

Aug 18, 2026

REEF Webinar "Refrigerant Reality Check: Navigating the AIM Act & State Policy Updates" - Transcript

**Note that the transcript timestamps do not align with the timing on the video recording, as the video has been trimmed down*

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Aleisha Khan: Um but yeah, let's go ahead and get started. I want to welcome everyone. Thank you for joining Reef's third quarter webinar. We're doing a bit of a refrigerant reality check today um on the AAC codes and standards. So, as some of you may know, the Federal American Innovation and Manufacturing or AIM Act and its technology transitions program have been in the headlines lately.

Aleisha Khan: So, we're going to clarify what's changed and what hasn't changed. Um, we're also going to look at emerging state and local policies and tackle some common mis uh conceptions and hear from three experts about what these developments mean in practice for building owners and operators. And then we'll close with an action plan for preparing your organization for what comes next and we'll have some Q&A. So, next slide, please. So, this is me. Um, I'm Aleisha Khan. I'm executive director of the refrigerant emissions elimination forum or reef. Um we're a 501c3 emissiondriven nonprofit and I am very happy to facilitate our webinar today. Next slide. So we'd like to remind everyone that refrigerant uh gases are everywhere. They're in our air conditioners, our refrigeration systems, heat pumps, and many of the technologies that we rely on every day. And many of these refrigerants are hydrofluorocarbons or

HFC's which is a super pollutant and one of the fastest growing greenhouse gases today with potentially thousands of times the warming impact of carbon dioxide.

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Aleisha Khan: At Reef, our mission is to eliminate the climate impact of refrigerants. And we do that by bringing the enduser perspective into the conversation and aggregating and amplifying the voice of buyers to accelerate cleaner cooling solutions. And part of what we do is convene quarterly webinars like this one to bring together experts to tackle the refrigerant issues that matter most to the market. And today's conversation is particularly timely. Um, as I mentioned, proposed changes to the federal technology transitions program are making headlines. Um, there's a lot of um, action at the state level ongoing, both of which understandably create some uncertainty. And so our goal today is really to provide some clarity, context, and some practical guidance for owners and operators. Next slide. So here's our agenda for the next 60 minutes. We'll start by digging into the AIM act and what proposed changes mean, discuss the current status of those changes, and then talk about the relevance of state policies. And so everyone's aware, after the webinar, we will post the recording, the slides, and the transcript to the reef website.

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Aleisha Khan: And we'll also send it out by email to all registered attendees. Next slide. So, we have the expertise, the experts, um, the best experts that you could you could imagine on this and we'll be able to have a really robust conversation and answer any questions you may have. So, please start thinking of those as we move forward because this is the place to ask them. Um, we will start out with Julius Banks who is the senior technical lead for Environmental Investigation AY's climate campaign. Um, Julius joined EIA at the start of this year after a lengthy career as an environmental engineer at US EPA and he previously served as the team lead for the EPA's refrigerant recovery

and recycling program and has held management positions in the stratospheric protection division, the climate change division, and the enforcement and compliance office of EPA. And he'll be following followed by Jeremy Arling. He is an environmental policy professional with NRDC and his extensive experience in refrigerant regulation and HFC phase policy includes the development and implementation of policies addressing HFC's refrigerant management and the transition to lower global warming potential alternatives.

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Aleisha Khan: So he brings a deep understanding of how federal refrigerant policy translates into practical impacts for industry and building owners. And then Tom Kacandes will bring us home. Um he's a senior consultant for BEIC where he supports utilities, government agencies, and a wide variety of business clients. During his 35 year career in energy and facilities, Tom has built several several factories and managed a large multi-tenant commercial site with 10,000 tons of cooling. So Tom really brings an owner's perspective to regulatory compliance and operations topics. So between the three of them, we should be um able to go very deep into this um subject matter. Next slide, please. So, as I mentioned, we'd really like you to think of questions as we go and to use the Q&A function um in Google Meet to register those those questions and then we'll get to them at the end. If you're new to Google Meet, if you look down at the bottom right of your screen, you'll see those nine dots and if you if you click on that, it'll bring up a menu and the Q&A is just underneath the poll polls bar.

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Aleisha Khan: So, just click on that. All right. Uh, next slide, please. So, just a couple of slides before we get into addressing the recent headlines and get to our speakers. Um, I think it's helpful to take a step back and look at the broader policy landscape. We have

international, federal, state, and local frameworks actually working together to reduce the use and emissions of climate warming um, HFC's. So in other words, the refrigerant transition isn't being driven by a single law or a single country. At the international level, uh nearly 200 countries have committed to substantially phase down their HSC production and consumption under the Kaggali amendment to the Montreal protocol. And then in the US, the AIM act is the primary federal framework that gives EPA the authority to phase down HFC production and consumption to manage HFC's throughout their life cycle and transition certain sectors toward lower global warming alternatives. So we'll unpack those three things in a minute, but it's important to understand that the AIM act is part of a much larger global market transition.

