

















































































































1 emission factors established, I want to use TP201.2F,  
2 which is the CARB's Section 9 to calculate these emission  
3 factors, and then further to use the emission factor with  
4 the throughput of the site to show the actual emissions.

5 Next slide, please.

6 --o0o--

7 MR. TIBERI: And based on the capital and  
8 operating expense of the control options, we think that  
9 there can be a tiered approach. I know John said that we  
10 submitted a letter to require installation. Of course, we  
11 don't expect a monopoly of our system to all GDF in  
12 California. In fact, quite the opposite. We think  
13 there's a tiered approach that's possible balancing risk  
14 and inviting other competitors of which there are several  
15 that have systems in the pipeline right now.

16 Then also, we want to take into account benzene  
17 concentration levels, and with guidance from the scoping  
18 plan, allow -- allow the Board to consider designated  
19 levels for the air quality standards and the risks. And  
20 in fact, in the previous comments that we have supplied,  
21 we have presented tiered approaches in terms of GDF1  
22 through 5, which is a typical notation that ARB has used  
23 for different throughputs.

24 And next slide, please.

25 --o0o--























































1 refrigerants in every end-use sector that uses these large  
2 refrigeration systems.

3 --o0o--

4 RD AIR POLLUTION SPECIALIST KAUR: Now that we've  
5 gone through the proposed limits for refrigeration  
6 systems, we will discuss requirements that support robust  
7 enforcement. We will use standard tools like labeling and  
8 record keeping for manufacturers. The record keeping  
9 requirements are consistent with those under the existing  
10 California HFC regulation. There's also a labeling  
11 requirement which require -- which can be met by labels  
12 that manufacturers already use, if they display the type  
13 and amount of refrigerant and the date of manufacture in a  
14 standard format.

15 Additionally, we have reporting requirements for  
16 the retail food facility at the owner/operators to enforce  
17 compliance with the company-wide reduction targets. These  
18 facility owners/operators already report to CARB under the  
19 Refrigerant Management Program. Each year, they're  
20 required to submit an annual report to CARB using the  
21 online database R3. To make things simpler, the reporting  
22 requirements for these new rules will be harmonized with  
23 the existing RMP regulation. And this way, facility  
24 owners/operators will be able to report their information  
25 as part of that same annual report that they already

1 submit to CARB with minimal additional work.

2 This brings me to the end of requirements for the  
3 refrigeration systems. I will now turn things over the  
4 Kathryn for the remainder of the presentation to discuss  
5 the requirements for air conditioning systems and our  
6 concluding slides.

7 Thank you.

8 --o0o--

9 RD AIR POLLUTION SPECIALIST KYNETT: Thank you  
10 and good morning. Kathryn Kynett and I am speaking on  
11 behalf of the HFC team regarding the new requirements we  
12 are proposing for stationary air conditioning equipment.

13 --o0o--

14 RD AIR POLLUTION SPECIALIST KYNETT: CARB's  
15 regulatory proposal for stationary air conditioners is a  
16 GWP limit of 750 for new equipment. This means that  
17 equipment manufactured after the effective date must use a  
18 refrigerant with a GWP less than 750. In the initial  
19 regulatory concepts, we propose 2021 as the effective  
20 date. The proposed regulation posted as a part of the  
21 45-day notice has an effective date of January 2023.

22 The 2023 compliance date originates from a joint  
23 commitment letter we received from an industry coalition  
24 and the Natural Resources Defense Council urging CARB to  
25 adopt a 750 limit effective 2023 contingent upon the



1 is that many of the next generation refrigerants have an  
2 A2L classification, meaning lower flammability in the  
3 standards that govern safe refrigerant use.

4 Lower -- lower flammability -- refrigerant  
5 flammability is evaluated based on a range of different  
6 properties. Lower flammability means that these  
7 refrigerants do not ignite easily, but it is possible for  
8 them to ignite in certain conditions. When they do  
9 ignite, they give off less heat and do not sustain a flame  
10 very well.

