

State of California  
AIR RESOURCES BOARD

**Final Statement of Reasons for Rulemaking,  
Including Summary of Comments and Agency Response**

**Public Hearing to Consider**

**ADOPTION OF THE PROPOSED REGULATION FOR THE MANAGEMENT OF  
HIGH GLOBAL WARMING POTENTIAL REFRIGERANTS  
FOR STATIONARY SOURCES**

Public Hearing Date: December 9, 2009  
Agenda Item No.: **09-10-07**

**I. GENERAL**

The Staff Report: Initial Statement of Reasons for Proposed Rulemaking (Staff Report) entitled "Public Hearing to Consider Adoption of a Regulation for the Management of High Global Warming Potential Refrigerants for Stationary Sources," released October 23, 2009, is incorporated by reference herein.

In this rulemaking, the Air Resources Board (ARB or Board) adopted a new regulation to: 1) reduce emissions of high-Global Warming Potential refrigerants from leaky stationary, non-residential refrigeration equipment; 2) reduce emissions resulting from the installation and servicing of stationary refrigeration and air-conditioning (R/AC) appliances using high-GWP refrigerants; and 3) verify greenhouse gas (GHG) emission reductions. This regulation is an early action GHG emission reduction measure as described in the California Global Warming Solutions Act of 2006 (Assembly Bill 32 (AB 32); Núñez, Ch. 486, Stats. 2006), and helps reduce GHG emissions attributable to existing, non-residential, stationary refrigeration systems.

On October 23, 2009, ARB published a notice for a public hearing on December 9, 2009, to consider the proposed regulatory action. The Staff Report, which provides the rationale for the regulation, was also made available for public review and comment beginning October 23, 2009. The text of the regulation to be added to title 17, California Code of Regulations (CCR), Subchapter 10, Article 4, Subarticle 6, sections 95380 through 95398 was included as Appendix A to the Staff Report. The Staff Report and appendices were also posted on ARB's website for the rulemaking at <http://www.arb.ca.gov/regact/2009/gwprmp09/gwprmp09.htm>.

On December 9, 2009, the Board conducted the public hearing and received oral and written comments. At the conclusion of the hearing the Board adopted Resolution 09-68 which approved the adoption of the originally proposed regulation with modifications described below in Section II. In accordance with Government Code, section 11346.8, the Board directed the Executive Officer to adopt title 17, CCR, sections 95380 through 95398 with the modifications identified by the Board at

the hearing and such other conforming modifications as may be appropriate, after the modifications are made available to the public for comment for a period of at least fifteen days. The Board further directed the Executive Officer to consider written comments submitted during this period, to make appropriate modifications in light of the comments received, and to present the regulation to the Board for further consideration if he determines this is warranted after reviewing the comments. Resolution 09-68 is available at ARB's website for this rulemaking at: <http://www.arb.ca.gov/regact/2009/gwprmp09/gwprmp09.htm>.

A "Notice of Public Availability of Modified Text" together with a copy of the full text of the regulation modifications, with the modifications clearly indicated, was mailed on March 17, 2010, to each of the individuals described in subsections (a)(1) through (a)(4) of section 44, title 1, CCR. By this action the modified regulation was made available to the public for a 15-day comment period from March 17, 2010 to April 1, 2010, pursuant to Government Code section 11346.8. The "Notice of Public Availability of Modified Text" listed the ARB website from which interested parties could obtain the complete text of the incorporated documents that would be affected by the modifications to the original proposal, with all of the modifications clearly indicated. These documents were also published on ARB's website for this rulemaking at: <http://www.arb.ca.gov/regact/2009/gwprmp09/gwprmp09.htm>.

There were a total of three written comments received during the 15-day comment period.

After considering the comments received during the 15-day comment period, the Executive Officer determined that no additional modifications were necessary and issued Executive Order R-10-012, adopting sections 95380 through 95398.

This Final Statement of Reasons (FSOR) updates the Staff Report by identifying and providing the rationale for the modifications made to the originally proposed regulatory text. This FSOR also contains a summary of the comments received by the Board on the approved regulation, the subsequent modifications, and ARB's responses to those comments.

**Economic and Fiscal Impacts on Local Agencies and School Districts.** The ARB's Executive Officer has determined that the approved regulatory action would impose a mandate on State and local agencies and would create costs, as defined in Government Code section 11346.5(a)(6), to state and local agencies. Any such costs should be minimal, and affected State and local agencies should be able to absorb these costs within existing budgets and resources. Because the requirements imposed by the regulation are generally applicable to all entities subject to the regulation, the proposed regulatory action imposes no costs on local agencies that are required to be reimbursed by the State pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code, and does not impose a mandate on local agencies that is required to be reimbursed pursuant to Section 6 of Article XIII B of the California Constitution.

The Executive Officer has also determined that the approved regulation will not create costs or savings in federal funding to the State, or costs and/or mandate to any school district whether or not reimbursable by the State pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code. The approved regulation may create non-discretionary savings for some State or local agencies because reduced refrigerant leaks will translate into less refrigerant being purchased, resulting in an overall cost savings.

The approved regulatory action will not impose a mandate upon or create costs for local air districts, although air districts will have an option to enforce the regulation. In response to a survey, air districts representing 94 percent of the State's population indicated they are likely to undertake enforcement of the regulation within their jurisdiction. An agreement between the ARB and the air districts will outline all roles, responsibilities, enforcement performance requirements, and the amount and methods of payments funded by the implementation fees which ARB will remit to the air districts.