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Aleisha Khan: At the same time, uh we have states and local jurisdictions um which have their own policies and industry standards, building requirements and safety regulations also influencing which refrigerants and technologies can actually be deployed in a particular application or location. So when we talk about the refrigerant transition, we're really talking about multiple layers of policy and market forces operating at the same time. And that's particularly important right now because a change at one level such as uh a federal technology transitions requirement doesn't necessarily mean that the broader transition is going to stop. And with that context in mind, let's go to the next slide and talk about, you know, kind of what's in the recent headlines and start to separate um what has changed from from what's not changing. So there's been a lot um a lot in the news, a lot of noise around refrigerant policy. Um the first thing I want to emphasize is that the refrigerant transition has not stopped. But what is changing is the way that transition is being implemented. Um so I'm referring to timelines, regulatory flexibility, and increasingly the way that state and local policy plays.

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Aleisha Khan: So the AIM act itself remains federal law, and Julius will talk more about this. At the same time, EPA's reconsideration of portions of it of its technology transitions requirements um has created these questions um in the marketplace like what equipment can we buy and what can we continue operating? Do we need to change our capital plans? And is this transition effectively been rolled back? Um by the way, the answer to that last one is no, it's not. Um it's really just evolving. Um, but the underlying HFC phase down remains solidly in place. And so Jeremy will be discussing the status of the proposed changes. And then federal policy isn't the only driver. We have states and local jurisdictions continuing to develop their own approaches to refrigerant management and building decarbonization. And for organizations with facilities across multiple states, that means the regulatory landscape may actually become more, not less complex. And Tom will cover this topic for us today. So, we're intentionally taking a practical and apolitical approach. We're not here to argue whether a particular policy is good or bad.

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Aleisha Khan: We're here to really understand what the rules actually say where uncertainty exists and what owners and operators can do to remain resilient um regardless of how individual policies evolve. And that's really the lens I'd encourage everyone to keep throughout the um today's discussion. Don't plan your refrigerant strategy around the latest headline. Um plan around your assets and your risks, your markets and where the industry is going. And with that, let's start with the foundation, what the AIM act actually does and what it means for all of us. So, let me turn it over to Julius.

Julius Banks: Thank you, Aleisha. Uh hopefully everyone can hear and see me. My name is Julius Banks and as Aleisha noted in opening, u I'm with the Environmental Investigation Agency, which is not a federal agency. Maybe we can go to the next slide, please. Um, the EIA is also a nonprofit in DC and we push for HFC policy globally, not

just in the United States. Uh we also investigate different types of emissive uh activities such as supermarket refrigeration or the manufacturer of fluorinated greenhouse gases used as refrigerants and uh emissions that aren't captured or reported as perhaps they should be and again we do this on a global scale.

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Julius Banks: So maybe we can go to the next slide. So I'll I'll be speaking about AIM. Um also some of the misnomers, some of the misconceptions about some current regulatory activity. I'm a regul regulator at heart. Um, Aleisha didn't mention that in addition to refrigeration work, I've also done a lot of refrigeration enforcement work. And the last 10 years of my EPA career, I spent managing supervising the greenhouse gas reporting program, which is relevant because the fluorinated greenhouse gas refrigerant manufacturers have to report their supplies to EPA on an annual basis. And some of that data was actually used to set original baselines for the uh AAC regulations for the phase down of HFC's. So what is what is AIM? Um AIM is an implementation of the Montreal protocol believe it or not uh an amendment called the Kigali agreement. uh Montreal Protocol, for those who don't know, widely widely considered the most successful environmental policy um agreement around the world ever. Um as Leic said, almost 200 countries have have ratified it. Um and it's not EPA's first uh rodeo, so to speak, with the phase out.

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Julius Banks: I've been a part of multiple phase outs from the end of the CFC phase out in the late 90s to the HCFC22 phase out to now the HFC phase out what's changed is the legislation uh behind those uh regulations hence the the AIM act. So AAC what is it doing? It's it's really for refrigeration it's a three- tiered approach. We're looking at a phase down on consumption. So that's the production plus the import minus the export into and out of the United States. And there's a step down uh phase

down. So, it's not a ban on the use of existing equipment, but equipment that's using HSC refrigerants or HSC blends will certainly have uh demands uh you know demand issues going forward. The price more than likely will be increasing as the phase down is implemented. However, there is no ban on the use of the existing equipment and I'll speak more to that uh soon. And again, that that's in line with prior uh EPA uh phase down requirements. Um you know, bans on existing equipment just haven't been the the norm.

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Julius Banks: So we spoke about the phase down. There's also a refrigerant recovery recycling component such things as leak repair lowering the thresholds for commercial refrigeration for example. I've uh done a lot of work on leak repair requirements in the past. Um third tier is the technology transfer uh so-called transition which really works in tandem with the other two pillars. If you consider a phase down that doesn't ban existing equipment, but you have a phase down of the refrigerant, you need some provision or you would hope governments would have some provisions to allow for an easy steady uh not too evasive transfer. And that's what the TT rule does. It says that if we're phasing out HFC's, and I'm simplifying, oversimplifying perhaps, but if we're phasing down the HFC supply of refrigerants, we're going to make sure that we have a steady transition or transfer of that technology so that lower global warming potential refrigerants are in place and we're not abandoning equipment that still has useful life lifetime. All right, I think we can continue. So, it's really important.