11 Lower flammability refrigerants are actually in  
12 use today in California and around the world. If you  
13 bought a car recently or a room AC, there is a good chance  
14 it uses a lower flammability refrigerant. Lower  
15 flammability refrigerants are also allowed in chillers,  
16 which cool large buildings like large offices.

17 However, to use this type of refrigerant in all  
18 kinds of stationary air conditioning equipment would  
19 require further updates to the California Building Code.

20 CARB has received a number of questions from  
21 stakeholders about the codes and standards updates. CARB  
22 relies on safety experts and entities with jurisdiction  
23 over the safe use of refrigerants. This includes the  
24 California State Fire Marshal, as well as nationally  
25 accredited, standard-setting organizations such as UL and

1 ASHRAE, and others such as the U.S. Environmental  
2 Protection Agency, the U.S. EPA.

3           Each entity has their own timeline and cycle for  
4 incorporating updates and CARB has been following the  
5 relevant proceedings closely. This is a simplified  
6 flowchart showing the process for updating the California  
7 Building Code.

8           Updates are made to the California Building Code  
9 every few years and generally follow updates to safety  
10 standards. California and the United States use safety  
11 standards set by ASHRAE and UL. The ASHRAE and UL safety  
12 standards are based on international standards and are  
13 customized to be stringent in the United States.

14           Since the voluntary commitment letter, a few  
15 significant advances have been made. In 2018 and 2019,  
16 ASHRAE and UL approved updated safety standards with  
17 provisions for the safe use of lower flammability  
18 refrigerants. These safety standards reflect the results  
19 of years of extensive critical research testing and were  
20 developed in consultation with industry and safety  
21 experts. This year, the State Fire Marshal convened a  
22 working group to consider incorporating the latest UL and  
23 ASHRAE standards in to the California Building Code for  
24 2023.

25           The State Fire Marshal decision is not finalized



1 at this time and the final decision could delay potential  
2 Building Code updates from 2023 to the next code cycle. I  
3 will be going over our 15-day changes, which includes  
4 extending the compliance date from 2023 to 2025 for  
5 equipment covered by these building code updates.

6 I also mentioned the U.S. EPA as one of the  
7 agencies with jurisdiction over safe refrigerant use. In  
8 addition to being allowed under the California Building  
9 Code, a refrigerant must have U.S. EPA approval. The U.S.  
10 EPA examines risk to human health, as well as  
11 environmental considerations as a part of the program on  
12 refrigerants.

13 In 2020, the U.S. EPA proposed a rule to consider  
14 approving lower flammability refrigerants for residential  
15 and commercial air conditioning equipment.

16 --o0o--

17 RD AIR POLLUTION SPECIALIST KYNETT: And this  
18 brings me to our 15-day changes. As I said earlier, we  
19 would like to extend the implementation date from 2023 to  
20 2025 for equipment needing Building Code updates to use  
21 A2L refrigerants. We are keeping the 2023 effective date  
22 for room ACs and dehumidifiers. We are proposing a --  
23 proposing an extension to 2026 for variable refrigerant  
24 flow/variable refrigerant volume, VRF/VRV, systems, which  
25 are highly energy efficient, but require additional code

1 changes. It is important for this equipment to transition  
2 to lower-GWP refrigerants as soon as possible, and for  
3 this category, 2026 is the earliest day.

4 Finally, through this process, we've had many  
5 meetings with stakeholders asking what more we could do  
6 together to reduce HFC emissions and worked with them on  
7 policy options to increase the use of recycled  
8 refrigerant. The SLCP strategy contains a proposal that  
9 would require recycled refrigerant to be used for  
10 servicing existing equipment and we will be turning our  
11 attention to this proposal next. However, we have  
12 identified additional opportunities while working on this  
13 regulation that we would like to include through a 15-day  
14 change.

15 And that is for manufacturers to commit to using  
16 10 percent recycled refrigerant and an early action credit  
17 for low-GWP refrigerant use. We believe this will help  
18 kick start better refrigerant recovery, recycling and  
19 reuse, or R4 for short, for the refrigerants used in air  
20 conditioning equipment. The R4 program is necessary to  
21 achieve the remaining emissions reductions we need by 2030  
22 and 2045.

