposed in the regulation.

Item #11: § 95830(b) – Below 25,000 metric tons for 6 years before being out of program

A covered entity has a surrender obligation until such time that its annual reported emissions fall below the 25,000 metric tons CO_2e threshold for six consecutive data years.

This seems to be very unfair and can lead to an uncompetitive situation. Two competitors for the same product could each have CO2 emissions of 20,000 metric tons, however, one of them is in the Cap and Trade program because five years prior its emissions where greater than 25,000 metric tons while the other competitor is not in the program. This would create a situation where the one competitor would be unable to pass along the cost of the program to his customers and the cost of the program could jeopardize the business.

This requirement also takes away a big incentive for facilities that are on the 25,000 metric ton border line to take measures to get out of the program by reducing their emissions below the threshold. If the rule was simply that, if you are greater than 25,000 tpy for a given year you are in the program and if you are less than 25,000 tpy you are out of the program, more overall CO2 reductions would occur as facilities would have a more immediate incentive to reduce their emissions.

A covered entity's surrender obligation should cease for any year that its annual reported emissions fall below the 25,000 metric tons CO_2e

Item #12: Coordination with Federal Program

Recently there have been different initiatives to get the US Congress to pass a federal cap and trade program. In the event that one does pass, coordination with this rule needs to occur to minimize the impact the regulated community would have by having duplicative regulations and to address conflicting aspects of the two programs.

Item #13: 95820 Hydrogen Plant Exemption

§3862(b)(4) of the California Global Warming Solutions Act of 2006 states the following;

> *"(4) Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions."*

As an important substance used to comply with the federal Clean Air Act requirements, hydrogen plays a dual vital role in the refining process that also leads to a cleaner environment and improved health.

First, hydrogen production is essential to maintaining a clean environment. Refineries in California utilize hydrogen to hydrotreat and hydrocrack gasoline, diesel, and jet fuel during the oil refining process in order to comply with the federal Clean Air Act. For every ton of hydrogen used in this process, roughly nine tons of sulfur are removed from fuels. In addition, hydrocracking uses hydrogen to break down heavy crude oil into lighter, usable fuels. The benefits of this process include the elimination of harmful environmental emissions and improved octane quality which enhances engine performance. The net effect of these combined processes is a cleaner output that prevents harmful nitrogen oxide and sulfur dioxide

emissions from being emitted into the air, resulting in improved air quality, a reduction in potential for acid rain, and improved health among California's citizens.

Secondly, PM emissions are lowered with diesel fuel that has been hydrotreated to reduced sulfur levels. According to a DOE report, PM emissions decreased by about 29 percent when going from 350 ppmw sulfur diesel to 3 ppmw sulfur diesel. (U.S. Department of Energy, Diesel Emission Control-Sulfur Effects Projects Summary, June 2001). This result is linked to a corresponding reduction in poly aromatic hydrocarbons when hydrotreating to desulfurize diesel

An additional benefit related to PM is achieved when the low sulfur diesel is used in vehicles with exhaust filters. According to the same DOE report, low sulfur diesel dramatically improves the effectiveness of the filters. For example, at 3 ppmw sulfur, the particulate filters tested achieved PM reductions of 95 percent. With 30 ppmw sulfur fuel, the PM reduction efficiencies dropped to 72 percent. When tested with 150 ppmw sulfur fuel, PM reductions were near zero, and when 350 ppmw sulfur fuel was used, PM emission actually increased over the baseline. (Washington State University Extension Energy Program 1 Ultra-Low Sulfur Diesel www.energy.wsu.edu/documents/renewables/Fuels.pdf)

Utilization of hydrogen is a critical component for California to meeting its ambient air quality goals. To ensure that this regulation does not reverse the realization of these benefits, and to fulfill the objectives stated in §3862(b)(4) of the California Global Warming Solutions Act of 2006, Hydrogen Production facilities should be exempt from this rule.

Item #14: Industrial Gas Industry and Potential Market Distortions

The Industrial Gas Industry consists of the companies involved in the production and delivery of industrial gases located in the United States, Canada, and around the world. Industrial gases are pure gases such as oxygen, hydrogen, nitrogen, and other specialty gases that are used by industry to make products more efficiently and with less impact on the environment.

The Industrial Gases Industry help manufacturers improve productivity and efficiency in cleaner, more environmentally sound ways, thereby strengthening overall economic and environmental competitiveness. Consequently, the Industrial Gases Industry can and should play an instrumental role in meeting the goals of AB-32 through the application of existing technologies and the development and adoption of new technologies to ensure the competitiveness of industries as we transition to a carbon constrained world.

There is no question that the Industrial Gases Industry is energy intensive (around 70% of the variable cost of producing industrial gases is energy). The business model of industrial gases companies is based on the use of gases in a wide range of applications and industries, combined with the efficient aggregation of demand and the out-sourcing of production by the end user. Many industrial gas production facilities are physically located at the customer site and integrated with their industrial processes.

Under a Cap-and-Trade program, there exists the potential for market distortions. Large consumers of industrial gases can produce industrial gases themselves or purchase gases from an industrial gas supplier. This creates a unique situation in which the industrial gas producer is competing with the economics of self-production by its customers, in addition to competition from other industrial gas suppliers. Often, customers operate industrial gas production facilities and purchase from third parties at the same facility. Through a model of aggregation and

efficiency, industrial gas producers have been able to compete successfully with these less efficient internal production options.

Market distortions occur between an industrial gas company and its customers if the industrial gas suppliers were required to bear higher costs related to direct or indirect CO2 emissions without receiving allocated allowances, especially if the energy-intensive users of industrial gases receive such allowances. Such users would experience a perverse financial incentive to "in-source" the production of the industrial gases needed in their processes. The consequences would be:

- Reduction of economic and carbon efficiencies of the overall supply chain.
- Reduction in the uptake of energy- and environmentally-efficient industrial gas applications.
- Increased carbon emissions resulting from operating smaller "internal" plants instead of larger third-party multi-customer facilities.
- Increased costs to other industries benefiting from aggregation of their industrial gas requirements.

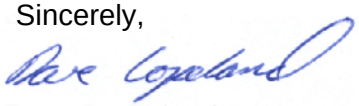
It is important that the Industrial Gases Industry be included in allocation of Allowances under the Cap-and-Trade system being developed. Failure to include the Industrial Gases Industry could undermine the intent of the program and result in two unintended consequences;

- First, an irrational incentive is created for the major eligible industries to in-source the production of industrial gases needed for their industrial processes, forsaking the economies of scale created by the industrial gas industry, and resulting in overall decreased efficiency and increased carbon emissions.
- Second, manufacturing, food, and healthcare industries within California would face substantial cost increases for the products supplied by the industrial gases industry.

To protect California consumers and jobs, it is imperative that the Industrial Gases Industry be included in any allocation of allowances to energy intensive and trade exposed industries.

Should you have any questions concerning these comments, please do not hesitate to contact me at 716-879-2460 (Dave_Copeland@Praxair.com) or Jim Merriam at 732-738-3437 (James_N_Merriam@Praxair.com).

Sincerely,



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