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Environmental Protection Agency

Proposed 608 Refrigerants Management Rule
Public Hearing

Tuesday, October 16, 2018
2:00 p.m.

Environmental Protection Agency 1200 Room 111
7A EPA East Pennsylvania Ave, NW
Washington, DC 20460

Reported by: Gary Euell

1 APPEARANCES

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3 Jerry Weiss, ESCO

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5 Howard Weiss, ESCO

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7 Jason Obrzut, HVAC Excellence

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9 Eugene Silberstein, Cengage Learning

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11 Satish Natarajan, Seva EHS, Inc.

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13 Helen Walter-Terrinoni, Chemours

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15 Stephen Mandracchia, Hudson Technologies

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17 Russ LaMotte, Beveridge & Diamond, P.C.

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19 Alex Hillbrand, NRDC

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21 Alexander von Biskmarck, EIA

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P R O C E E D I N G S

MR. LUKE HALL-JORDAN: All right, folks, we're going to get started. I think the last batch of folks has come through the security, so we'll go ahead and get the hearing started as folks take their seats. And I'm not used to using a microphone, so forgive me if I pause with this. Thank you everyone for coming. We really appreciate your interest in this proposal and in commenting on the rule. My name is Luke Hall-Jordan. I'm the Branch Chief for the Stratospheric Program Implementation Branch. It's a mouthful. My group is responsible for managing the day to day on this proposed rule making as well as the Section 608 Refrigerant Management program. With me today is Sara Kemme, who will be calling speakers. She also helped develop the proposed rule, and manages our 608 program. On my left is Jeremy Arling, who is our refrigerants team leader and is also involved with the rule making, as well as day to day management of the program. There are some other EPA folks in the

1 room as well, so you'll probably see some other
2 faces you recognize. Feel free to chat with any
3 of us. Also up here to the right - my right, your
4 left - is Gary Euell, who is our court reporter.
5 He will be transcribing your comments.

6 So, before we get started, I suspect everyone
7 has already signed in. There was a sign-in sheet
8 by the front door but if you haven't, please do.
9 We use this to sort of docket the meeting and make
10 sure we have complete attendance, so thank you for
11 doing that. So, why are we here today? We're
12 here to receive oral comments on the proposed rule
13 titled "Protection of Stratospheric Ozone:
14 Revisions to the Refrigerant Management Program's
15 Extension to Substitutes," which was published in
16 the Federal Register on October 1st of this year.
17 I'd also like to note that the purpose of today's
18 hearing is not to answer individual questions on
19 the proposed rule; it's our opportunity for you to
20 provide oral feedback and comments on the rule.
21 However, if you do have questions or would like to
22 discuss the proposal in more detail, please let

1 one of us know. We'd be happy to set up an
2 additional time to talk with you about any
3 concerns you may have. Any documents that you
4 provide today or in those meetings would also be
5 put into the docket for this rule making.

6 As I noted, we do have a court reporter here.
7 Your remarks will be transcribed and we will have
8 a transcript of the meeting that gets put into the
9 docket. Now, we would expect that to be available
10 in about three weeks so that should be up in the
11 not-too-distant future. Now, providing oral
12 comments this afternoon does not prevent you from
13 providing written comments; in fact, we'd
14 encourage you to do that as well if you're so
15 inclined. You can do that directly to the docket.
16 As a reminder, the comment period for this rule
17 closes 30 days from today on Nov. 15, 2018. You
18 can visit www.regulations.gov and look up our
19 docket ID number which is EPA-HQ-OAR-2017-0629.
20 It's also in the rule, so you can look there as
21 well.

22 Now, we have a list of folks who RSVP'd in

1 advance to speak. Sara momentarily will be
2 calling speakers in the order in which the
3 registration was submitted, and if there is anyone
4 else here who would like to provide oral comments
5 today, but did not RSVP in advance, that's okay,
6 too. We welcome that, but please see Sean in the
7 back. Sean, if you want to raise your hand - just
8 to make sure he knows that you do want to speak so
9 that we can get you added to the queue.

10 Finally, so instructions for testifying, or
11 providing your oral feedback. Please come to the
12 podium up here. You're going to use this
13 microphone which we'll be moving up in a second.
14 State your name and affiliation and if you have a
15 name that's difficult to spell or a company name
16 or organization name that's difficult to spell,
17 please spell it out for Gary so that he can get
18 that in accurately. Speak slowly, clearly, and
19 directly into the microphone. And to ensure that
20 everyone has time to provide their oral comments,
21 let's try and keep it to ten minutes or less for
22 any comments. It's not going to be a hard and

1 fast timing, since there are not a ton of
2 speakers, but I would certainly encourage you to
3 keep it short, sweet and to the point to the
4 extent possible. Now, if you're reading from a
5 prepared statement, please consider providing a
6 copy of that to one of us or to Gary before you
7 leave, so that we can make sure that we transcribe
8 your comments accurately. So, for those people
9 that signed up - that didn't sign up, definitely
10 even more important, so making sure we have your
11 name and affiliation just so we can make sure
12 that's accurately reflected. With that, I'm going
13 to hand this over to Sara to walk through the
14 names.