There are no expected fiscal impacts on cities and local schools (K-12) since they are not expected to possess impacted refrigeration facilities. There are a few county owned hospitals and other facilities with small and medium size refrigeration systems that will be impacted. The net cost for such facilities is estimated to be approximately \$700 statewide annually, or approximately \$20 per facility.

**Consideration of Alternatives.** The new regulatory language proposed in this rulemaking resulted in large part from extensive discussions and meetings between staff and the affected industries and businesses. The ARB staff considered many alternatives for components of the approved regulation to ensure that the approved regulation achieves the maximum technologically feasible and cost-effective GHG emission reductions from stationary R/AC appliances. The Staff Report describes the specific alternatives considered, evaluated, and ultimately rejected. These alternatives include the following:

- Setting a minimum refrigerant charge threshold of 30 pounds for all refrigeration systems to capture smaller roof top units, walk-in coolers, and other smaller equipment.
- Setting a minimum refrigerant charge threshold of 200 pounds of refrigerant to reduce the number of facilities impacted.
- Requiring continuous monitoring for all systems with a full charge greater than 600 pounds of high-GWP refrigerant to improve leak detection.
- Requiring leak repair only if a refrigerant leak results in an annualized leak rate that exceeds 35 percent for commercial or industrial refrigeration appliances, or 15 percent for comfort cooling appliances, to be consistent with existing federal rules.
- Banning the use or requiring a \$35 deposit on all non-refillable cylinders to ensure they are returned to a distributor for final evacuation and disposal.
- Requiring new commercial and industrial refrigeration systems to meet specified performance standards.

For the reasons set forth in the Staff Report, and based on staff's comments and responses at the hearing and in this FSOR, the Board has determined that no alternative considered by the agency or brought to the attention of the agency would be more effective in carrying out the purpose for which the regulatory action was proposed or would be as effective and less burdensome to affected private persons than the action taken by the Board.

### **Incorporated Documents**

The regulation approved by the Board incorporates by reference the "Global Warming Potential Value" or "GWP value", as defined in title 17, CCR, section 95382(a)(28). The incorporated documents are published by the IPCC in its Second Assessment Report (SAR) (IPCC, 1995) and the IPCC in its Fourth Assessment A-3 Report (AR4) (IPCC, 2007). Both the 1995 IPCC SAR values and the 2007 IPCC AR4 values are published in table 2.14 of the 2007 IPCC AR4. The SAR GWP values are found in column "SAR (100-yr)" of Table 2.14.; the AR4 GWP values are found in column "100 yr" of Table 2.14." These documents are readily available from ARB upon request, and were made available in the context of this rulemaking in the manner specified in Government Code Section 11346.5(b). The GWP Reports are incorporated by reference because it would be impractical to print them in the CCR. The GWP as a whole are extensive and it would be both cumbersome and expensive to print these lengthy, technically complex reports with a limited audience in the CCR. The definition of "Global Warming Potential value" or "GWP value" of the regulation is identical to the definition contained in title 17, CCR, section 95361(a)(10), which is part of ARB's regulation for small containers of automotive refrigerants.

## **II. MODIFICATIONS TO THE ORIGINAL PROPOSAL**

As discussed above, various modifications were made to the originally proposed regulatory language. These modifications were explained in detail in the Notice of Public Availability of Modified Text that was issued for a 15-day public comment period beginning on March 17, 2010, and ending on April 1, 2010. These modifications and clarifications are summarized and explained below. In addition to the modifications described below, the entire regulation has been placed in Subarticle 5 instead of Subarticle 6.

### **Modifications to Title 17, California Code of Regulations Sections 95380 through 95398**

- A. Sections 95380 and 95381 were amended to add the word "stationary" to clarify that the regulation only applies to stationary refrigeration and air-conditioning appliances.

The regulation applies only to stationary refrigeration and air-conditioning appliances, and these clarifications are necessary to make sure there is no confusion about this.

- B. Subsection 95381(b) was added to specify that the regulation does not apply to tactical support equipment.

New subsection 95381(b) explicitly excludes tactical support equipment from the requirements of the regulation. Certain tactical support equipment will continue to be regulated under title 13, California Code of Regulations (CCR), sections 2450-2465 as off-road mobile sources.

- C. A definition for “tactical support equipment” was added to section 95382(a).

A definition of “tactical support equipment” has been added to clarify the type of equipment outside the scope of this regulation under subsection 95381(b). The definition of “tactical support equipment” is consistent with the definition used in the Portable Equipment Registration Program (Title 13, CCR, section 2452).

- D. Subsection 95385(a)(1)(A) was amended to add language specifying two scenarios where subsection 95385(a)(1) applies.

Subsection 95385(a)(1) was divided into two subsections, 95385(a)(1)(A) and 95385(a)(1)(B). Subsection 95385(a)(1)(A) now specifies the two scenarios where subsection 95385(a)(1) applies: (1) if the refrigerant circuit is located entirely within an enclosed building or structure; or (2) if the compressor, evaporator, condenser, or any other component of the refrigeration system(s) with a high potential for a refrigerant leak is located inside an enclosed building or structure. Subsection 95385(a)(1)(B) now specifies the exception for the monthly leak inspection requirement specific to use of an automatic leak detection system meeting the specifications provided in subsections 95385(a)(5) or 95385(a)(6) to monitor the refrigeration system. These modifications are necessary to clarify the leak inspection requirements outlined in subsections 95385(a)(1) and 95385(a)(3) for a refrigeration system that does not operate with the refrigeration circuit located entirely within an enclosed building or structure.