23 We will continue to work with this public-private  
24 partnership and incorporate additional stakeholders to  
25 broaden this program through a future regulatory proposal

1 as, which we'll begin developing immediately following  
2 this regulation.

3 --o0o--

4 RD AIR POLLUTION SPECIALIST KYNETT: And now, on  
5 to labeling and recordkeeping requirements. CARB has a  
6 standard suite of tools, which are used to enforce  
7 regulations. However, it's also helpful to add  
8 requirements, which are tailored to the regulation. For  
9 the 750 GWP limit, the two main tools we are adding are  
10 labeling and recordkeeping for air conditioning equipment  
11 manufacturers.

12 The labeling requirement can be met by labels  
13 that manufacturers already use, if they display the type  
14 and amount of refrigerant and the date of manufacture in a  
15 standard format. You can see on this slide an example of  
16 an existing label that would comply with these  
17 requirements.

18 --o0o--

19 RD AIR POLLUTION SPECIALIST KYNETT: Here are the  
20 expected emissions benefits of the proposed amendments.  
21 In 2030, the annual emissions reductions are estimated to  
22 be 1.5 million metric tons in CO2-equivalent reductions  
23 from the new requirements for refrigeration systems and  
24 another 1.7 million metric tons in CO2-equivalent  
25 reductions from the new air conditioning requirements.

1           Together, the new requirements for refrigeration  
2 and air conditioning achieve approximately 3.2 million  
3 metric tons in CO2 equivalent reductions by 2030, which  
4 translates to 32 percent of the progress we need to reach  
5 our legislative mandate under SB 1383.

6           You can see the 15-day changes to extend the  
7 compliance dates for certain types of AC changes the 2030  
8 annual reductions from 3.8 to 3.2 million metric tons in  
9 CO2 equivalents. This changes the percent progress  
10 towards SB 1383 from 38 percent progress to 32 percent  
11 progress.

12           Out to 2040, the emissions benefits are even  
13 greater with cumulative reductions estimated to be 62  
14 million metric tons in CO2 equivalents. This is  
15 equivalent to taking about three-quarter of a million cars  
16 off the road each year.

17                           --o0o--

18           RD AIR POLLUTION SPECIALIST KYNETT: We are also  
19 proposing two additional changes to the existing HFC  
20 regulation, the addition of a variance process as well as  
21 additional definitions. CARB has created a variance  
22 procedure to address specific situations in which end  
23 users cannot comply with the regulatory requirements.  
24 There are two types of variances that someone can apply  
25 for, an impossibility variance or a force majeure



1 highlights some of the main stakeholder concerns that we  
2 heard and how we address them. As discussed earlier,  
3 using refrigerants with a GWP less than 150 in new  
4 equipment going into existing facilities is currently  
5 challenging. We addressed this by limiting the 150 GWP  
6 requirement to new construction and fully remodeled  
7 facilities and by developing company-wide reduction  
8 requirements for supermarkets and grocery stores that  
9 addresses emissions from existing facilities. This  
10 solution was the result of a successful collaboration  
11 between supermarket companies, the North American  
12 Sustainable Refrigeration Council and CARB.

13 Another concern for refrigeration was the impact  
14 on small businesses to comply with the company-wide  
15 reduction targets. Small businesses in this sector are  
16 the independent owner/operators of grocery stores. While  
17 all companies have to meet the full targets by 2030, the  
18 small businesses with fewer than 20 stores in California,  
19 or not part of a national chain, will not have an interim  
20 progress step.

21 For air conditioning equipment, the main  
22 stakeholder concern is the year the GWP limit takes  
23 effect. We have addressed those concerns by extending  
24 compliance dates for air conditioning equipment. The  
25 industry has also committed to continue working on the

1 codes and further investments in training and research on  
2 low-GWP alternatives.

3 --o0o--

4 RD AIR POLLUTION SPECIALIST KYNETT: To meet our  
5 specific mandates, additional action is needed, especially  
6 action that achieves reductions before 2030. This slide  
7 shows our plan for moving forward. CARB is considering a  
8 sales prohibition on new refrigerant above a threshold  
9 GWP.