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Julius Banks: And I I speak about refrigerants daily and I find that a lot of folks will assume speakers will assume that everyone knows what we're talking about when we speak about GWP or global warming potential. So if this is not new to you, just bear with me for the next 30 seconds. Um but you you hear about it a lot. So what I provided

here in the the right hand side in this white chart which may be a little small to read but I've listed some of the global warming potentials for very common HFC refrigerants and HFC HFO blends. Uh common refrigerants such as R134A or R44A or 410A 454B. These are refrigerants that we're all familiar with and we typically for the regulatory structure we won't say well um R134A because it has a GWP of close to 1,400 uh has this regulatory structure. We we'll talk about the GWP and then all the refrigerants that are above that GWP will be impacted. And what is a GWP? It's simply a measure of how much heat a greenhouse gas traps in the atmosphere normalized or compared to carbon dioxide.

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Julius Banks: or CO₂. So if you think of CO₂ as one, every other greenhouse gas will be compared to one. So as Alicia started um in her opening, you know, 1,400 times the GWP of CO₂ is what many in the NGO world would consider a super pollute pollutant. All right, we can go to uh slide 13. Thank you. So the that third pillar of the AAC that we spoke of the technology transfer again you you'll hear this called transition uh all the time because it actually is implementing a transition. These regulations were implemented under the Biden administration. Um but keep in mind that the AIM act itself was signed into law under the Trump administration. And I also think it's always interesting to note that the AIM act itself, while bipartisan, the primary sponsors were senators from Delaware and Louisiana, which really isn't a surprise if you think about what manufacturers are in those states. The largest FG gas manufacturers in the country, if not the world, are located in those states. So, it's it's really not surprising that you had that type of bipartisan partnership uh looking at new manufacturing, new alternatives.

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Julius Banks: And then there's also the equipment component um aspect. Uh many of these gases are not drop in retrofit replacement. So new equipment um has evolved um been around actually for for over a decade depending on the sector that you're speaking in the US. Uh arguably could be you know said that we're behind the eightball so to speak. We haven't kept up with uh technology transfer that exists in other parts of the country. Um but there are these other alternatives. uh many of them natural such as propane I think most folks are familiar with um that are lower if not almost negligible GWP that would be captured by these regulations as as an alternative um and something that would provide for an orderly transfer away from higher GWP uh gases. All right, reconsideration please. So, here is what Aleisha was speaking of. um little almost two months ago now, we had a very huge press release where EPA in the Oval Office um there with President Trump um announced this roll back of the TT reconsideration um that was hailed as saving money for primarily for supermarkets and bringing down the price of produce, you know, eggs and and milk.

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Julius Banks: Um and there there's lots of debate there. Um but the reconsideration does not stop the phase down. It does provide a bit of a disconnect in that the orderly phase in of different technologies. ies that transition that transfer of technology is now a bit disjointed. So the dates for compliance the dates by which new equipment can't be manufactured um in the United States has shifted. There have been shifts to refrigerated transport trucks. Um the original TT rulem provided a list of alternatives primarily HFC's that could not be used in new equipment going forward and some of those dates have shifted. a lot of those states have shifted. So what does this do? Um you know it provides a lot of uncertainty and misconception in the uh in industry as well as in the marketplace in general when you're dealing with refrigerants. Um here today to speak to what the the rule does and does not do. Um, and I think the thing to keep in mind is that it is not the reconsideration is a regulatory action again started under the Biden administration to implement the Trump administration AIM act and that's being rolled back for several sectors um primarily for supermarket refrigeration uh leak repair requirements what is considered new equipment uh refrigerated transport trucks etc. Okay, we can go to the next slide here.

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Julius Banks: So, just additional information here of what the reconsideration does. Here's some of the time frames. I won't go through each of these, but um easy probably the best thing to keep in mind is that for HVAC systems, V and commercial refrigeration, the time frames for implementation for new equipment, those dates by which new equipment with lower GWP refrigerants had to be implemented have all been pushed. Many of them were originally required to start taking place this year. those have been pushed to subsequent years for different sectors. And what this chart provides is an overview of of some of those requirements. And again, I uh I won't go through each one, but um if there are other questions, we can come back to this slide if time allows. Okay. So, my my colleague, former colleague at EPA, Jeremy Arling, now with NRDC, will speak to the the the legal challenges. So almost immediately um once this reconsideration was issued, there were legal challenges to this to this rule making and those challenges came from trade groups um industry trade groups for chemical manufacturers, equipment manufacturers, for technician service and installation um companies, state attorney generals.

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Julius Banks: There are numerous states that are suing on this action. And then of course uh environmental NOS's such as uh NRDC and again Jeremy will speak to that shortly. Uh but primarily uh the the challenges are that the reconsideration violates and undermines that original 85% % reduction in uh consumption by 2036 and lots of uh issues. It's hard for me to almost not dig into this. I'll let I'll hold my uh thoughts until Jeremy goes. So maybe next slide. Okay. So I also travel quite a bit. I speak quite a bit to folks in in this sector all the way from technicians, you know, certified technicians through service chain suppliers, importers, uh, end of life disposers, reclaimers, what have you, destruction facilities. And here are some of the things I've been hearing just

in the past couple of, uh, you know, month and a half, two months. And, and I think it's worthwhile going through some of them. Um, so in no particular order of prevalence, just what I've been hearing.