- E. Subsections 95385(a), 95385(b), 95385(c), and 95385(d) were modified to remove language specifying required actions if oil residue is observed and inserting language in new subsection 95385(g) to be applicable to the entire section.

Subsections 95385(a), 95385(b), 95385(c), and 95385(d) were modified to delete language specifying required actions if oil residue is observed. The deleted language regarding required actions when oil residue is observed is now made applicable to the entire section via subsection (g) to specify required actions if oil residue is observed indicating a refrigerant leak. These modifications are necessary to clarify that a leak inspection is required any time oil residue is observed indicating a potential refrigerant leak.

- F. Subsection 95385(a)(3) was modified to change the effective date from January 1, 2012, to January 1, 2011, and to clarify that all refrigeration

system components are subject to either subsection 95385(a)(1), 95385(a)(2), or 95385(a)(3).

Subsection 95385(a)(3) was modified to change the effective date of the subsection from January 1, 2012, to January 1, 2011 and to specify that a leak inspection is required once every three months for any refrigerant circuit component that is not monitored using an automatic leak detection system. The modification to the effective date is necessary for consistency between: (1) the effective date of leak inspection requirements for a refrigeration system with a full charge equal to or greater than 2,000 pounds with a refrigerant circuit that is not located entirely within an enclosed building or structure, and (2) the effective date of leak inspection requirements for a refrigeration system with a full charge equal to or greater than 2,000 pounds with a refrigerant circuit that is located entirely, or partly, within an enclosed building or structure. The modification specific to a leak inspection once every three months for any refrigerant circuit component that is not monitored using an automatic leak detection system is necessary to clarify that all refrigeration system components are subject to either subsection 95385(a)(1) and 95385(a)(2) or subsection 95385(a)(3).

- G. Subsections 95385(a)(3) and 95385(b) were modified to replace the term “every three months” with “once every three months.”

Subsections 95385(a)(3) and 95385(b) were modified to clarify that a leak inspection is required “once every three months” as compared to “every three months.” The term “every three months” could be interpreted to mean an inspection is required on the same date every three months; such a requirement would be unduly restrictive and was not staff’s intention. Instead the modification makes clear that an inspection must be performed at least once every three months.

- H. Subsection 95385(a)(8) was deleted and the same language was added in new subsection 95385(e).

Subsection 95385(a)(8) was deleted and the same language has been inserted in new subsection 95385(e). This was done to clarify that the provision is not specific only to refrigeration systems with a full charge greater than or equal to 2,000 pounds, as specified in subsection 95385(a), but applies to all subject refrigeration systems that do not operate or are not intended to be operated year round.

- I. Language was deleted in subsection 95386(c)(3), providing a 45-day allowance for a refrigerant leak repair if the refrigeration system owner or operator has received an exemption or submitted a request for an exemption, and subsection 95386(j) was added providing that a leak repair is not required if the refrigeration system owner or operator has received an exemption or submitted a request for an exemption.

Subsection 95386(c)(3), which provides that a 45-day allowance for a refrigerant leak repair if the refrigeration system owner or operator has received an exemption or submitted a request for an exemption, was deleted and the same language has

been added under new subsection 95386(j). This is necessary to clarify that the provision is not specific to the 45-day allowance specified in subsection 95386(c) and that refrigerant leak repair pursuant to section 95386 is not required if the owner or operator has been granted an exemption of the leak repair requirements in accordance with section 95397, or submitted a request for an exemption.

- J. Subsections 95386(c) and 95386(d) were modified to clarify the conditions when a refrigerant leak repair 45-day or 120-day allowance is applicable specific to an industrial process shutdown.

Subsections 95386(c) and 95386(d) were modified to clarify that a 45-day or 120-day allowance for industrial process shutdowns applies in situations where the industrial process shutdown results in a process temporarily ceasing to manufacture the intermediate or final product produced when the industrial process refrigeration appliance is operating, and that this includes situations where an industrial process remains in operation to manufacture a different product that does not rely on the operation of an industrial refrigeration appliance within the overall production process.

- K. Subsection 95387(c) was added to clarify that a retrofit or retirement plan is not required if the refrigeration system owner or operator has received an exemption or submitted a request for an exemption.

This modification is necessary to clarify that a retrofit or retirement plan is not required pursuant to section 95387 if the owner or operator has been granted an exemption of the retrofit or retirement plan requirements in accordance with section 95397, or submitted a request for an exemption.

- L. Section 95389 was modified to include a new subsection 95389(a)(6) clarifying that maintaining records specific to an exemption application, approval, denial, revocation, or modification is required.

The proposed regulation originally required that records be maintained for all refrigeration system service and refrigerant leak repairs as well as documentation of any conditions that would allow a repair of a refrigerant leak to be conducted more than 14 days after detection. Subsection 95389(a)(6) was added to make clear that maintenance of records of an exemption, application, approval, denial, revocation, or modification are amongst the conditions required before a refrigerant leak repair may be conducted more than 14 days after detection and records specific to these conditions must be maintained.

- M. Subsection 95390 was modified to include the word “stationary” in the title and in subsection 95390(a) to clarify that the provision is applicable only to stationary refrigeration and air-conditioning appliances.

Subsection 95390 applies only to stationary refrigeration and air-conditioning appliances, and these clarifications are necessary to make sure there is no confusion about this.