10 This would require using recycled refrigerant for  
11 servicing existing equipment. Using recycled refrigerant  
12 should decrease the amount of new refrigerant necessary  
13 and incentivize greater refrigerant recovery from existing  
14 equipment. This is something that we have in the SLCP  
15 strategy and also something that industry has proposed to  
16 us during our current rulemaking.

17 We think this is better suited to be its own  
18 separate rulemaking following this one. And you can keep  
19 an eye for work to begin on that as early as next year.

20 CARB will also be considering expanding the R4  
21 program we are piloting through the proposed amendments by  
22 working with stakeholders to kick-start the R4 program and  
23 build it into a longer term program.

24 We believe there will be national interest in  
25 this program and this could be a model that catalyzes

1 national action to increase the use of reclaimed  
2 refrigerant.

3 CARB is also considering low-GWP requirements for  
4 additional end uses. This could also include heat pumps,  
5 used as water heaters as emissions could increase rapidly  
6 from these sources as California moves to replace fossil  
7 fuel heating with electric city powered heat pumps for  
8 heating, as part of carbon neutrality efforts.

9 --o0o--

10 RD AIR POLLUTION SPECIALIST KYNETT: This brings  
11 me to the staff recommendation. We recommend the Board  
12 adopt the proposed amendments, Resolution number 20-37,  
13 and direct the Executive Officer to:

14 Incorporate proposed changes and make them  
15 available for at least 15 days; take final action to adopt  
16 the regulation; partner with stakeholders to finalize the  
17 refrigerant recycle, recovery and reuse, R4 program; and  
18 begin additional rulemakings, including expansion of the  
19 R4 program to build upon public-private partnerships and  
20 include additional stakeholders.

21 This concludes the presentation. Thank you for  
22 listening and we look forward to your comments and  
23 questions.

24 CHAIR NICHOLS: Thank you very much. Thank you  
25 for the team that did the presentation this morning. This



1 took time, but it needed to take the time to go through  
2 some important details here. This is a complex issue as  
3 you've correctly pointed out, but it's one that's of great  
4 importance. And I think the approach that you're taking  
5 is really a creative one and one that has relied on a lot  
6 of good positive input from the community of chemical  
7 industry manufacturers, equipment manufacturers, as well  
8 as the -- as well as advocacy organizations to come up  
9 with something that seems to be a really strong approach.

10 I would like to now turn to the public comment  
11 and I will ask Mr. Sakazaki to call the first commenters,  
12 please.

13 Also, before we do that, though, how many people  
14 do we have signed up to comment on this item?

15 BOARD CLERK SAKAZAKI: Chair Nichols, we  
16 currently have 32. I want to ask very quickly everyone  
17 who wish to comment on this item, please raise your hand,  
18 so we can kind of work out timing.

19 CHAIR NICHOLS: Yes. We do have the discretion  
20 to go to a two-minute time limit, which we do impose on  
21 items where we get, you know, more than something like 30  
22 or 40 people wishing to all comment.

23 At the moment, I think we can go forward with a  
24 three minute limit and just ask people to please, if you  
25 hear that someone has said what you were planning to say

1 before you, just to say that you agree with them. We'll  
2 try to move this along expeditiously, while still giving  
3 everybody a chance to put in their comments. So with  
4 that, would you go ahead and call the first three.

5 BOARD CLERK SAKAZAKI: Thank you, Madam Chair.

6 So now we have about 35. If you wish to --  
7 again, if you wish to speak on this item, please raise  
8 your hand or dial star nine, if you're on the phone.

9 Our first three are Phillip Beste, Stephen Yurek  
10 and David Gauvin.

11 Actually, I'll pause and say I apologize in  
12 advance, if I mispronounce your name.

13 So Phillip, I have activated your microphone.  
14 You can unmute yourself and begin.

15 MR. BESTE: Good morning, Chair Nichols and Board  
16 members. My name is Phillip Beste. I'm a mechanical  
17 engineer and have worked in the industrial refrigeration  
18 industry for 35 years. I am an active member in RETA,  
19 Refrigerating Engineers and Technicians Association. And  
20 IIAR, International Institute of Ammonia Refrigeration.