15 MS. SARA KEMME: Our first speaker is Jerry
16 Weiss, ESCO.

17 MR. JERRY WEISS: Okay, hopefully everybody
18 can hear me and there is a tremendous echo in this
19 room, so I'm going to make it less than 10
20 minutes. We have a little group here, but each
21 have something else to offer and contribute to the
22 entire conversation. In looking at the proposed

1 rule there was one section that stood out
2 blatantly, and that was the expense of repairing
3 equipment versus just refrigerant replacement.
4 And that's predominantly what I'm going to address
5 at the moment. Somewhere along the line someone
6 came up with 39 million dollars to repair
7 equipment, and I presume that meant annually
8 repair because something else is breaking down
9 every year, with only 15 million dollars for the
10 cost of replacement refrigerant. The first
11 problem is it doesn't take into consideration a
12 ton of different expenses. Fifteen million
13 dollars worth of refrigerant on a 39 billion
14 dollar - and I don't buy either of those numbers -
15 it's going to be higher - but nonetheless, the
16 entire point is that systems don't leak less the
17 following year. They're going to continue to
18 leak, so the leaks that were not repaired that
19 first year, by the third year you've now exceeded
20 the cost of repairing it. Moreover, there is the
21 cost of energy. When systems are running low, the
22 compressors run longer, the systems consume more

1 power overall. So, you're talking about small
2 leaks can lead to anywhere between an 18 and 23
3 percent increase in energy usage that wasn't
4 considered in those numbers. The lifespan of the
5 equipment, or service life of the equipment, is
6 diminished by about the same percentage because of
7 the additional run time. I don't think those were
8 considered, so when we start talking about getting
9 rid of these repair requirements, particularly for
10 larger systems, then realistically most
11 corporations are going to look at it as an
12 ineffective method of doing business and not
13 repairing it. And we can show numbers and prove
14 those numbers as to energy consumption, lifespan
15 change, and a variety of other issues that we'll
16 put in our comments as we go along rather than try
17 to take up a lot of time for this moment, but I
18 think everyone's got something to say and if
19 everything goes right today we'll probably cover a
20 broad range of subjects that are necessary to
21 cover relative to this proposed rule. Thank you.

22 MS. SARA KEMME: Howard Weiss, ESCO.

1 MR. HOWARD WEISS: Good afternoon everyone.
2 I'd just like to cover a few things. I don't
3 think that the ruling appropriately addresses the
4 entities financially impacted. I took a look at a
5 lot of different groups not covered. HVAC
6 education, which has the responsibility for
7 incorporating the regulations into their
8 curriculum. These instructors at high schools,
9 community colleges, trade schools, apprenticeship
10 programs, they have to actually undergo a training
11 to learn the current regulations and revise their
12 curriculum. In doing so, they had to submit that
13 to a state, accrediting body or both. This was a
14 costly and timely process. What we're now asking
15 them to do again, potentially, is to do this
16 again. That's a lengthy and costly process most
17 schools can't afford. We're talking in the tens
18 of millions of dollars. Publishers have already
19 encouraged - excuse me, have already incurred a
20 cost to redo their textbooks, training manuals,
21 software, and supplementals. These companies have
22 already built these new - produced these new

1 textbooks. None of this has been accounted for.
2 This would essentially make all of their training
3 manuals need to be revised yet again.

4 HVAC equipment which is distributed through
5 authorized dealers who buy it through thousands of
6 wholesalers: These wholesalers have spent a lot
7 of time redoing their point of sales software,
8 retraining their customers, retraining all their
9 clientele to meet the 2016 rulings, and now we're
10 asking them to do all of this again. Many of
11 these wholesalers are small companies. This is a
12 large capital expenditure that they put out. I'm
13 not sure that all of them could do this again,
14 especially in this short of time.

15 Certifiers were issued a new bank of test
16 questions earlier this year, asked to produce new
17 training materials, and new certification exams.
18 We haven't accounted for that. We just completed
19 this costly project. At this point we would now
20 be asking everybody to redo these programs yet
21 again. Worse yet, we could wind up with three
22 different certification programs in one year.

1 The tasks of refrigerant tracking and leak
2 detection spurred the creation of new American
3 businesses. These companies have invested to
4 develop instruments and software to assure
5 compliance. No one's taken a look at all these
6 small companies that essentially these regulations
7 will make their products obsolete, costing
8 American manufacturing and programming jobs.

9 When we do a complete accounting of all of the
10 business types, we still haven't talked about the
11 cost of retraining everyone again. If you look at
12 the Bureau of Labor statistics and look at how
13 many people are in HVAC, but start looking at
14 related trades that use refrigerants, steam
15 fitters, sheet metal workers, operating engineers:
16 We're looking at - we just spent two years
17 training one million people. What would it cost
18 to retrain one million people again? If I take
19 the average supply house cost of \$150 for a class,
20 that's 150 million dollars right there. It seems
21 like just a couple of years ago the EPA went and
22 asked the industry for help. As a result,

1 manufacturers HRI, AHAM; wholesalers Hardy;
2 contractors ACA, MSCA; educators HVAC Excellence;
3 technicians RCSC - we all worked together to help
4 the EPA create something that helped them move the
5 program forward and eliminate all the ambiguity.
6 It just seems right now what we're doing is
7 actually moving everything backwards and going to
8 create a great deal of chaos within the industry
9 considering everyone has pretty much already moved
10 to comply with the regulations. Thank you.

11 MS. SARA KEMME: Jason Obrzut.

12 MR. JASON OBRZUT: Good afternoon everyone.
13 That's O-B-R-Z-U-T, it's pronounced Ub-zoot.
14 Yeah, it's out there. I'm here on behalf of HVAC
15 Excellence and I'm going to address a few things.
16 One of the things I'm going to speak to is the
17 illegal authority, or the lack of authority, to
18 propose changes or the authority that was granted
19 or taken for granted in the 2016 ruling. And as
20 one of my colleagues pointed out, I'm also going
21 to touch on the energy consumption of systems that
22 are leaking.