- N. Subsection 95397(a) was modified by deleting language from subsection 95397(a)(1), deleting subsection 95397(a)(2)(B) and renumbering subsection 95397(a)(2)(D) to subsection 95397(a)(4).

Proposed section 95397 originally provided those criteria that must be met for the consideration of an economic hardship exemption to the refrigerant leak repair requirement. These criteria are: 1) compliance would result in extraordinary economic hardship to the applicant, 2) the extraordinary hardship would be without a corresponding benefit in reducing combined direct and indirect emissions, and 3) the applicant has prepared a compliance report that can be implemented and will achieve compliance as expeditiously as possible. There was concern that the second criterion could be broadly interpreted to include scenarios where an exemption could not be approved if the economic hardship resulted in an emissions reduction benefit. As an example of the concern, some believed the provision could be interpreted to mean that an exemption could not be approved if emissions were reduced by ceasing operations at a facility. In response to this concern, the second criterion has been removed. Subsections 95397(a)(1) and (a)(2)(D) include identical language allowing that any exemption granted may be extended for one or more additional periods of up to three years. To clarify that subsection 95397(a)(2)(D) is not a criterion for approval of an economic hardship exemption and that any exemption granted pursuant to section 95397 may be extended, this regulatory text was deleted from subsections 95397(a)(1) and (a)(2)(D) and the same language was inserted in new subsection 95397(a)(4).

- O. Subsection 95397(e) was modified by clarifying the due date for a refrigerant leak repair and a retrofit and retirement plan if an exemption is denied or revoked, including a required time frame to implement a retrofit and retirement plan, and changing the reference to section 95387 to subsection 95387(a)(2).

Proposed section 95397 originally required leak repair “in accordance with section 95386” and a retrofit or retirement plan “in accordance with section 95387.” Sections 95386 and 95387 required a leak repair and retrofit or retirement plan within a specified number of days from the initial detection of a refrigerant leak, which may conflict with the time requirements to submit a request for an exemption or a denial or revocation of an exemption. To provide clarity a time-frame was included for situations where an exemption from the leak repair and retrofit or retirement plan requirements are denied or revoked based on the date of the notice of the exemption denial or revocation. For the retrofit or retirement plan requirements, the reference to section 95397 was revised to subsection 95387(a)(2) to refer only to the information required in the retrofit or retirement plan. Subsections 95397(e)(1) and 95397(e)(2) were also added to clarify that if an exemption is denied or revoked, 1) the time frame for a required refrigerant leak repair allowable under section 95386 remains applicable and is not reduced, and 2) the time frame for preparation and implementation of a required retrofit or retirement plan allowable under section 95387(a) remains applicable and is not reduced.



Minor, non-substantive modifications were also made throughout the regulation to provide additional clarity. Other non-substantive modifications include correcting formatting and grammatical errors, and minor administrative changes and corrections. All of these modifications were made available for public comment during the 15-day comment period.

### **III. MODIFICATIONS MADE SUBSEQUENT TO THE 15-DAY PUBLIC COMMENT PERIOD**

During the 15-day public comment period, three additional comments were received. No modifications were made to the approved regulation subsequent to the 15-day public comment period.

### **IV. CORRECTIONS TO THE INITIAL STATEMENT OF REASONS**

Staff has identified two typographical errors in the ISOR. For clarity, the following is an identification of these errors and the necessary corrections.

1. In a footnote on page 73 and in “Section XII. References” there is a reference to, Air-conditioning and Refrigeration Institute, Policy and Public Affairs – Executive Branch, <http://ariadman.tempdomainname.com/ga/executive-branch/index.html>, retrieved on May 13, 2008. The date the reference was retrieved is incorrect; the correct date is April 24, 2008.
2. In a footnote on page 21 and in “Section XII. References” there is a reference to, California Employment Development Department, “Training Program Summary,” <http://www.labormarketinfo.edd.ca.gov/cgi/dataBrowsing/traProgramSummary.asp?menuChoice=&cipcode=150501&geogArea=0601000000>, retrieved July 15, 2008. The date the reference was retrieved is incorrect; the correct date is October 6, 2008.

### **V. SUMMARY OF COMMENTS AND AGENCY RESPONSE**

The Board received numerous written and oral comments in connection with the December 9, 2009 hearing, and received three additional comments during the subsequent 15-day comment period.

A number of commenters generally supported adoption of the regulation including the California Air Pollution Control Officers Association (CAPCOA) and the South Coast Air Quality Management District (SCAQMD). A CAPCOA representative commended ARB staff on the very comprehensive analysis that they performed and the development of a fee structure that could support the compliance efforts that the air districts will undertake in implementing this regulation. Dr. Wallerstein of the SCAQMD expressed support for the regulation and stated that the SCAQMD intends to conform the SCAQMD local regulation to the State regulation.

Listed below are persons and organizations that submitted comments.

During the 45-day comment period, the Board received written comments from:

	<b>Name and Affiliation (If Any)</b>	<b>Written Comment Date Submitted</b>
1	Marc G. Minneci, Edwards Air Force Base (EAFB)	November 18, 2009
2	Michael Bailey, People First	November 29, 2009
3	Tim Frazee, Rapid Recovery	December 02, 2009
4	Timothy O'Connor, Environmental Defense Fund (EDF)	December 03, 2009
5	Timothy O'Connor, Non Governmental Organization Group Representative (NGO Group)	December 07, 2009
6	Catherine Reheis-Boyd, Western States Petroleum Association (WSPA)	December 08, 2009
7	Estberg, Ed	December 09, 2009

At the December 9, 2009, Board meeting, ARB received oral comments from:

	<b>Name and Affiliation (If Any)</b>
1	Randal Friedman, U.S. Navy
2	Larry Allen, California Air Pollution Control Officers Association (CAPCOA)
3	Barry Wallerstein, South Coast Air Quality Management District (SCAQMD)
4	Tim O'Connor, EDF
5	Don Anair, Union of Concerned Scientist
6	Bonnie Holmes-Gen, American Lung Association of California
7	Ron Berkan, representing refrigeration service technicians
8	Bill Magavern, Sierra Club of California

There were no written comments received by ARB at the December 9, 2009, Board meeting.