21 I currently work for Hansen Technologies, a  
22 manufacturer of shut-off valves and control valves used in  
23 refrigeration marketplace. I have to emphasize that our  
24 valves are designed and rated to work with most  
25 refrigeration applications, so no matter what refrigerant

1 is used, the cost of our valves does not change.

2 All refrigerants pose risks, but our -- but based  
3 on sound engineering design, quality construction, and  
4 proper maintenance, refrigeration systems are safe. As a  
5 manufacturer of valves, we emphasize safety first in our  
6 current and new innovative products. Our goal is to  
7 improve the safe and efficient operation of refrigeration  
8 systems.

9 Thank you for your time in this matter and I  
10 appreciate the time.

11 BOARD CLERK SAKAZAKI: Thank you.

12 Our next speaker is Stephen Yurek. Stephen, I  
13 have activated your microphone. You can unmute yourself  
14 and begin.

15 MR. YUREK: Thank you.

16 Madam Chair, members of the Board, I'm Stephen  
17 Yurek, the President and CEO the Air-Conditioning, Heating  
18 and Refrigeration Institute.

19 I thank you for the opportunity to provide  
20 comments concerning CARB's proposed amendments related to  
21 stationary air conditioning equipment on behalf of the  
22 AHRI's member companies, which represent our manufacturers  
23 of over 90 percent of the HVACR products sold in North  
24 America.

25 I'm here today to urge the Board's full support

1 for the agreement between AHRI and CARB staff on the  
2 low-GWP compliance date related to issues for stationary  
3 air conditioning equipment.

4 For more than a Decade, AHRI has supported  
5 regulations to reduce the consumption and production of  
6 high global warming HFCs. And far from sitting on the  
7 sidelines, this industry were the original proposers and  
8 strongly supported the Kigali amendment.

9 In addition to supporting an amendment, we've  
10 been working tirelessly to get it adopted by the U.S.  
11 government and have gone so far as to have legislation  
12 that is currently before Congress, and has, as of this  
13 morning, is still one of the items that could be added to  
14 the last bill passed this year.

15 While CARB included a provision in the 45-day  
16 language for a 2023 transition date, which AHRI supported  
17 in 2018, because the circumstance is beyond our control,  
18 as explained by staff, California's Building Codes  
19 currently don't allow us to comply with that date.

20 In recognition of this, the groundbreaking  
21 agreement we reached with CARB staff as they present it  
22 today is even more important. We support this agreement  
23 and the proposal given by staff today and its three main  
24 provisions: First, the compliance dates, especially 2025  
25 for residential and commercial air conditioning equipment;

1 second, to demonstrate concrete action before 2025, the  
2 industry commits to take actions that will increase  
3 reclamation refrigerants starting with a 10 percent  
4 commitment outlined by CARB staff; in addition, we support  
5 a CARB rulemaking related to a refrigerant reclaim program  
6 in California that can be used as a kick start to a  
7 national RECLAIM Program; finally, AHRI will continue to  
8 proactively work with the State Fire Marshal and Building  
9 Code developers to ensure the ability to use the new  
10 generation of refrigerants in California to meet the  
11 commitments in this agreement.

12           What has been proposed is a great compromise that  
13 goes farther and faster than any regulation in the world  
14 related to stationary air conditioning equipment, farther  
15 than the F-gas regulations in Europe and farther than the  
16 step-downs agreed to in the Kigali amendments.

17           The agreement we have reached will provide the  
18 opportunity not only to meet, but even exceed the goals as  
19 set forth in SB 1383. We look forward to working with you  
20 to finalize the details, so that we can help implement  
21 these important regulations.

22           We strongly urge the Board's support for the  
23 agreement and the process outlined by staff.

24           Thank you.

25           BOARD CLERK SAKAZAKI: Thank you.

1           Our next speaker is David Gauvin. After David,  
2 we have Mike Armstrong, Sriram Gopal, and David[SCI]  
3 Chandler.