1 One of the statements in the proposed ruling
2 is that it's based on feedback from some in the
3 regulated community, in particular more on the
4 industrial process refrigeration. Now this, by
5 itself, is a small portion of the industry itself.
6 There's many more entities in the industry. The
7 November 2016 ruling was the result of two years
8 of industry engagement declared by regulations to
9 remove ambiguity and to modernize the program. In
10 pursuit of these changes, the EPA actively
11 conducted stakeholder meetings starting all the
12 way back in October of 2014. They presented at
13 industry events. They were at different trade
14 shows. And they published in different media
15 seeking industry comment on the proposed rule.
16 Only after this two-year process did we come with
17 the 2016 ruling. The newer ruling here, this
18 proposed ruling, is going to undo the clarity that
19 was provided and the readability of the existing
20 regulations. The 2016 ruling, we believe, was in
21 the best interests of the environment, done in the
22 spirit of the Clean Air Act, and in line with the

1 EPA's core mission of protecting the environment
2 and its occupants. It was supported by leading
3 manufacturers, contractors, the education industry
4 and many more.

5 I'll try to make this quick. Getting to the
6 statutory authority, one of the themes that I
7 noticed was that they're constantly referring to
8 608A, 608C, C1, C2 and how they're individually
9 taken as individual statutes and its our
10 interpretation that the Clean Air Act should be
11 interpreted as a document in its entirety. It's
12 the sum of all of its parts. It shouldn't be
13 picked apart section by section to conclude legal
14 authority. We do believe that it should be taken
15 as an entire document and not piece by piece.

16 In the 2016 ruling, there were a few different
17 things that were stated for authority, in
18 particular Section 301, Section 114, and the
19 Supreme Court case Chevron. I would also like to
20 add to that Section 615. We believe that these
21 individual sections would give, absent
22 congressional authority, the EPA the statutory

1 standing to do the things that they stated in the
2 2016 ruling. So, I believe these are arguments
3 made in favor of the authority proposed in the
4 2016 ruling.

5 Also stated in the proposed ruling is they
6 were taking comment on rescinding the full set of
7 subparagraph requirements. This would be a very
8 big - is this the appropriate time to comment on
9 that? All right. This would be a big disturbance
10 to the industry. Subpart F requirements are used
11 for sales, certification, recovery, disposal,
12 things like that. They are necessary to enforce
13 or to comply with section 608C2 which is the
14 prevention of substitute refrigerant venting. I
15 don't believe - we don't believe at this time that
16 without Subpart F there would be any kind of
17 enforcement or compliance with Section 608C2.
18 Rescinding the leak repair rate, as stated
19 earlier, is going to cause systems to consume much
20 more energy. Systems that leak are running at an
21 under-charged condition. As little as two ounces
22 in a residential unit can significantly impact its

1 capacity which makes the coolant run longer. The
2 longer run times associated with systems that leak
3 were resulted in an increase in energy
4 consumption. When the number of systems that are
5 currently operating with leaks is added to the
6 number of systems that are going to be allowed to
7 operate with leaks after this ruling, the numbers
8 are going to be significant. There is going to be
9 a substantial increase in the amount of energy
10 consumption. We can show, using the government
11 website, that HVAC equipment is responsible for at
12 least 40% of the consumption on the grid and we're
13 going to magnify that by allowing these systems to
14 continue to operate in an undercharged condition.
15 As mentioned earlier, that there's a lot of
16 businesses that are going to continue, as a means
17 of doing business, to add refrigerant to systems
18 in lieu of replacing it, until the tipping point
19 hits the point where it now makes sense to repair
20 it. There's no motivation to repair this system
21 until the cost of refrigerant gets to the cost of
22 repairing it. That could take years and, as

1 stated earlier, leaks don't get better, they get
2 worse.

3 There's an Executive Order, actions that
4 significantly affect supply, distribution or use
5 of energy. It is Executive Order 13211. It is
6 stated in this ruling that this particular 2018
7 proposed ruling won't add a significant impact on
8 the energy consumption in this country, and I
9 believe that it's going to. Thank you.

10 MS. SARA KEMME: Eugene Silberstein.

11 MR. EUGENE SILBERSTEIN: Good afternoon. My
12 name is Eugene Silberstein and I am the co-author
13 of Cengage Learning's Refrigeration and Air
14 Conditioning Technology. This title is a
15 comprehensive, 1700 page HVACR textbook that is
16 used in approximately 1000 HVACR training programs
17 nationwide. I am not here as an official
18 representative of Cengage Learning but as an
19 individual who is concerned about the changes in
20 the HVACR industry that will likely occur should
21 the 2016 rule, or parts thereof, be rescinded.
22 Although there are many concerns about the

1 proposed revisions to the refrigerant management
2 program's extension to substitutes, I will briefly
3 address the one area that is of particular concern
4 to me, namely the effects of this proposed rule
5 change on the HVACR industry publishers and
6 authors. The Regulatory Flexibility Act states
7 that a rule will not have a significant economic
8 impact on a substantial number of entities if the
9 rule relieves regulatory burden and its known that
10 burden or results in a positive economic effect on
11 the affected entities. The potential affected
12 entities listed in table 1 of the proposed rules
13 are industrial process refrigeration; commercial
14 refrigeration; comfort cooling; plumbing, heating
15 and air conditioning contractors; manufacturers
16 and distributors of small cans of refrigerant;
17 refrigerant reclaimers; disposers and recyclers of
18 appliances; refrigerant wholesalers; and
19 certifying organizations such as environmental
20 test labs. All the areas of concern that will
21 definitely be affected by this proposed rule
22 change include, as mentioned by some of my

1 colleagues, education and training, publishing,
2 personal health, product loss, energy costs and
3 emergency HVACR system repairers. The costs
4 associated with this proposed rule change do not
5 take into account the economic effects on the
6 companies and organizations that encompass and/or
7 participate in these areas.