During the 15-day comment period, ARB received written comments from:

	<b>Name and Affiliation (If Any)</b>	<b>Written Comment Date Submitted</b>
1	Tim Frazee, Rapid Recovery	March 30, 2010
2	Sam Cantrell, Raley's	April 1, 2010
3	Mark J. Sedlacek and Dipak Patel, City of Los Angeles, Department of Power and Water (LADPW)	April 1, 2010

Set forth below is a summary of each objection or recommendation made regarding the specific regulatory action proposed, together with an explanation of how the proposed action was changed to accommodate each objection or recommendation, or the reasons for making no change. The comments have been grouped by topic whenever possible. Comments not involving objections or recommendations

specifically directed toward the rulemaking or to the procedures followed by ARB in this rulemaking are not included.

Specific to oral comments, the U.S. Navy was neutral and all other speakers supported the approved regulation. Comments from the EDF, American Lung Association of California, and the NGO Group representing EDF, Breathe California, Natural Resources Defense Council, and the Sierra Club of California supported the regulation and provided recommended changes. Comments from People First, Tim Frazzee, CAPCOA, and SCAQMD were in support of the regulation without making any objections or recommendations for changes; their comments are therefore not included in this summary.

### **Public Comments:**

The public comments are summarized below into two subsections: (A) General Comments, and (B) Specific Comments.

#### **A. General Comments**

- 1. Comment:** CARB should speed up implementation of the Refrigerant Management Program (RMP) registration and reporting requirements by eliminating the staggered deadlines. **(EDF, NGO Group)**

**Agency Response:** No change was made in response to this comment. The phased in approach is necessary to make certain there is adequate time to conduct training and outreach and to ensure the critical web-based reporting system is in place and effective prior to the greatest number of businesses registering. The phased approach also reflects the greater potential emissions of refrigeration systems with larger refrigerant charges; estimated business-as-usual emissions from large and medium refrigeration systems represent 91% of total emissions from facilities with refrigeration systems with a refrigerant charge over 50 pounds, while only representing 40% of the total estimated facilities. The Board requested that staff present to the Board an update on the Refrigerant Management Program as the regulation is implemented to discuss Board member concerns regarding the staggered deadlines and if the deadlines should be revised to speed up compliance. A Board update is anticipated in early 2011.

- 2. Comment:** California should ultimately adopt a comprehensive, technology stimulating effort to fundamentally alter the use of climate forcing refrigerants and develop new incentive and technology innovation programs to inspire development and deployment of refrigeration systems that contain less overall high-GWP gases and systems that contain zero-GWP gases. Such technology is increasing in availability and prevalence both in the US and abroad, and California's regulatory structure should act as a catalyst for putting the state at the forefront of innovation. **(EDF, NGO Group)**

**Agency Response:** No change was made in response to this comment. ARB agrees that measures should be considered to provide incentives for advanced refrigeration technology that use less high-Global Warming Potential (GWP) refrigerants or that use low or zero-GWP refrigerants. The RMP focuses on existing refrigeration systems, which may have a useful life of 15 years or greater. Incentives for advanced refrigeration technology would need to focus on new refrigeration systems and may be considered as components of other high-GWP sector measures provided in the approved Scoping Plan, including the Specifications for New Commercial and Industrial Refrigeration Systems and Mitigation Fee on High-GWP gases.

3. **Comment:** CARB must couple the RMP with a strong public outreach campaign, funded enforcement program and strong worker training regime. CARB should ensure sufficient resources are available for CARB and local air districts to run significant public education, outreach, and training campaigns. Without a strong public outreach effort combined with robust enforcement program, newly regulated entities are likely to suffer high non-compliance rates and undermine success of the RMP effort. **(EDF, NGO Group)**
4. **Comment:** [Received during the 15-day public comment period]. The one component missing from this and all other refrigerant regulations is enforcement. Based upon my observations as someone intimately involved with refrigerant management on a daily basis, the vast majority of appliance owners and contractors do not take the existing, or this proposed regulation too seriously as they know that the Feds, and local government agencies, do not actively audit records, investigate reports of purposeful venting, or for all intents and purposes, enforce the law.

One question I have relates to how the fee revenue is to be spent. I would propose that it be used to hire audits/investigators for enforcement purposes, which would add some sorely needed teeth to the regulation. **(Tim Frazee)**

**Agency Response (Comments 3 & 4):** No change was made in response to these comments. The agency agrees that the success of this program depends on outreach, training, and enforcement, and that this will require revenue to support these activities. The purpose of the initial and annual implementation fee is to fund these activities. The majority of revenue is expected to be passed through to air districts to support enforcement activities. Implementation will focus on outreach and working with trade associations and facilities, the U.S. EPA, and CAPCOA. Additionally, training programs will be developed for technicians, enforcement staff, and businesses.