4           So David Gauvin, I have activated your  
5 microphone. You can unmute yourself and begin.

6           MR. GAUVIN: Thank you, Ryan.

7           Chair Nichols, members of the Board, my name is  
8 David Gauvin and I'm pleased to provide comments on behalf  
9 of Trane Ice Rinks. First off, let me apologize for any  
10 shortcomings in English, as I am based out of Quebec,  
11 Canada, so French is my first language and hockey is my  
12 first sport.

13           I am an ice rink engineer and lead accredited  
14 professional. And I've been doing ice rink refrigeration  
15 for the last 15 years. I'm also a past president of the  
16 ASHRAE Quebec Chapter and now ASHRAE Refrigeration Chair  
17 in Quebec.

18           Trane Ice Rinks has been the leader in the ice  
19 rink market for the last 20 plus years with hundreds of  
20 installations across North America. We have done multiple  
21 NHL facilities, including one in California that was just  
22 installed in late 2020, making it the most recent and  
23 advanced system in the league using low GWP 513A  
24 refrigerant. We are striving to serve communities and  
25 professionals alike with safe and sustainable rinks.

1           That said, I'm calling in today to tell you about  
2 a story of what happened with ice rinks in Quebec, as the  
3 proposed changes on ice rink systems seem to contradict  
4 what experience has shown us over the course of the last  
5 10 years.

6           As you well know, the government of Quebec has  
7 committed to prevent climate change and is a partner of  
8 California in a Cap-and-Trade -- Cap-and-Trade system  
9 since 2014 as part of the Western Climate Initiative. As  
10 such, the government of Quebec has taken many steps to  
11 lower its greenhouse gas emissions, including putting  
12 forth technology-forcing programs in many diverse  
13 applications, including ice rinks refrigeration.

14           In 2012, it was so decided that only ammonia and  
15 CO2 were to be allowed in ice rink systems. Then, after a  
16 thorough analysis of data from 2012 to 2016, that position  
17 was overturned in 2017 in order to allow for new  
18 generation low-GWP HFO-based refrigerants to be allowed up  
19 to a GWP threshold of 750.

20           The reasons for that change of policy are clearly  
21 mentioned in a government letter that was submitted to  
22 this Board including, but not limited to: Toxicity of  
23 ammonia; lack of any competition due to patents on CO2 in  
24 ice rinks and the absence of viable options that lower  
25 thresholds; due to technologies not available then, nor

1 today, nor tomorrow, especially given the COVID-19  
2 context.

3 That 750 threshold still stands today in  
4 accordance with the latest regulations for Environment and  
5 Climate Change Canada. Furthermore, the old program has  
6 been rescinded as it was refrigerant-centric, contrary to  
7 the position document on refrigerants and their  
8 responsible views from ASHRAE.

9 As such, chillers used in ice rinks are now held  
10 to the exact same standard as any other chiller  
11 application and rightly so, as they are now held to the --  
12 as they have the same low-GWP refrigerants, minimal  
13 charges, and low leak rates. Based on this recent  
14 reversal of a similar policy, Trane Ice Rinks opposes the  
15 less than 150 GWP in ice rink proposal. We urge the Board  
16 to reach out to Environment Quebec counterparts for  
17 further clarification about their policy reversal and  
18 return to the original proposal of a GWP limit of 750 for  
19 both new and existing ice rinks.

20 BOARD CLERK SAKAZAKI: Thank you. Your time has  
21 concluded.

22 Our next speaker is Mike Armstrong. Mike, I have  
23 activated your microphone. You can unmute yourself and  
24 begin.

25 MR. ARMSTRONG: Good morning. And thank you,



1 Madam Chair Nichols, for providing me with an opportunity  
2 to speak with your team today. My name is Mike Armstrong.  
3 I'm the President of A-Gas in the Americas. I'm here  
4 today to speak on behalf of A-Gas national refrigerants  
5 and Hudson Technologies. Together, we represent the three  
6 members of the AHRI who are also reclaimers both in the  
7 United States and internationally.

8           We have been safely and effectively reclaiming  
9 refrigerants for decades, both in the United States and  
10 around the world. We believe this program is the first  
11 example -- the first example in the globe where a  
12 government has developed a mandatory refrigeration  
13 phase-down program that is aligned with and has buy-in  
14 from industry manufacturers.