8 On the publishing front, there are four major
9 publishers of comprehensive HVACR textbooks.

10 These companies are: Cengage Learning, American
11 Technical Publishers (ATP), Goodheart-Wilcox, and
12 Pearson. Although I cannot speak on the costs
13 that will be incurred by other publishing
14 companies, I do have information that was provided
15 to me by the administration and management at
16 Cengage Learning. In an effort to avoid providing
17 a line-by-line assessment of the economic
18 challenges to be faced, the areas of concern
19 include, but are definitely not limited to,
20 development, printing, designing, project
21 management, composition, outside vendors, digital
22 platforms, engineering, web updates,

1 representative training, web events, flyers,
2 publications and, in worst case scenario, book
3 destruction. The total financial exposure to
4 Cengage Learning would be in excess of 1 million
5 dollars in addition to a total turnaround time for
6 incorporating changes of between 12 and 18 months.
7 Changes to regulations could negatively impact
8 sales and also have a negative impact on the
9 Cengage Learning grant. Inaccurate or incomplete
10 materials would translate to a large number of
11 students in the HVACR industry having incorrect
12 information. With 25,000 copies of the
13 Refrigeration and Air Conditioning Technology
14 title being printed at any given time, this would
15 have a major impact on the economic health of the
16 company. Warehouse inventory of this type alone
17 never falls below 15,000 units at any given time.
18 Although the numbers I have presented represent
19 this one title, Cengage has numerous other titles
20 on its trades and technology list that will be
21 affected by the proposed regulatory changes.
22 Since Cengage Learning is only one of the largest

1 of the four publishing companies that produce
2 HVACR textbooks, the negative economic impact
3 would be felt at all of these organizations.

4 On the certification front, there are over six
5 dozen EPA certified bodies with the largest eight
6 being the ESCO Institute, BGI, North American
7 Technician Excellence (NATE), Refrigeration
8 Service Engineers' Society (RSES), Air
9 Conditioning Contractors of America (ACCA),
10 Florida State University, Main Stream Engineering
11 and the UA - United Association. Each of these
12 organizations has invested heavily, to the tune of
13 at least one to two million dollars each, to
14 prepare new examinations, study materials,
15 webinars, proctor packets, proctor presentation
16 materials, internal training, marketing,
17 advertising and other associated costs. It is,
18 therefore, quite reasonable to conclude that the
19 costs associated with publishing and certifying
20 will significantly increase the financial burden
21 of implementing these proposed changes. This, of
22 course, has not even addressed the costs

1 associated with the results of having unskilled
2 and/or uncertified individuals working on our HVAC
3 systems. These areas of concern include
4 inefficient system operation, increased energy
5 costs, sacrificed human health, premature system
6 and equipment failure, and refrigerated product
7 losses due to improper system operation. Keeping
8 systems properly charged and operating correctly
9 by periodic inspections and service saves money.
10 Prescriptive, predictive and preventative
11 maintenance is much less expensive than emergency
12 repair service. Removing the very regulations
13 that have been put in place to increase the
14 quality of our industry will only serve to move
15 the industry in the wrong direction. Thank you.

16 MS. SARA KEMME: Mr. Satish Natarajan.

17 MR. SATISH NATARAJAN: Good afternoon. I am
18 Satish Natarajan. I'm a small business owner. I
19 have some big clients, international companies in
20 the U.S. and the world. I think about most of the
21 questions, or whatever comments I wanted to but I
22 just want to add that this rule has got a very big

1 impact on our industry and my clients
2 specifically, because the last two years we have
3 been planning for this rule we've spent over, I
4 would say almost 10,000 man hours between us and
5 our clients because they have real estate
6 buildings. They own buildings of more than like 1
7 000 buildings in the country and we are going to
8 be impacted - it's going to create a lot of
9 confusion because we have created software, done a
10 lot of training and we are all ready to go. You
11 know, and now this rule - we just happened to come
12 upon it accidentally, we didn't have time to
13 prepare for it and to go back and tell them that
14 everything goes out. It's like we have to again
15 redo the software. It's a big task. So,
16 basically I would like EPA to reconsider
17 rescinding this rule and we could probably look at
18 the rule as it stays now and see what small
19 tuneups you could do to, you know, make it a
20 little more efficient and less burdensome.

21 So, a couple of things which I would like to
22 talk about is 82.156, the record-keeping. The

1 regulations do not require a breakdown of all the
2 refrigerants as disposed when an appliance is
3 greater than 50 pounds of charge. You don't need
4 any documentation if it's reclaimed or destroyed,
5 whereas for small equipment, equipment between 5
6 and 50 pounds of charge, if they are disposed, the
7 current rule has the technician to require the
8 document to break down the quantity transferred
9 for reclamation and quantity transferred for
10 destruction. So, we're just trying to - it's kind
11 of unclear why there is more or less tasked, all
12 of this paperwork for smaller appliances compared
13 with the ones greater than 50 pounds.

