



September 27, 2011

Mary Nichols
Chair
California Air Resources Board
1001 I Street
Post Office Box 2815
Sacramento, California 95812

**Re: Proposed Regulations to Implement the California Cap-and-Trade Program,
September 12, 2011 Proposed 15-Day Modifications,
Comments of Air Liquide Large Industries U.S. LP**

Dear Ms. Nichols:

Air Liquide Large Industries U.S. L.P. submits these comments regarding the draft regulations to implement the California Cap-and-Trade Rule released by the California Air Resources Board (CARB) on September 12, 2011. The September 12 draft addresses several concerns that Air Liquide and other industrial gas manufacturers have identified in previous comments, and Air Liquide commends CARB for addressing those matters.

Air Liquide submits these comments to address a critical issue that CARB has overlooked: the disruption of long-term contracts between hydrogen production facility operators and their customers that is likely to occur unless the September 12 draft regulations are revised to address long-term contracts. In addition, Air Liquide requests that CARB adjust the hydrogen production benchmark to address the differing feedstocks used by hydrogen production facilities, and to avoid the potential unintended adverse environmental consequences that would result from CARB's failure to take feedstock composition into account in allocating allowances.

1. To Avoid Market Distortions, the Cap-and-Trade Rule Should Allocate Allowances to Hydrogen Production Facilities to Account for Obligations Imposed by Long-Term Hydrogen Supply Contracts.

Air Liquide and other industrial gas manufacturers operate hydrogen production facilities in California that supply hydrogen to petroleum refineries under long-term, fixed-price contracts with terms of 15 to 20 years. Some of these contracts were signed years before the passage of AB 32 and before the parties could reasonably have anticipated AB 32's requirements. Because they significantly pre-date AB 32, these contracts may not allow the seller to pass on the costs that will be imposed on greenhouse gas emissions under the proposed Cap-and-Trade program. The September 12 draft does not address the economic dislocations that would occur as a result of such contracts.

CARB has previously stated its intention to address long-term contracts in other sectors. In the Initial Statement of Reasons for Adoption of the Cap-and Trade Rule, CARB recognized the importance of protecting parties to long-term electric power supply contracts, noting that some of those contracts, entered into before the mid-2000s, "do not include provisions that would allow full pass-through of cap-and-trade costs," and may therefore "require special treatment" under the Cap-and-Trade Rule. (Initial Statement of Reasons at II-32, n. 22; *see also* Appendix J at J-16 n. 15.) This recognition is also reflected in federal Cap-and-Trade proposals, including Waxman-Markey (H.R. 2454) and Kerry-Boxer (S. 1733) legislation, as well as in the Regional Greenhouse Gas Initiative ("RGGI"), all of which included provisions to provide allowances to certain facilities subject to long-term contracts that did not allow the recovery of the costs of purchasing allowances at auction. CARB should make good on its statements of its intentions and address long-term contracts explicitly.

Some CARB staff have expressed the view that Air Liquide and other covered entities that entered into long-term, fixed-price contracts knowingly assumed the risk of changes in the regulatory environment when they did so, and therefore CARB need not address long-term contracts. Air Liquide agrees that contracting parties ordinarily assume the risk of changes in environmental regulations, but the Cap-and-Trade Rule is different in two crucial respects:

- It is specifically *designed* to change the price terms on which covered entities, such as Air Liquide, based their contracts.
- Because the Cap-and-Trade Rule is designed to change behavior, by promoting efficiency and reducing emissions, through a price-changing mechanism, the *magnitude* of the likely price effect is huge by comparison with other environmental regulations.

The Cap-and-Trade Rule is unlike other government regulations (for example, workplace safety regulations) which have incidental and usually small effects on prices. The Cap-and-Trade Rule is explicitly designed to impose a price on CO₂ emissions that will be

incorporated into the price of products produced by covered entities and that will alter the economic behavior of market participants. The Cap-and-Trade Rule is therefore an intentional interference with the market pricing mechanism, not simply a regulation of a health, safety or environmental matter that may have incidental effects on the market. Because the Cap-and-Trade Rule is an intentional change in the economic terms affecting contracting parties, CARB has an obligation to make sure that it is implemented fairly.

There is a simple solution to the economic dislocations that might result from the Rule in its present form. CARB should permit covered entities subject to long-term contracts that do not allow the pass-through of carbon costs to retain a 100 percent industry assistance factor for the life of the current contract, or until it is amended to modify the price and supply terms. Such allowances may be limited, as Calpine has proposed in previous comments to CARB,¹ such that they may not be traded or banked, thus eliminating any possibility of a windfall to contracting parties.

If CARB does not act to protect parties to long-term contracts, contracting parties such as Air Liquide may be subject to large losses caused by contractually-required sales at fixed prices that do not account for carbon costs. The environment will not benefit, because the purchaser will not be subject to any increased price associated with carbon emissions, and will have no incentive to reduce its use of carbon-emitting products. The Cap-and-Trade program will also be damaged, because the failure to address long-term contract will create public examples of significant economic dislocations caused by an otherwise laudable program. To the extent that job losses may result, such losses will further damage the program.