15           This is a first step. This facilitates further  
16 program expansion and this is progress. It sets the stage  
17 for a collaboration between government and industry to  
18 save the environment. I would like to commend the various  
19 stakeholders, including the CARB staff, for working  
20 tirelessly and in the middle of COVID to get this to where  
21 it is today.

22           We believe there's sufficient reclaim material in  
23 the United States to support this offset program as the  
24 State considers a multi-year fulfillment program. We also  
25 believe that just California-based recovered refrigerant

1 in the near term may not be sufficient and that the State  
2 should consider the use of certified reclaimed  
3 refrigerants from the United States in whole. This can be  
4 explored further in the rulemaking process.

5 As this program develops, the reclaimers are able  
6 to work with CARB to develop processes that support, not  
7 only this program, but also broader refrigerant management  
8 initiatives for the State.

9 Getting this program right is a very important  
10 process, as other states, that federal government and  
11 perhaps other countries will pivot off of this as the  
12 standard. Ensuring that a program is built around  
13 transparency and clear guidance is imperative. It is  
14 important to prevent cheating in these types of  
15 refrigerant management programs and we believe that  
16 existing programs in the state with both rigor and  
17 integrity already exist within the California EPA, that  
18 includes the ODS protocols that are currently an example  
19 will be quite helpful here. They've been able to provide  
20 baselines that we can adapt as we move forward with the  
21 process.

22 Third-party verification is also critical for any  
23 reclaim program to work. We will need to finalize this  
24 program expeditiously and get stakeholder alignment and  
25 make that program successful. The third-party

1 verification step is also important in minimizing the  
2 administrative burden on program stakeholders. And  
3 there's an industry prepared to help in this space.  
4 Again, the State has well-established relationships and a  
5 certification program for those verifiers.

6 We also strongly encourage CARB to support the  
7 development of a broad RECLAIM Program at the beginning of  
8 next year. I believe this program similarly is well  
9 supported by CARB and industry, the same program we're  
10 discussing today will enable the success of the broader  
11 program.

12 Subject to any questions, I greatly appreciate  
13 your time.

14 BOARD CLERK SAKAZAKI: Thank you. Our next  
15 speaker is Sriram Gopal. Sriram, I have activated your  
16 microphone. You can unmute yourself and begin.

17 MR. GOPAL: Hello. My name is Sriram Gopal. And  
18 I'm speaking on behalf of the Association of Home  
19 Appliance Manufacturers.

20 First, there are a couple things that I'd like to  
21 clarify that may have been a little misleading in CARB  
22 staff's presentation. First of all, AHAM did support the  
23 HCF phase-out for refrigerators, but we did not sign the  
24 voluntary commitment letter agreeing to a 2023 phase-out  
25 date for dehumidifiers and large room air conditioners.

1           For those products, UL safety standards and EPA  
2 allowance is what is determinative, not building codes.  
3 This rule is problematic, because it would remove  
4 dehumidifiers and larger room air conditioners from the  
5 California market in 2023. Considering that CARB is  
6 making a push on indoor air quality, we don't believe this  
7 is justified.

8           The reason for this is because with respect to  
9 dehumidifiers, EPA has not approved the alternative  
10 refrigerant for humidifiers and not -- and, in fact, has  
11 not even started on it. Even if they were to start on it  
12 in January, that process usually takes one to two years to  
13 complete as the Chair knows. Then it takes two to three  
14 years for manufacturers to redesign, test for safety and  
15 retool their facilities. The chances of all that  
16 happening by January 1, 2023 are very low.

17           It is a risk that is unnecessary and we ask that  
18 the deadline simply be moved to 2025, as it has been for  
19 other products. It could be later and it would not impact  
20 any GHG emissions modeling that CARB itself has announced  
21 to the public.

22           For larger room air conditioners, the safety  
23 standard in place by UL simply does not allow for large --  
24 a large enough amount of flammable refrigerants to be  
25 used. And that cannot be changed until 2024, even



























































































































































































































































































































































































































































































































































































































































































































