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Julius Banks: Um, and I just heard this speaking to a bunch of states this week, but the US, hasn't it rescinded the AIM act? Didn't Congress repeal it? Absolutely false. You know, I'm not an attorney. I'm an engineer, but I've spent a lifetime, my career, writing regulations. So, the AIM act is law. It remains in place. It's not a regulation. The Act is a statute. Um, I always tell folks as well, EPA has never signed a law. EPA writes regulations based on the authority issued to them by Congress formal law. So the it can't be undone. The the act at this point cannot be undone. It would take another statute to override the existing statute at this point. Uh so that's unlikely to happen at this point in time especially considering um the midterms coming up. If Congress Senate haven't taken action yet, it seems extremely extremely unlikely that they would. There's also um an act called the Congressional Review Act. Uh and sometime back almost a year ago, I know there was a lot of chatter about Congress using the CRA as a way to repeal the AAC.

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Julius Banks: Those time frames are are passed. That hasn't happened. This is this is law. Um Aleisha, how am I doing? I'm going to go through this quickly here. All right, wrapping it up here. Um, ban on existing equipment. No, there is no ban. I've said that several times. Um, maybe skipping down to equipment owners cannot repair existing uh systems. Again, false. We'll have certified technicians available to service equipment for every end use sector. Although the uh gas that they'll be relying on will be reclaimed refrigerant, no doubt about it. And the prices will be more expensive. And there's currently a notice of data availability that's been issued by EPA to address those

existing needs going forward for the next step down. Uh state regulations have replaced the AIMM act or the AIM requirements. Again, false state regulations have not replaced EPA regs. um you know they these regulations for the state. Yeah. quite a bit of uh activity recently from California, New York, Washington to name a few.

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Julius Banks: Those do not override the federal requirements. I'm sure maybe we'll speak more to this during the discussion. So that may be my last slide.

Aleisha Khan: Great. Thanks, Julius. That was fantastic. And um I also wanted to appreciate the rich um information that you have on your

Jeremy Arling: Right.

Aleisha Khan: slides, which I think will be a nice reference for um for people attending the webinar. And so just a reminder that we'll send those out after the webinar so that you can have those and look through them in more uh careful detail. So let me um at this point turn it over to Jeremy.

Jeremy Arling: Hi everyone. I'm Jeremy Arling. I joined NRDC back in April of this year. Uh and previously I had been at the EPA in the stratospheric protection division. I overlapped with Julius for a little time there uh working on the refrigerant management program, the 60 section 608 clean air act refrigerant program. Uh but I'm now with NRDC and I'm here to talk about at a high level the litigation on the technology transitions rule, the reconsideration rule.

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Jeremy Arling: So as Julius had mentioned uh this rule has been met with widespread uh discasted I would say uh we have the entire um RACHP industry from the chemical manufacturers to everyone who touches that refrigerant all the way down to the installers. So you've got the distributors, the equipment manufacturers, the

technicians, and the chemical manufacturers all sort of in agreement that this rule is a step backwards and will harm uh both the enduser and the companies that have already invested in the transition to uh lower GWP substitutes that comply with the technology transitions rule. Uh you have environmental groups. I think NRDC is the only environmental group um we are positioned to bring litigation that is what NRDC does best. So, uh, we are leading that charge from an environmental NGO standpoint. And then there's a coalition of 19 states, uh, the attorneys general. I won't read them all, um, but they are pretty active, I think, in uh, challenging a lot of this administration's, uh, rules, uh, as a group. Um but the point you know here is that it is sort of a wide uh representation of interests and industry and environmental and you know states that are um challenging this rule.

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Jeremy Arling: Let me go to the next slide. Um, and so because there are different petitioners here, uh, they're going to be focusing on different areas in their in their lawsuits against the the TT rule, the reconsideration rule. Uh all of them are focused on the retail food refrigeration sub sector. So there are three that are relevant for you know the reconsideration rule and the litigation here. Uh supermarket systems, the remote condensing units used in uh retail food and cold storage warehouses. Uh Julius mentioned that there were a number of other sectors like the transport refrigeration. Uh there are some small ones like chillers used for semiconductor manufacturing and laboratory equipment. Uh those provisions of the reconsideration rule were not challenged. Uh that the focus really has been on the three subsectors where the dates had been delayed uh or the GWP thresholds had been raised uh in retail food. Um and so you know there are different um let's say weaknesses or deficiencies in the TT reg uh reconsideration rule and depending on you know what interest the petitioner has they might bring a different uh element to the case.

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Jeremy Arling: I will say uh I am not council for NRDC on this matter. So these are my you know own personal speculation as to what folks would be bringing uh in the substance of their challenges based on the comments that they provided on the proposed rule as well as public statements that they've made uh thus far uh when announcing that they were going to be challenging this this rule. Um so the first would be you know a failure to analyze the AIM act uh statutory factors. Uh there are a list of considerations that the agency must take into account when issuing a rule under the technology transitions provision of the AIM act. Uh it's unclear whether or not the agency did all of that analysis or showed their work on all that analysis. So that can certainly be one element of the litigation. Uh somewhat related is you know whether or not there's sufficient technical basis for the policy change. Uh this is something that would be under the administrative procedures act which governs rulemaking in general. Um there has to be some rational basis for changing an agency's position by rulemaking.