5. **Comment:** I am very concerned about the revelations on the science of climate warming or most recently termed climate change. The “Scientific Community” has done a grave disservice to the world. After reading every article I could find in the last two weeks, I have come to the conclusion that the science is flawed enough that I can no longer support any action against

emitting carbons or carbon equivalents to the atmosphere. I now believe it would be criminally fraudulent to impose any regulations on the refrigeration industry or any other carbon omitting industry until the facts are proven without a doubt. My recommendation is that the CAL EPA should hold off on any regulation or early actions for three years. This should give the “Scientific Community” enough time to get the facts straight and to allow all opposing viewpoints to be vetted. **(Ed Estberg)**

**Agency Response:** No change was made in response to this comment. In 2006, the Legislature passed and Governor Schwarzenegger signed AB 32, the Global Warming Solutions Act of 2006, which set the 2020 greenhouse gas emissions reduction goal into law. Thus, the ARB has a legal obligation to implement AB 32.

The scientific community will always include opposing viewpoints. Science by its very nature includes cross examining, debating, and challenging research. ARB bases its decisions on the best scientific information available from the many sources found throughout the very extensive international community of scientists working to better understand the issues of climate change. We believe the evidence for climate change is robust and does not warrant any delay in implementing regulations to control GHG emissions.

- 6. Comment:** One of the things missed is responsibility of the manufacturers of the refrigerants, because a lot of these things are blended refrigerants and they have to be destroyed, because they won't allow people to reconstitute them into a new product, like the R-22. That is one of the big problems as it could cost two-and-a-half dollars a pound to destroy it. So, people are just dumping it. So, I think the manufacturers should, since they make it, actually be responsible to take it back at no charge since they formulated it. This would increase the recycling or proper handling of the refrigerants. **(Ron Berkan)**

**Agency Response:** No change was made in response to this comment. ARB did consider the role of manufacturers and considered including manufacturer responsibility alternatives such as banning the use of all non-refillable refrigerant cylinders or requiring a deposit to ensure they are returned to a distributor for final evacuation and disposal.

As outlined in the ISOR, these alternatives were not included in the approved regulations due to concerns related to potential increases in GHG emissions from increased travel while transporting empty cylinders back to a central site. Analysis to estimate the cost, emissions, and potential emission reductions related to refrigerant cylinder management is a component of a research contract approved by the ARB with ICF International to investigate the costs and benefits of recovering and destroying or recycling high-GWP GHG. The contract began in June 2008, and is titled “Lifecycle Analysis of High-Global Warming Potential Greenhouse Gas Destruction.” A final report is expected in late 2010. The final report will be a source of data for any possible

refrigerant cylinder management manufacturer responsibility measures that may be considered by the Board in the future.

- 7. Comment:** [Received during the 15-day public comment period]. It is unclear if the registration fee for facilities with multiple systems will be assessed on a "per-system" basis, or a "per-facility" basis. In other words, will a building with 4 systems that each have a 1000 lb. charge cost \$170 to register the facility, or \$680 (4 systems) to register 4 systems? **(Sam Cantrell)**

**Agency Response:** No change was made in response to this comment. The implementation fee will apply to any non-residential facility that has a refrigeration system that requires 200 pounds or more of a high-GWP refrigerant. A facility with multiple refrigeration systems will be required to pay fees based only on the largest refrigeration system in operation at the facility, as specified in section 95384 of the regulation. For example, if a facility has one large refrigeration system and two medium refrigeration systems they will pay a single implementation fee of \$370 for the facility.

## **B. Specific Comments**

### **Definitions:**

- 8. Comment:** Subsection (C) [Subsection 95382(a)(65)(C)] in the definition of "Stationary" is of particular concern to the Air Force. Currently, the EAFB tactical support equipment (TSE) is regulated under CCR, Title 13, Sections 2450-2465 as off-road mobile sources. There is a strong potential that the same tactical support equipment (TSE) equipment could be subject to regulation as "stationary" sources under the proposed Stationary Refrigerant Management Program (CCR, Title 17, Sections 9538-95398). We do not believe it is the intent of CARB to regulate the same equipment as both a mobile and a stationary source. Therefore, we suggest that TSE be exempted from this regulation. **(EAFB)**

**Agency Response:** ARB agrees with this comment and has modified the regulation to add new subsection 95381(b) to explicitly exclude tactical support equipment from the requirements of the regulation.

- 9. Comment:** Add an "industrial process" definition to the regulation in order to clarify the scope of covered activities, as follows: "Industrial Process" means components assembled to produce or store, as intermediate or final products, one or more of the products produced at the facility. An industrial process can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product. **(WSPA)**

**Agency Response:** ARB agrees with the need to clarify both the scope of covered activities specific to an industrial process and when a refrigerant leak repair 45-day or 120-day allowance is applicable specific to an industrial

process shutdown. Rather than defining an industrial process, this comment has been addressed by modifying subsections 95386(c) and 95386(d) to clarify that a 45-day or 120-day allowance specific to an industrial process shutdown applies in situations where the industrial process shutdown results in a process temporarily ceasing to manufacture the intermediate or final product that is produced when the industrial process refrigeration appliance is in operation. This includes situations where an industrial process remains in operation to manufacture a different product that does not rely on the operation of an industrial refrigeration appliance within the overall production process.