14 The second one is when you talk about the
15 definition about venting, either way you guys go
16 you have to clarify how you define venting so that
17 it excludes leaks. The regulations should
18 explicitly clarify that leaks, which are not yet
19 repaired within the 30-day windows, are not
20 subject to the venting prohibition. If you say a
21 leak was there since day zero, but the parts which
22 are required to repair it only arrive on day 20,

1 then the appliances are still allowed - they
2 should be continued to operate between days zero
3 and 20 and that should not be counted as knowing
4 release, if you know what I'm saying. So, you
5 should at least clarify and define venting a
6 little more also. Thank you.

7 MS. SARA KEMME: Helen Walter-Terrinoni,
8 Chemours

9 MS. HELEN WALTER-TERRINONI: Hi, my name is
10 Helen Walter-Terrinoni and I work for the Chemours
11 company which is a 200-year-old start up born
12 three years ago. As part of our history for the
13 last 85 years our business has been integral to
14 the development of industry-changing refrigerants
15 and other products that provide critical societal
16 value across a variety of applications including
17 refrigeration and air conditioning business.
18 Chemours continues to pioneer innovation today as
19 we near completion of a more than 300 million
20 dollar investment in Corpus Christi, Texas, for
21 the production of new refrigerants. We also have
22 significant experience as a regulated entity using

1 the same significant quantities of the same
2 refrigerants that we produce. My first job as a
3 new engineer with Dupont was to work on leak
4 reduction. At the time we were working to operate
5 in a more environmentally responsible manner.
6 Accidentally, we saved a tremendous amount of
7 money, both in refrigerant costs and also in
8 energy savings. Proper leak management reduces
9 releases of sometimes hazardous chemicals cooled
10 by these systems by reducing the load to abatement
11 equipment and reducing the risk of operation
12 outside of safe parameters. We view this rule as
13 a mere extension of maintenance best practices to
14 HFCs that does not require any significant
15 modification to our current maintenance
16 procedures. The rule provides much needed
17 clarification on what actions constitute a
18 violation of the venting prohibitions with respect
19 to HFCs and other substitutes. The requirements
20 of the rule with respect to ozone depleting
21 substances are also perfectly reasonable. Little
22 in the way of new management processes or software

1 or additional personnel are necessary to comply
2 with these provisions. The extension of this rule
3 to HFCs also does not require significant
4 modification to our current best practices of
5 maintenance procedures already adopted by many
6 users of HFCs including ours. Without this rule,
7 substances used in the same application would be
8 subject to different regulatory schemes depending
9 on whether the substance is an MPS, an ozone-
10 depleting substance, or a substitute creating
11 confusion in enforcement in the industry before
12 the rule was promulgated. The rule mistake-proofs
13 the industry. Altering the final rule would
14 create some uncertainty for the industry
15 businesses in terms of potential liability for
16 violations of the venting prohibition and could
17 negatively impact businesses involved in
18 maintaining, servicing, repairing or disposing of
19 refrigerant and cooling equipment.

20 During the rule making process, EPA had
21 significant stakeholder engagement and removed the
22 portions of the rule that might have recreated a

1 significant burden such as replacement
2 requirements. The agency modified leak limits
3 based on stakeholder feedback and made other
4 modifications to ease the compliance burden. We
5 found that the EPA was r\very responsive to
6 feedback from the affected industry, including us.
7 We agree that as EPA stated in the preamble to the
8 final rule that a clear regulatory framework for
9 determining what requirements apply during
10 maintenance, servicing, repair and disposal of
11 such equipment containing a non-exempt substitute
12 refrigerant, the regulated community and the
13 public would not have the same measure of
14 certainty as to whether such releases violate the
15 venting prohibition or fall within the diminished
16 exception to that prohibition and what steps must
17 be taken to comply with the Clean Air Act
18 obligations for such substitute refrigerants in
19 undertaking such actions.

20 The rule provides a responsible, reasonable,
21 cost-effective framework, reducing industry costs
22 and mistake-proofing refrigerant _____. We

1 encourage you to maintain the previous status of
2 the rule.

3 MS. SARA KEMME: Steve Mandracchia.

4 MR. STEVE MANDRACCHIA: Actually, I have two
5 statements to deliver, one on behalf of the
6 Alliance for Responsible Atmospheric Policy and
7 one on behalf of my company, Hudson Technologies.

8 My name is Steve Mandracchia, and I am Vice
9 President of Legal and Regulatory for Hudson
10 Technologies, which is the largest reclamation
11 company in the United States. I am also Chair of
12 the Legal Committee for the Alliance for
13 Responsible Atmospheric Policy.

14 The Alliance was established in 1980 as a
15 means for businesses that relied on
16 chlorofluorocarbons (CFCs) to coordinate their
17 participation in the development of

18 U.S. and international policies addressing
19 stratospheric ozone depletion. It represented
20 businesses that produced CFCs, as well as
21 manufacturers that used CFCs in air conditioning,
22 refrigeration, appliances, foam insulation, other

1 foam products, electronics, aerosols, and metered
2 dose inhalers.

3 In the late 1980s, the Alliance was the first
4 industry organization to call for an international
5 environmental agreement to address ozone
6 depletion. The Alliance concurrently monitors
7 policy developments at the international, federal,
8 and state government levels. Its overarching goal
9 is to encourage responsible, reasonable, and cost-
10 effective ozone protection and other related
11 policies at the national level.