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Jeremy Arling: Uh and so that has to be explained and there has to be evidence of that in the docket. So that's another potential avenue for the challenge. Um there is usually a regulatory impact assessment where you have to consider the economic costs of a rule as well as the environmental benefits. Um there are the economic costs and benefits um which include economics and environmental impacts. So those two can kind of be combined but they are also separate because some of them are AAC statutory factors. So there's going to be some overlap here. uh and how this will all shake out will be a little bit clearer once you know the opening briefs have been filed. Um but you know the economic memo that went out with the final rule um we posted a blog that showed you know that a lot of the costs of the rule are hidden or were not accounted for. Uh only the benefits uh were accounted for. And so, uh, when you talk about I think they said it was like \$2 and a half trillion dollars in saving.

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Jeremy Arling: Yeah. Trillion, uh, in savings, I think. Maybe maybe billion. I don't know. It was so blown out of out of scale that, um, billion. Uh, that it was, uh, you know, it was kind of hard to fathom. And then once you dig into the numbers, you see that, you know, it's really only counting the economic savings of supermarkets, not, you know, transitioning at a certain date. And and the numbers there are, you know, certainly there's room for challenging. Uh likewise, there was no consideration of climate change or the um environmental impact of HFC's. uh you will not find the word climate change or global warming potential uh anywhere in the final rule. So clearly there was an effort to not talk about the environmental impacts um which again could make a rule arbitrary and capricious under the APA. Uh I forgot to mention reliance interests. So again, there's a lot of companies that have transitioned um and they have invested a lot of time and money in moving their products, moving their systems to new uh lower GWP alternatives and they are now facing an uncertain market where people don't know whether or not they should be going to CO2 or you know hydrocarbons or ammonia and instead should they be sticking in 448 and 449 for instance.

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Jeremy Arling: So uh and then lastly there is a statutory requirement in the AIMM act that there be um one year before any technology transitions rule becomes effective. Uh the final rule said that it was effective 60 days not one year because it's a roll back and so therefore folks don't need the time that they would normally need to meet a new requirement. Uh I think this may be part of some folks challenge as well. So um there's there's a couple of different angles and a lot of lot of opportunity for to to pick at this uh this final rule. Uh next slide. Um on the other side there have been uh interveners by the food industry. Um we have the retail litigation center which uh is sort of an arm of the retail industry leaders association. Ria um you have FMI which is the food industry association uh American frozen food institute and the national grocerers

assoc. association. So again, these are, you know, represent trade associations representing supermarkets uh and that that um element. And then I think I've got one last slide here.

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Jeremy Arling: I see if my time may be up, but um just to get into it a little bit that you know the way that this challenge works is it's in the DC Circuit Court of Appeals. Uh the AIM act follows with the Clean Air Act uh the Clean Air Act procedure requirements. So that's where it starts. Um all of the various petitions have been consolidated into a single case and the litigation is still in um rather early stages. Opening briefs have yet to be filed. They're still working out the schedules. So, you know, it'll be at least a year um probably a year and a half before anything gets, you know, really actually settled associated with this litigation. uh and then even then um then it's up to the court and the court may issue a brie issue a vacure it you know the the uncertainty does not end when the court makes its decision and it will probably go back to the agency for another round of rulemaking so I can get into that more if if folks want in the Q&A but I will um pass it along uh to the to Tom

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Aleisha Khan: Thanks, Jeremy. And I just wanted to appreciate all the work that I'm sure went in went into really untangling all of that information um that was in there. So, really appreciate you figuring that out and and sharing that with this audience. So, thank you. And let me turn it over to Tom.

Tom KacandesVEIC: Hi everyone. Next slide, please. So, we're going to speak briefly to state programs that have not changed and were generally created to backs stop the federal regulations. Next slide. Uh, VEIC like uh the Environmental Investigations Agency and NRDC is a 501c3. uh but we mostly administer incentives on behalf of Washington DC and variety of states Hawaii, Vermont, parts of Wisconsin. Uh that's a

lot of our focus and that got us into uh carbon equivalent. So in the course of our 40 years, we've addressed everything in energy, but GHG reduction policy is uh central to what we do to have positive uh impact. Next slide. And specifically our northstar, our key metric is does our work reduce greenhouse gas effect to atmosphere.

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Tom KacandesVEIC: And as a result, a long time ago, we started measuring CO2 equivalent, not just carbon carbon. and carbon. Uh so obviously other molecules and particles like soot are shortlive climate pollutants and refrigerants are a big part of uh us progressing on our GHG metric. Next slide. So, three states in past years are really talking about actions taken legislatively going back to 2016, 2020. uh an update in New York of an existing regulation at the end of 2024, probably the most recent, but uh states uh took a variety of actions to basically uh enforce in state law, reflect into state law, what the AIM act required. So all of the states modeled their legislation in in light of what does the AIM act require? But there are a variety of details among the different states that I'm not going to get into for the most part because uh the real takeaway here is that best practice would it is common across regulatory compliance uh whether federally or uh in any of these states. Uh next slide.

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Tom KacandesVEIC: And what is best practice? I break it down as knowing what you have listed here as data. Like do you know what your inventory of refrigerant bearing equipment and other sources are? Uh have you registered those potential emission sources uh with your state? And do you maintain updated records relative to repairs made on that equipment and a calculated leak rate? Are you testing for leaks regularly? And are you producing reports as required? The details uh among the states vary a little bit, but for the most part, this is this is what it's uh what's consistent. have your data, update your processes so that equipment is labeled. If a technician walks up to a

piece of equipment, do they know what the charge size should be? Do they know what refrigerant is supposed to be in there? Is it staring them in the face? Uh your vendor protocols and agreements need to reflect these processes that again feed back to data. So if a leak is repaired and refrigerant is added, refrigerant is withdrawn, that balance is recorded and you have that information, not just your uh installer having that information pretty consistently.