If CARB fails to address the long-term contracts covering California facilities, which are limited in number and easily addressed, the Cap-and-Trade Rule will produce market advantages for certain companies based not on their facilities' relative efficiency, but instead on the number of years they have committed to serve a particular customer—an arbitrary distinction that has no relation to the efficiencies that the Cap-and-Trade Rule is designed to foster. This market distortion will not serve the intent or further the goals of the Cap-and-Trade program or AB 32. CARB should therefore direct staff to prepare amendments to the Rule that will provide industry assistance to parties that entered into long-term contracts and that are unable to pass through the cost of GHG allowances.

2. The Proposed Hydrogen Production Benchmark Should Be Adjusted to Account for Feedstock Composition and to Avoid Inadvertently Increasing Carbon Dioxide Emissions.

CARB has proposed allocating allowances for gaseous and liquid hydrogen production based on a benchmark of 8.85 allowances per metric ton of hydrogen gas.

¹ See Calpine Comments, submitted December 9, 2010, *available at* http://www.arb.ca.gov/lists/capandtrade10/253-carb_letter_re_cap-and-trade_20101209.pdf.

(See Proposed Cap-and-Trade Rule, Table 9-1.) The proposed benchmark is based on the benchmark for hydrogen production adopted under the European Union (EU) Emissions Trading System. The proposed benchmark, does not account for the carbon content of the different feedstocks used in hydrogen production, which may be either refinery fuel gas or natural gas.

Air Liquide is not opposed to CARB's reliance on the EU benchmark in this phase of the regulatory process, but it should be adjusted to account for the feedstocks used by particular facilities. Many hydrogen production facilities use natural gas as a feedstock. However, in California, some hydrogen producers, including Air Liquide, use refinery fuel gas as a feedstock. Refinery fuel gas has a higher carbon content and creates greater emissions than natural gas when used as a feedstock, but the use of refinery fuel gas in the hydrogen production process actually generates lower overall CO₂ emissions because the refinery fuel gas would otherwise be flared and burned by the refinery. The use of refinery fuel gas also avoids the emissions associated with extracting, purifying and transporting natural gas to the hydrogen plant, as the refinery fuel gas is a by-product of the petroleum refining process. A hydrogen plant's productive use of refinery fuel gas that would otherwise be flared is therefore environmentally beneficial, and should not be discouraged. Unless CARB addresses the differing feedstocks used by California hydrogen production facilities, market distortions will result.

Again, there is a simple solution that will encourage the use of refinery fuel gas, with its attendant benefits, and will avoid market distortions. Air Liquide requests that the Board direct staff to develop adjustments to the hydrogen production benchmark that address the feedstock used by the producer. For hydrogen plants that use natural gas as a feedstock, the proposed benchmark is appropriate. For hydrogen plants that use refinery fuel gas, an adjustment factor for the benchmark that accounts for the greater carbon content of refinery fuel gas should be developed. Air Liquide would be pleased to work with CARB staff to develop such an adjustment factor.

3. Hydrogen Production Should Be Subject to the Cap Adjustment Factors for Sectors with Process Emissions Greater than 50 Percent.

Approximately 80 percent of carbon dioxide emissions from hydrogen production are process emissions. Hydrogen is produced using a chemical reaction in which a hydrocarbon feedstock reacts with steam to produce hydrogen, carbon dioxide and carbon monoxide. It is stoichiometrically impossible to reduce process emissions; they are determined by the chemical reaction used to produce hydrogen. Carbon dioxide emissions associated with energy production during the hydrogen production process are only about 20 percent of total hydrogen production emissions.

CARB has determined that industries with more than 50 percent process emissions should be subject to lower cap adjustment factors than industries with less than

50 percent process emissions. *See* Proposed Regulation, Section 95891, Table 9-2. CARB explained its rationale in the Notice accompanying the September 12 draft:

In section 95891, Table 9-2 was modified to define “sectors and activities associated with process emissions greater than 50%”, rather than “cement manufacturing”. In the previous proposal, staff identified only cement manufacturing as an activity associated with significant level of process emissions for which no cost-effective abatement opportunities are currently available. However, stakeholders in other sectors whose activities also release process emissions raised a concern in comments. After careful consideration, staff determined that sectors with activities that are associated with process emissions greater than 50% are eligible for a lower cap adjustment factor taking into consideration the potential impact from the emissions that do not currently have cost-effective abatement opportunities.

Because the process emissions from hydrogen production far exceed the 50 percent threshold that CARB has set, hydrogen production should be included in the group of industries subject to the lower cap adjustment factor. Thank you for your consideration of these comments.

Very truly yours,

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