12 Today, there are approximately 50 Alliance
13 member companies and trade associations, including
14 those in related industry associations whose
15 members' services rely on these chemicals. The
16 Alliance also includes distributors, wholesalers,
17 contractors, and refrigerant reclaimers. According
18 to a recent study, the US fluorocarbon using and
19 producing industries contribute more than \$206
20 billion annually in goods and services to the US
21 economy and provide employment to more than
22 593,000 individuals with an industry-wide payroll

1 of more than \$34 billion.

2 The Alliance is now primarily concerned with
3 developing an orderly transition away from the use
4 of HCFCs and HFCs in a managed process which
5 allows its members to move towards alternative
6 substances while continuing to meet the public's
7 increasing demand for safe, efficient products
8 such as refrigeration, heat pumps, fire safety
9 systems and medical devices, as living standards
10 and societal needs increase across the world.

11 With respect to the proposed modifications to
12 refrigerant management rules under Section 608 of
13 the Clean Air Act, the Alliance makes the
14 following points:

15 • We do not support the proposed rule to the
16 extent that it seeks to rescind the leak rate and
17 leak repair requirements.

18 • We urge EPA to retain the extension of all
19 of the 608 regulations to all non- exempt
20 substitutes

21 • As EPA has previously stated, the agency
22 has absolute authority under section 608 (a) and

1 (c), and section 301 to require reasonable
2 measures for proper management of HFC refrigerants
3 contained in the 2016 rule. The only reasonable
4 interpretation of the statutory prohibition on
5 venting requires the Agency to specify how the
6 statutory mandate will be enforced.

7 • The Notice of Proposed Rulemaking offers
8 little justification as to why EPA has now
9 determined to reverse its prior interpretation and
10 conclude that any part of the 2016 rule is no
11 longer justified or authorized.

12 • Industry embraced the 608 regulations and
13 invested in training, equipment and policies to
14 ensure compliance as reported by one of the
15 speakers earlier today. Extension of 608
16 requirements to HFCs imposes no significant burden
17 and is just a continuation of business as usual
18 for the industry.

19 • Introduction of broader range of
20 substitutes requires increased training and
21 professionalism within the service industry, both
22 to ensure proper operation of equipment as well as

1 to ensure safety for customers and service
2 technicians themselves.

3 • Proper handling of all refrigerants is
4 necessary to avoid contamination, with
5 ozone depleting substances and non-fluoridated
6 refrigerants alike, and to avoid mistaken emission
7 of all classes of refrigerants.

8 • The industry needs to maintain leak repair
9 requirements for equipment above a 50-pound charge
10 due to the importance of operation, performance,
11 and energy efficiency considerations. The EPA
12 itself has stated that properly charged equipment
13 are 5-20% more efficient than improperly charged
14 equipment.

15 The elimination of the reclaim requirement
16 will eliminate any restriction or prohibition on
17 the use of contaminated refrigerant for service
18 and will undoubtedly lead to an increase in
19 premature catastrophic system failures, resulting
20 in loss of the refrigerant, voiding of equipment
21 warranties and significant consumer/end user costs
22 to replace these failed systems

1 • The recovery and reclaim requirements are
2 essential to ensure compliance with the statutory
3 no-vent rule and provide guidance to industry as
4 to practices needed to ensure compliance.

5 • EPA has already determined that these
6 rules are reasonable and necessary to enforce the
7 statutory mandate. Rescission of these rules as
8 applied to HFCs would be arbitrary and capricious
9 and abuse of EPA's authority.

10 • Elimination of 608 requirements for HFCs
11 will create confusion and inconsistency in the
12 service industry allowing different rules and
13 practices for different refrigerant.

14 In sum, we strongly encourage the EPA to
15 maintain a holistic approach to refrigerant
16 management and an inclusive approach to covered
17 compounds. A consistent set of requirements is
18 critical to good performance and safety. It is
19 simply not true that eliminating these
20 requirements would minimize service visits and
21 reduce repair requirements or costs. The single
22 largest expense of owning and operating cooling

1 and refrigeration systems is its lifelong energy
2 consumption. Poor or improper service of this
3 equipment can significantly increase the cost of
4 ownership over time. Further the confusion with
5 respect to dealing with several classes of
6 refrigerant compounds could lead to mistakes in
7 the field.

8 We appreciate this opportunity to comment
9 today, and look forward to elaborating on our
10 comments in writing by the comment deadline.

11 I put my other hat on. As I said before, I'm
12 the Vice President of Legal and Regulatory at
13 Hudson Technologies. Hudson is the largest
14 refrigerant replacing company in the country. We
15 are a small business that started in a garage in
16 1990 and now employ close to 300 people. We
17 create considerable value to our customers by
18 buying used, contaminated refrigerant and
19 returning it to the purity standard of new
20 refrigerant that can be reused in the after
21 market. Without compliant reclamation companies
22 like Hudson Technologies, systems owners would be

1 forced to replace their systems with old
2 refrigerants like CFCs and HFCs which are no
3 longer produced. The EPA initiated this
4 rulemaking due to its determination that the
5 agency exceeded its authority in the 2016 rule
6 with respect to leak repair and maintenance
7 requirements for HFCs. We disagree with that
8 determination and believe that EPA's 2016 rule is
9 entirely within its authority. That being said,
10 we are pleased that EPA has again concluded that
11 it has full authority to retain the remaining six
12 requirements. However, we are somewhat puzzled
13 and greatly concerned that, despite recognition of
14 its authority, the EPA is nonetheless considering
15 and soliciting comment on whether to rescind the
16 extent of the entire 608 rule for substitutes.
17 While there are many aspects of the Section 608
18 rule that impact our business, we are particularly
19 concerned that EPA is considering eliminating the
20 requirement that recovered HFCs be reclaimed
21 before they can be resold in some market or reduce
22 it to a different system.