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Tom KacandesVEIC: Repairs need to be made within 14 days if you have a leak and you want to maintain existing HFC equipment. And uh in the realm of u recommendation, making sure that all of your refrigerant is reclaimed and potentially stocking owned refrigerant on site with some safeguards is a best practice now. And ultimately, how do you get out of these regulations altogether? Well, if you have a CO2 system in a refrigeration rack, that's not a regulated HFC. That's exempt equipment. Kitchen equipment using R290 is exempt equipment. My caveat here is that an emergency replacement plan, if you have a catastrophic leak and uh and that leak rate under the regulations forces a replacement, you want to have a plan for that and overall have a transition plan. Next slide. So everything that we look at relative to the states, let's look at in that operator context. And broadly speaking, it's the AIMM act that through allocations to manufacturers of F gas refrigerants is reducing supply over time. 2029 is the next big step down under the AIM act.

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Tom KacandesVEIC: Uh but all of the states have bulk virgin high GWP refrigerant prohibitions that scale over time and those vary somewhat uh but in reality Washington uh was modeled on California so they're quite similar and New York and California were in conversation as regs were developed so there's a lot of consistency and in general we're in an era where the maximum GWP of refrigerants based on the AR4 GWP 100

standards is 750. Uh, next slide. New York uh specifically has a refrigerant program that's brought a lot of uh focus to multi-state operators to their New York stores that uh part 494 uh legislation like the other states you see see here large, medium, small, all of the regulatory regimes ultimately focus on 50 pound and larger systems and the largest systems first. Uh but if you're going to be doing inven inventorying. You might establish that down to your smallest systems from day one and uh start looking to eliminate small systems that are consistently leaking before uh that becomes more of an issue for you. Next slide. Finally, I'll note that um when Washington was rolling out their program, uh I was struck by the fact that they were the only state uh not that California it has not taken a variety of regulatory actions to enforce uh their HFC rules, but Washington before their program started said, "Please get your records together because we're going to come and inspect your records and we will find you. So just passing that along that came directly from the department of ecology in

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Tom KacandesVEIC: introducing the program. It was a very different note from uh to be honest that the folks in New York are focused on transition planning and focused on uh managing leak rates in the short term for existing equipment that continues to be operated. Uh a big deal in New York is that uh by 2036 GWP 10 or less is required basically across all equipment types. And uh what is less uh well understood is that there are other GWP10 or GWP20 limitations on new equipment sale that happen uh beginning of next year for heat pump hot water heaters. 2030 VRF has to have GWP 20 or less which uh some folks I think reasonably are viewing as VRF becoming a configuration no longer allowed. That's a big deal since the industry loves selling VRF and then other other equipment happens in 2034. So, this is where sometimes New York gets the wrap of being way ahead, but it's really uh a consistent objective across all of the states. And importantly, California said when they issued their regs in at the end of 2020, uh we will revise these regs if we're not meeting our required goal of uh 40% reduction by 2030. So, we might see California do a big ratcheting in just a couple years.

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Tom KacandesVEIC: Uh, next slide. So, back to what do you do as an operator? Map your exposure. Know what refrigerants you're using, how much charge they have, where are they. uh you know I once managed 2.2 million square feet. Walking around and seeing all of that is uh a bit of a job, but asset tracking is really basic stuff. If you're a facility owner, knowing what you own, knowing its state of uh performance is a basic like updating leases. Uh, make sure that your planned purchasing does not just perpetuate like for like and that all of your operation of existing assets uh is implemented by contractors who might have their own refrigerant tracking software. Maybe they use FM Hero, maybe you use track ref. The important thing is that you as the owner are the legally responsible party. So you have to have your data together in your possession. Having uh an installer or uh service technician be the sole locus of data is not a good plan. And will other states um jump into backstopping the federal regulations?

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Tom KacandesVEIC: I'm I'm a little pessimistic on that front and I am informed by uh better informed people than myself that uh you know the states even the climate alliance states are not necessarily looking at um New York, California and Washington and wanting to jump in right away. But we could always see similar uh state action that maps across these three leader states. And I think that's the last slide. Yes.

Aleisha Khan: Great,

Tom KacandesVEIC: Thanks so much.

Aleisha Khan: Tom. Tom, thank you so much. Um, that was a lot of detail, but I really appreciated how you made it very practical and actionoriented. So, um, thank you so much. Thank you to all the speakers. Um, we are right on time, which as a facilitator I love because it means that we have time for lots of questions. So, just a reminder, um, if you do have a question and you haven't put it in, um, Google Meet yet, you can go down to those little dots and pull up the menu and enter your question in. And while

you're thinking of questions, I'm going to start on some questions that have already been um, put in there so we can get some conversation going.

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Aleisha Khan: Um, I want to start with this one. Um it's it's probably um you know it may be a little more for Julius and and Jeremy from their perspective, but there's the question um how does EPA actually enforce the new 15 pound leak repair rule? And so, for example, if an owner has hundreds of covered systems, what brings those systems onto EPA's EPA's radar? And what should owners be tracking today to demonstrate compliance? Whoever wants to take

Julius Banks: Um I'll start. Um I guess Jeremy feel free to chime in.