**10. Comment:** Amend the proposed definition of “industrial process shutdown” so that it is not limited solely to when an industrial process or facility temporarily ceases to operate or manufacture its product. The proposed revision is as follows: *“Industrial process shutdown” occurs whenever an industrial process or facility temporarily ceases to operate or manufacture whatever is being produced when the industrial process refrigeration system is in operation.* This change would allow the provision to apply during the temporary cessation of normal operations for some industrial processes or portions of a facility. **(WSPA)**

**Agency Response:** ARB believes that definitions whenever possible in this regulation should be consistent with related federal rules. The current “industrial process shutdown” definition is consistent with federal rules (see: Title 40, Part 82, section 82.152 “Definitions.”) The comment has been addressed by modifying subsections 95386(c) and 95386(d) as described in the response to the previous comment.

#### **Leak Detection and Monitoring Requirements:**

**11. Comment:** It is our understanding that ARB’s intent is to require the monthly leak detection in section 95385 (a)(1) for *the refrigerant circuits that are located entirely within an enclosed building or structure, or the compressor, evaporator, condenser, or any other component of the refrigeration system(s) with a high potential for a refrigerant leak is located inside an enclosed building or structure.* We urge that proposed Section 95385(a)(1) be amended to clarify this understanding and suggest that the following language be added to section 95385 paragraph (a)(1): *“...using a refrigerant leak detection device, a bubble test, or observation of oil residue if the refrigerant circuit is located entirely within an enclosed building or structure, or the compressor, evaporator, condenser, or any other component of the refrigeration system(s) with a high potential for a refrigerant leak is located inside an enclosed building or structure”*. **(WSPA)**

**Agency Response:** ARB agrees with the need to clarify the leak inspection requirements for a refrigeration system with a full charge equal to or greater than 2,000 pounds with a refrigerant circuit that is located entirely, or partly, within an enclosed building or structure. Accordingly, subsection 95385(a)(1)

was modified to divide the subsection into two parts, 95385(a)(1)(A) and 95385(a)(1)(B). Subsection 95385(a)(1)(A) now specifies the two scenarios where subsection 95385(a)(1) applies. The first scenario is if the refrigerant circuit is located entirely within an enclosed building or structure. The second scenario is if the compressor, evaporator, condenser, or any other component of the refrigeration system(s) with a high potential for a refrigerant leak is located inside an enclosed building or structure. Subsection 95385(a)(1)(B) now specifies the exception for the monthly leak inspection requirement specific to use of an automatic leak detection system meeting the specifications provided in subsections 95385(a)(5) or 95385(a)(6) to monitor the refrigeration system. These modifications address the concerns raised by the commenter and we believe the specific language chosen by ARB addresses these concerns with greater clarity than the language suggested by the commenter.

- 12. Comment:** 4) Amend Section 95385(a)(3) to make the effective date January 1, 2011 for other monitoring requirements to make it consistent with the effective date in Section 95385(a)(1). **(WSPA)**

**Agency Response:** ARB agrees that it is appropriate to clarify the effective date for leak inspections for a refrigeration system with a full charge equal to or greater than 2,000 pounds with a refrigerant circuit that is not located within an enclosed building or structure. Accordingly, subsection 95385(a)(3) was modified to change the effective date from January 1, 2012, to January 1, 2011.

- 13. Comment:** Amend Section 95385(a)(3), (a)(8) and (b) to require a leak inspection quarterly, with the time in between each quarterly inspection to be at least 30 days (as opposed to the current requirement for inspection every three months). Changing the provision as suggested will provide facilities with the needed flexibility to detect leaks while accommodating the various operating requirements used by refrigerant systems. This flexibility will also ensure that inspections are completed with sufficient time between each quarterly inspection. **(WSPA)**

**Agency Response:** ARB agrees that it is appropriate to clarify when leak inspections are required and has modified subsections 95385(a)(3) and 95385(b) to indicate that a leak inspection is required “once every three months” as compared to “every three months” to clarify that a leak inspection is not required on the same date every third month, so long as it is performed at least once every three months.

- 14. Comment:** [Received during the 15-day public comment period]. Subsection 95385(g), Page A-24. This section requires a leak check be conducted any time an oil residue is observed. However, an oil residue may remain from past repair or service if it was not cleaned up at that time.



Please clarify the intent of this provision. We believe a leak inspection should only be required if the new oil residue is observed indicating a new leak. ARB may further clarify that an owner/operator may determine whether the oil residue is indicative of a new leak or not based on records maintained by the owner/operator. **(LADPW)**

**Agency Response:** No change was made in response to this comment. The current language in subsection 95385(g) provides, “at any time oil residue is observed indicating a refrigerant leak, a leak inspection must be conducted.” Thus, a leak check is not required on every occasion that oil residue is observed, but only if the observed oil residue indicates a refrigerant leak. For example, old dried oil residue would not ordinarily indicate a leak as opposed to freshly deposited wet oil residue.

### **Reporting Requirements:**

**15. Comment:** [Received during the 15-day public comment period].

Subsection 95388(b)(3), Page A-34. This section requires the facility owner to report refrigerant purchases, use and disposal on a facility basis. However, in reality, the refrigerant can only be purchased by certified A/C [air conditioning] technicians, and the A/C technician may use the same bottle of refrigerant to refill equipment at multiple facilities. Also, the A/C technician may collect used refrigerant from multiple facilities for recycling disposal. This is the case for LADWP facilities which makes it infeasible to estimate the quantities of refrigerants purchased and disposed of on a facility basis.