1 The importance of requiring used refrigerant
2 to be reclaimed cannot be overstated. Refrigerant
3 recovered from a system is almost always
4 contaminated. Absent the regulation requirements
5 of Section 608 regulation, there would be no legal
6 restriction or prohibition against service
7 contractors that recover contaminated refrigerant
8 from one system from charging the same
9 contaminated refrigerant into another system.
10 This would be like having your car oil changed and
11 instead of getting clean oil, you get the oil from
12 a car that was serviced earlier that day.
13 Consumers would not be aware that they are getting
14 service-contaminated refrigerants. There are no
15 obvious or immediate signs, but it will lead to
16 substantial decrease in the system efficiency and
17 significant increase in premature compressor
18 failures.

19 Some may claim that eliminating the
20 reclamation requirements for HFCs will have little
21 consequence because the requirement was only put
22 in place for HFCs in 2016. However, even before

1 2016, contractors and distributing operators
2 operated and actually believed that the
3 requirement existed for HFCs as it had for more
4 than 25 years for CFCs and HFCs, which until
5 relatively recently were the most prevalent
6 refrigerants used. That HFC is now having an
7 increasingly dominant position in the market, any
8 effort to roll back the reclamation requirement
9 will have a devastating impact on our business and
10 our ability to ensure consumers have access to the
11 refrigerants they need to sustain their existing
12 equipment. If the EPA does decide to rescind
13 Subpart F Refrigerant Management Requirements in
14 full it would have a devastating impact on the
15 entire reclamation industry. There will be no
16 requirement or incentive for a contractor to
17 recover the refrigerant and send it off for
18 reclamation if they were legally allowed to reuse
19 it and resell it as is. Rescinding the
20 reclamation requirement would clearly be a message
21 to contractors that selling used, untested,
22 contaminated refrigerant to homeowners is

1 acceptable. It is true we pay contractors for
2 dirty gas, but why would they send the gas to the
3 reclaimer when the contractors would make more
4 money if they were able to resell the recovered
5 dirty gas? If the reclaimers cannot require that
6 dirty gas from contractors and wholesalers, the
7 long-term businesses of recovery would be in
8 jeopardy.

9 Over the years, Hudson Technologies alone has
10 paid hundreds of millions of dollars to
11 contractors and end users for their used
12 refrigerant which has helped them to create a
13 cost-free refrigerant replacement for the systems.
14 The aggregate buyback from all reclaimers over the
15 years is over a billion dollars and that money
16 will clearly disappear as a source of funds
17 received by end users.

18 There is no question the agency has the
19 authority on the no-leak rule to maintain the
20 Subpart F reclamation requirements, but we would
21 prefer the EPA to maintain the entire rule in
22 full. We cannot overstate the importance of

1 retaining the reclamation requirements or the
2 negative impact to the reclamation industry and
3 consumers if the EPA decides to fully rescind the
4 reclamation requirements in Subpart F of the
5 entire rule. Thank you.

6 MS. SARA KEMME: Alex Hillbrand.

7 MR. ALEX HILLBRAND: Good afternoon, Alex
8 Hillbrand with the Natural Resources Defense
9 Council. NRDC continues to support EPA's 2016
10 update to the Section 608 Refrigerant Management
11 Regulations (RDS) and in its extension to HFCs or
12 substitutes. The 2016 rule in its entirety is an
13 important step to limiting climate and ozone layer
14 harm from emissions of refrigerants from major
15 sources. We agree with EPA's prior articulation
16 of its legal authority to address agencies under
17 608. The Section 608 (c) (2) venting prohibition
18 demonstrates that congress recognized the
19 environmental harm that substitutes for ODS can
20 cause and the necessity of preventing their
21 release. The original 608 update rule reasonably
22 extended the existing regulatory regime to mon-ODS

1 substitutes to implement this venting prohibition.
2 A single robust regime for refrigerant management
3 across all appliances is a common sense, efficient
4 way to regulate major uses of refrigerant.
5 Extending the regulations to substitutes allows
6 for, and incentivizes, safe recycling, recapture
7 and disposal of HFCs and ODS alike. EPA in 2016
8 interpreted 608(c) and put requirements in place
9 such that if a person adds refrigerant to an
10 appliance that he or she knows is leaking, he or
11 she also violates the venting prohibition unless
12 he or she has complied with the applicable
13 practices. This sensible approach addresses the
14 increasing harm coming from refrigerant facilities
15 using substitutes in addition to ODS.

16 The reduced economic burden associated with
17 rescinding the leak repair provisions for
18 substitutes is minimal compared to the climate
19 harms of the foregone HFC emission reductions.;
20 EPA estimates that rescinding the leak repair
21 provisions for substitutes will result in 3
22 million metric tons of CO2 equivalent emissions

1 per year, an estimated projected to rise to 4.7
2 million metric tons in 2020 and to more than
3 double to 6.2 in 2025. Rescinding the leak repair
4 provisions is expected to produce annual
5 compliance costs by 39 million dollars. The EPA
6 estimates that the proposal would increase costs
7 for additional refrigerant purposes by
8 approximately 15 million and higher energy use
9 will exacerbate these additional costs even
10 further.