Aleisha Khan: that

Julius Banks: Tom as well. Um so kind of piggybacking off of what Tom was saying, you want to identify your assets and make sure that you have the documented full charge of your system because the threshold for the leak repair requirements has been been proposed to be lowered. Um but you can't determine that percentage um going down to 15% which was 35% for a long time as far as leak repair requirements. You cannot make those determinations if you don't know the full charge of your system.

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Julius Banks: So you really do need to have an inventory of your equipment, the refrigerant type, the refrigerant charge in order to go forward. That's that's critical. Um, as far as enforcement, Aleisha, the majority of enforcement at EPA on the refrigerant regulations comes from tips and complaints. Um, so in my career, I saw countless countless um, you know, issues where a contractor who lost a bid or a disgruntled employee um, you know, called into EPA uh, hotline and or an enforcement hotline and

said, "We have what I think is a violation." And sometimes it's a health issue where a worker has been exposed to a leak, which is typically an OSHA requirement. Um, but it turns out that there's a refrigerant leak issue as well. I believe others to chime in.

Jeremy Arling: I think you covered it for the the question that was asked. The uh enforcement that I'm more familiar with is sort of the illegal import, illegal trade, and you know, if you're going to be, you know, putting a non-compliant product onto the market, for instance.

01:01:58

Jeremy Arling: Um, and again, it's tips. It's people within the industry who are wondering how this uh other refrigerant that's 50% off has somehow made it onto the market, that kind of thing. Um, but that's that's sort of for the uh equipment side of

Aleisha Khan: Great.

Jeremy Arling: things.

Aleisha Khan: Thank you. Um I want to get to this one. Um Tom, you mentioned to like a time uh amount of time that you need to fix an identified leak. And someone um or Amrit is actually asking are refrigerant leak detection and repair deadlines affected by the recent roll back of the TT provision.

Tom KacandesVEIC: That might be more of a Jeremy question.

Jeremy Arling: Yeah.

Tom KacandesVEIC: Uh, yeah. Why don't

Jeremy Arling: So,

Aleisha Khan: Okay.

Tom KacandesVEIC: you

Jeremy Arling: the the technology transitions rule uh only relates to what type of refrigerant you're using in a specific type of uh system. the leak repair requirements. the um monitoring, the um excuse me, the the leak detection requirements, those are all within a different um rule, emissions reduction and reclamation rule under a different subsection of the AAC, subsection H. So, um that has not been rolled back or

proposed to have been rolled back and so it's not affected by this this action that I was talking about.

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Julius Banks: and it's probably actually a good segue to mention that the leak repair requirements for uh ozone depleters as well has been in effect for over 25 years. So these leak repair requirements aren't new. Um, if you aren't familiar with the leak repair requirements um, for for any of the refrigerants mentioned it, especially the calculation methodologies, it's probably a good idea to check on EPA website to see and read what those calculations are. I've seen many instances where owners of equipment were coming up with their own methodology and when EPA inspectors came in and followed the regulations, they were the owners were found to be out of compliance. So, it's it's really important to be up to speed on um the regulations and the compliance tools that EPA has made available.

Tom KacandesVEIC: So this is not a a creative exercise, Julius, is what you're saying.

Julius Banks: No, it's I I had lots of hair in when this all started.

Aleisha Khan: Thanks um all of you. Um Tom, I think this is for you. Um, the question is, how much should site owners expect to be able to push the work of refrigerant regulation compliance onto their maintenance

01:04:46

Tom KacandesVEIC: Well,

Aleisha Khan: contractors?

Tom KacandesVEIC: the maintenance contractors are are key partners in keeping HFC's from from being released, keeping it in the pipes. And so they're necessarily involved. We always make a point working, we work with lots and lots of industrial facilities in particular and lots of commercial facilities and the number one thing is to

go into your existing vendor agreements and if you need to revise those contracts to have explicit language about what data you're going to get, how often leaks are going to be checked for, etc. then change those agreements and you can use the law as a basis for changing even existing agreements. Uh generally that's not a push back item. The savvy maintenance folks uh already know that this is a requirement and they probably have uh hopefully have certainly a good thing to ask whether they're using software to facilitate that data collection and whether they're using digital tools to automatically document how much refrigerant was added. There's no need to write stuff down on post-it notes anymore. Bluetooth enabled uh pressure gauge and vacuum gauge will document that you have uh dealt with equipment uh through proper procedures and then you're just forwarding files to the owner.

01:06:22

Tom KacandesVEIC: So owners are ultimately legally responsible but part of that responsibility is to work with their contractors to just say hey how are we dealing with this let me make sure I'm automatically getting the data and uh you also keep your records generally recordkeeping is five years so you really digital is good you know do your digital backups all that sort of thing and have your records a bit organized so you can uh even then more comfortably respond to ESG reporting because uh HFC releases on your sites are a scope one emission for example and if you are a supplier to somebody else uh reporting their ESG then your refrigerant emissions might be a scope three emission for them. So data data data and you can't palm off legal

Aleisha Khan: And and Tom, really quick,

Tom KacandesVEIC: responsibility

Aleisha Khan: do is it something that owners really need to have the software for compliance tracking or if their maintenance contractor has that software, is that enough?