To address this concern, the LADWP proposes to assign the purchase, storage and shipping of all refrigerants to a single facility in order to accurately represent its corporate level management of these functions, while the amount of refrigerant charged and recovered will be reported at each facility. Please clarify if this approach fully complies with the regulation. **(LADPW)**

**Agency Response:** No change was made in response to this comment. Assigning the purchase, storage, and shipping of refrigerants purchased by an organization to a single facility is an acceptable method of reporting.

Facility level enforcement data is specific to refrigerant charged and recovered at each facility, while the primary purpose of facility refrigerant purchase, storage, and shipping data is statewide emission reduction verification through a comparison with refrigerant distributor and wholesaler data reported. The statewide emission verification process is a broad comparison of refrigerant emissions based on facility reporting and the overall impact on high-GWP refrigerant consumption. On a statewide basis there are many factors impacting refrigerant sales, so a one-to-one mass balance of emissions as compared to refrigerant consumption is not possible. However, as stationary, non-residential refrigeration systems constitute approximately 20 percent of all high-GWP emissions, the relationship between refrigerant

sales and emission reductions from stationary, non-residential refrigeration systems enables a verification of total emission reductions through refrigerant consumption trends. Because this verification process is based on a broad comparison of aggregated statewide data, a process to assign the purchase, storage, and shipping of refrigerants purchased by an organization for a single facility is an acceptable method of reporting that satisfies the purpose of emission reduction verification.

### **Approval of Exemptions:**

**16. Comment:** Amend Section 95397(a)(2)(B) to clarify the meaning of “without a corresponding benefit in reducing combined direct and indirect emissions.” It is our understanding that ARB’s intent is to compare the economic impact to a facility with the reduction of direct and indirect emissions. We suggest the language in subparagraph (B) be revised to the following: *“The extraordinary hardship to the applicant does not provide a comparable corresponding benefit in reducing the combined direct and indirect emissions.”* **(WSPA)**

**Agency Response:** ARB agrees that it is appropriate to clarify the criteria that must be met for the consideration of an economic hardship exemption to the refrigerant leak repair requirement and has addressed the commenter’s concern by deleting the proposed language in section 95397(a)(2)(B). Deleting this language eliminates the need to make the clarification suggested by the commenter.

**17. Comment:** Amend Section 95397(b) to clarify that during the review of the exemption request by the executive officer, the leak repair and retrofit and retirement plan requirements are not applicable. Unless this amendment is adopted, there is a possibility that a facility would be in violation of the leak repair requirements per Section 95386, or implementation of a retrofit and retirement per Section 95384, while waiting for the executive officer’s decision on the exemption request. We urge that a new paragraph be added in section 95397(b), as follows: *“If the owner or operator has submitted a request for an exemption, a refrigerant leak repair or a retrofit and retirement plan is not required until a final exemption determination is made by the Executive Officer.”* **(WSPA)**

**Agency Response:** ARB agrees that it is appropriate to clarify the leak repair and retrofit or retirement plan requirements in cases where an exemption has been granted or an exemption request is pending. Specific to a leak repair, subsection 95386(j) has been added to clarify that a refrigerant leak repair is not required while an exemption is in effect or until a final exemption determination is made by the Executive Officer if the owner or operator of a refrigeration system has submitted a request for an exemption pursuant to section 95397. Specific to retrofit or retirement plan requirements, new subsection 95386(c) has been added to clarify that a retrofit or retirement plan is not required while an exemption is in effect or until a final exemption determination is made by the Executive Officer if the owner

or operator of a refrigeration system has submitted a request for an exemption pursuant to section 95397. These modifications address the issue raised by the commenter.

**18. Comment:** Section 95397(e), currently states that if an exemption is denied or revoked, the applicant must repair the leak within 14 days of a notice of such revocation or prepare a retrofit and retirement plan. We urge that the following language be added consistent with the schedule in which a retrofit and retirement plan will be required under section 95386: “... or operator of the facility must prepare a retrofit or retirement plan within 28 days of a notice of such revocation in accordance with section 95387.” **(WSPA)**

**Agency Response:** As requested by the commenter subsection 95397(e) has been modified to clarify a time-frame for situations where an exemption from the leak repair and retrofit or retirement plan requirements is denied or revoked; the time frame is based on the date of the notice of the exemption denial or revocation. Instead of the requested 28 days, 30 days has been provided because this time frame is more consistent with the time frames typically allowed in ARB regulations. For consistency subsections 95397(e)(1) and 95397(e)(2) have also been added to clarify that if an exemption is denied or revoked, 1) the time frame for a required refrigerant leak repair allowable under section 95386 remains applicable and is not reduced, and 2) the time frame for preparation and implementation of a required retrofit or retirement plan allowable under section 95387(a) remains applicable and is not reduced.

**19. Comment:** [Received during the 15-day public comment period]. Subsection 95397(e), Page A-48. If a request for exemption is denied, this section allows an owner/operator the option to repair a leak within 14 days or prepare a retrofit/retirement plan within 30 days.

Please clarify that a facility opting to prepare a retrofit/compliance plan will not be deemed in non-compliance during the 30 day period allowed for preparing the plan. **(LADPW)**

**Agency Response:** No change was made in response to this comment. The current language in subsection 95397(e) provides, “if an applicant for an exemption is denied, or an existing exemption is revoked, within 14 days of a notice of such denial or revocation the refrigerant leak must be repaired, or within 30 days of a notice of such denial or revocation the owner or operator of the facility must prepare a retrofit or retirement plan.” The current language is clear; if the applicant elects to prepare a retrofit or retirement plan, 30 days is allowed to do this and there can obviously be no violation during the allowed time period for not preparing a plan.