11 Further, if EPA were to monetize the foregone
12 climate benefit using a scientifically and
13 economically sound cost estimate for those
14 emissions, it would vastly outweigh the estimated
15 annual net savings of 24 million.

16 The EPA's proposal is a significant retreat in
17 the effort to minimize the climate impact of air
18 condition and refrigeration while reducing the
19 sector's contribution to stratospheric ozone
20 depletion. NRDC urges EPA to withdraw this
21 proposal and leave the 608 update rule in place.
22 Short of that, EPA should not rescind the other

1 Subpart F requirements. Thank you.

2 MS. SARA KEMME: Alexander von Biskmarck, EIA.

3 MR. ALEXANDER VON BISKMARCK: Good afternoon.

4 Thank you very much. My name is Alexander Von
5 Biskmarck. I'm the Executive Director of the
6 Environmental Investigation Agency. The EIA is a
7 campaigning organization working worldwide to
8 protect the global climate and environment. We
9 have undertaken investigations into the illegal
10 production, use and trade of ozone-depleting
11 substances around the world including recently the
12 CFC 11 reduction in China. We've been closely
13 involved in the international ozone and climate
14 negotiations for more than two decades and have,
15 from the beginning, supported the U.S. efforts to
16 pass the amendment to the Montreal Protocol to
17 phase down HFCs which we think is a win-win effort
18 for American jobs, economy and the climate.

19 This proposal to reverse central elements of
20 EPA's 2016 Section 608 Rulemaking is a disastrous
21 step backwards for human health and the
22 environment and an abandonment of a common sense,

1 economical approach to reducing venting and life
2 cycle emissions of refrigerants. EPA's authority
3 to deal with this issue is clearly recognized in
4 the Section 608 venting prohibition that has been
5 in effect since 1995 which expressly prohibits:
6 "knowingly venting or otherwise knowingly
7 releasing or disposing "ODS" or "their
8 substitutes" including clearly HFCs. Venting and
9 emissions of HFCs and other chlorinated
10 refrigerants is a massive environmental problem
11 which also represents, on the other hand, a great
12 opportunity for cost effective, economic
13 approaches to tackling climate change. The 2016
14 rulemaking would have reduced annual emissions in
15 the United States by 7.5 million metric tons CO2
16 equivalent, about equal to taking 1.6 million
17 passenger cars off the road, while also
18 encouraging industry best practices and safe
19 handling of refrigerant gases. And yet, the
20 emissions addressed by the 2016 will represent
21 just the tip of the iceberg. According to a
22 report commissioned by EPA earlier this year,

1 about 39,000 metric tons of combined HCFC and HFC
2 refrigerant banks could be recovered and destroyed
3 annually in the U.S. in 2020 through a more
4 ambitious and robust regulatory approach. This
5 would be equivalent to roughly 64 million metric
6 tons CO2 equivalent annually or nearly ten times
7 the annual emissions of the 2016 rule. Ideally,
8 therefore, the 2016 rule should have far more
9 comprehensively tackled the bigger issues of banks
10 and leaks. However, EIA and other environmental
11 groups supported this rulemaking as a good first
12 step in the right direction because we recognize
13 it would help industry reduce illegal venting of
14 refrigerants by requiring technicians handling
15 these refrigerants to be trained and certified in
16 best practices and by setting thresholds to
17 trigger reasonable and timely repairs of the worst
18 of the worst leaking refrigeration and air
19 conditioning systems. These requirements were
20 petitioned for by leading U.S. industry groups and
21 supported by environmental organizations across
22 the board because we all recognize this as a

1 common sense way to support compliance and
2 enforcement of the statutory venting prohibition.

3 The EPA cites reduced cost for industry to
4 justify the proposal, but these calculations
5 include critical omissions. While the EPA
6 estimates this rule would increase the need to
7 purchase substitute refrigerants for leaking
8 appliances at an overall cost of approximately 15
9 million per year, it does not account for the
10 foregone reductions in costs from more efficient
11 operation of equipment due to improved maintenance
12 and leak repair, which can improve performance by
13 up to 50% over equipment lifetime.

14 Finally, with more robust refrigerant
15 management requirements already in place in
16 California, today's proposal is likely to trigger
17 a renewed effort from other individual states to
18 regulate this source of emissions which will
19 result in a more complex and more costly patchwork
20 of regulatory frameworks for industry to navigate
21 in comparison to the existing federal
22 requirements.

1 In closing, therefore, EIA strongly recommends
2 the EPA withdraw this proposal and restore the
3 2016 rule's extension of 608 Refrigerant
4 Management Requirements to HFCs and Substitutes
5 covered by the 1995 Venting Prohibition. Thank
6 you.

7 MS. SARA KEMME: We are at the end of our
8 list. Are there any additional speakers?

9 MR. LUKE HALL-JORDAN: All right. Thanks
10 again, everyone, for your time. We do appreciate
11 your feedback and, obviously, if folks want to set
12 up an individual time to talk through specific
13 concerns, we more than welcome that, so please
14 reach out to us, any one of us, and we can work to
15 set something up. I'll remind folks the comment
16 period ends on November 15, 2018, so get any
17 additional written comments you want in on the
18 docket by then. I think with that we can
19 conclude. Thank you so much for coming.

20 [Whereupon, the above titled proceeding was
21 concluded.]