Tom KacandesVEIC: you know I haven't looked at access of there's a variety of software out there it seems most of it is very helpful So, let me make sure to touch on those two things.

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Tom Kacandes**VEIC:** If you use a track ref or an FM hero or another another software provider, they are themselves a pretty competent source of information. But the other really great source of information that you never think of is hello regulator, I have a facility in your state and I want to make sure I'm doing things the right way. Those folks really are very helpful and they are happy to respond to your questions uh as soon as they can. They've probably heard the same question before. If it's somehow a new question, they'll be super interested to hear new questions and support your compliance. They're they're not enemies in compliance.

Aleisha Khan: Fantastic. I'm going to um try to slip in one last question here. Um this is uh one Ryan put in. It says, "How likely, in your opinion, will there also be a reconsideration of the ER and R rule, which subsection H of the AIM act for um those who don't know? Um what do you speculate the focus of that reconsideration would be?

Jeremy Arling: I can start but I don't think I have a good answer.

01:09:02

Jeremy Arling: Um because I think you know when when uh the administration finalized the reconsideration rule, it also proposed another rule that uh would exempt from the leak repair requirements transport refrigeration. Uh and so in the docket for that rule, that proposal, um there was a petition for reconsideration uh for from Carrier because they were the ones that were asking for this um that the agency amend the leak repair provisions so that it not apply to 15 pounds but apply to 30 pound equipment um regardless of the subsector. So not just focused on transport refrigeration. So that that is a a I wouldn't call it a petition for reconsideration because it doesn't actually, you know, qualify. It wasn't submitted in the right time frame and there are certain legal elements of what a petition for reconsideration is. Uh but that,

you know, is something that the agency is probably taking a look at. I don't know what they intend to do with that um petition, but that is certainly one that's out there.

Tom KacandesVEIC: And just a note, what is 30 pounds, right?

01:10:18

Tom KacandesVEIC: A a sixton VRF unit ships as a unit with 15 pounds of refrigerant in it. So, uh the nature of VRF is we have lots of distribution piping. We have branch boxes that themselves have refrigerant boiling around in them. So 30 pounds is actually quite a small commercial system still. I was a little surprised when when the 15 pound rule came out. Um now I know who to ask about it now. I've met these guys, but it's uh it's it's legitimately a low bar. Now, on the other end, um I'd be really surprised if the requirement for leak repair changed at all. Like that's that's just completely illogical. Not that that's impossible. Um leak detection, uh couple of things. Automatic leak detection systems are obviously a great answer for lots of owners. There's also folks now that are specializing in leak detection as a service. So, they're coming in with handheld detectors and marking and tagging and recording every single leak source on say a central refrigeration rack.

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Tom KacandesVEIC: And uh one of our clients has has seen uh great success with that approach on top of automatic leak detection because automatic leak detection is not every linear square foot of thousands of feet of refrigerant lines, right? So, um ultimately if you are a site owner, you have a cost staring you in the face. Higher and higher cost for refrigerant and particular refrigerants like Kimor said, we're not making any more 404a and 507 a couple years ago. These refrigerants are going away if you don't have your own stock and your own process to recover for reuse and know the provenience of refrigerant that you originally bought.

Julius Banks: Thank

Tom KacandesVEIC: Um, that stuff away at 25% a year is just not a good business model at this point if you're

Julius Banks: you.

Tom KacandesVEIC: relying on uh keeping existing equipment going. and the leak detection provisions um are very important. But say they weren't regs, how many places can you save thousands of dollars just by doing it a little better? This is a big

Julius Banks: And there'll also be a reliance,

01:13:09

Tom KacandesVEIC: one.

Julius Banks: a heavy reliance on reclaimed refrigerant. It's used refrigerant that's brought back to the uh AHRI700 purity standard. So that you really can't tell the difference between the virgin and the used. So that will be available. One of the questions, will those are reclaimed virgins be available in the quantities needed? and that's part of why these rulemakings are in place, but we know it's going to cost more. Um, so that that's another thing that to consider for equipment owners and operators.

Tom KacandesVEIC: And as a detail, there are certain refrigerants that are easier to reprocess and and bring back to that purity standard. R44A is not one of them. That's a four component refrigerant that's actually very energy intensive to turn into AHR standard uh material.

Julius Banks: and and some of those blends are under patent so they legally can't be reconstituted. So, um yeah, it either either way you slice it, we do know that you're going to pay more for those refrigerants um as we go through this transition.

Tom KacandesVEIC: But Julius says, "Anybody patented CO2 or R290?" All right,

Julius Banks: Not that I'm aware of. No.

Tom KacandesVEIC: that was that was a that was a cheap

Julius Banks: Thank you for the softball. Yeah.

Tom KacandesVEIC: question.

Aleisha Khan: Well, thanks everyone for staying a few extra minutes um so we could round out the conversation. Um, great thanks to Julius and Tom and Jeremy for sharing

all of your expertise. We greatly appreciate it. Um, again, look for the recording and the slides um, and the transcript on the reef website and we'll see you next quarter for another webinar, I hope. So, thank you.

Tom KacandesVEIC: Thanks all.

Jeremy Arling: Thank you.

Transcription ended after 01:15:09

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