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CALIFORNIA ENERGY COMMISSION
PUBLIC HEARING

In the Matter of:	)	Docket No. 18-AAER-05
	)	
	)	
	)	
	)	NOTICE OF AVAILABILITY
	)	RE: Initial study and
Commercial and Industrial Air Compressors	)	negative declaration for commercial and industrial air compressors

NOTICE OF AVAILABILITY AND PUBLIC HEARING FOR
INITIAL STUDY AND PROPOSED NEGATIVE DECLARATION
COMMERCIAL AND AIR COMPRESSORS APPLIANCE EFFICIENCY
STANDARDS RULEMAKING

CALIFORNIA ENERGY COMMISSION
THE WARREN-ALQUIST STATE ENERGY BUILDING
ART ROSENFELD HEARING ROOM - FIRST FLOOR
1516 NINTH STREET
SACRAMENTO, CALIFORNIA 95814

THURSDAY, JANUARY 3, 2019

10:00 A.M.

Reported By:
Gigi Lastra

APPEARANCES

STAFF:

Leah Mohney, Appliances Office
Alejandro Galdamez, Appliances Office
Sean Steffensen, Appliances Office
Pat Saxton, Appliances Office.

PRESENTERS:

David Prator, Atlas Copco Compressors LLC
Brian Boyce, Energy Solutions

PUBLIC COMMENT: (* Via WebEx, phone, chat)

Chris Knuffman, Quincy Compressor
Russell Randle, Atlas Copco
Mark Lessans, Ingersoll Rand, Inc.
*Steve Eaton, Ingersoll Rand, Inc.
*Louis Starr, Northwest Energy Efficiency Alliance, NEEA
*Chris Granda, Appliance Standard Awareness Project, ASAP
*Chris Johnson, Compressed Air and Gas Institute (statement read into the record)
*Matt Smith, Curtis (phonetic) (statement read into the record)

I N D E X

P R O C E E D I N G S

JANUARY 3, 2019 10:00 a.m.

MS. MOHNEY: Good morning. Welcome to the Commercial and Industrial Air Compressors Public Hearing. My name is Leah Mohney and I'm the Supervisor of the Mechanical Appliances Unit in the Appliances Office for the Efficiency Division here at the Energy Commission.

This is our meeting agenda. We will have opening remarks. We'll talk a little bit about where the snack -- it's not really a snack bar, they're vending machines, and other housekeeping items like that. We'll have a little bit of background. Then Alex will present the Commercial and Industrial Air Compressors information to you. After that we'll have some stakeholder presentations and then we will open it up to public comment.

We anticipate that this will last until approximately 12:00 o'clock, but we will hear all comments and we will not leave until all comments are heard. So as I mentioned we anticipate leaving approximately 12:00 o'clock.

For housekeeping items, there are bathrooms located outside the door and across the hall. There are also additional bathrooms located underneath the stairs to the right as you exit this room. As I mentioned, there are vending machines on the second floor. Around 11:00 o'clock

there's going to be a food truck out front, so when the hearing is done they'll still be there if you're interested in getting food immediately. That's the only hot food we have in the building. We do have a microwave on the second floor. I think there are things you can heat up, but you are on your own there.

Just a reminder that this is being recorded, so all of your comments are recorded. I want to remind you to please identify yourself when you come to the microphone, as well as any organization that you represent.

Public comments from participants on WebEx, please use the raise your hand feature and you'll be unmuted. Once you're unmuted, again, please state your name and your affiliation clearly for the court reporter, prior to starting your comment.

Phone-only participants will be unmuted during the public comment time. When you're given the floor, please state your name and affiliation. Remember to speak clearly, so that the court reporter can record your comments accurately.

A little bit of background we are holding this meeting pursuant to Government Code 11346.8. We are accepting public comment the proposed regulatory language and proposed negative declaration. No Commissioners will be present and no decisions will be made during this

meeting.

Just a little overview of the rulemaking timeline, the U.S. Department of Energy issued a Prepublication Final Rule Notice December 5th of 2016. However, they never published in the *Federal Register*. Therefore, California is not preempted from setting state energy efficiency standards for commercial and industrial air compressors.

November 16, 2018 the rulemaking documents were published in our docket. November 28th, the California Environmental Quality Act document was posted. There was a concurrent public-comment period running for the CEQA and the rulemaking documents that ended December 31st of 2018. January 3rd, which is today, we are holding the public hearing. On January 9th is a proposed Business Meeting adoption. And January 1st, 2022 is the proposed effective date.

Thank you. And I would like to introduce Alex Galdamez, who is our Mechanical Engineer for the Appliances Efficiency Division.

MR. GALDAMEZ: Thanks, Leah. So good morning, I'm Alejandro Galdamez. I go by Alex, to make it easier. I'm a Mechanical Engineer in the Appliances Office. Welcome to the public hearing for commercial and industrial air compressors.

Prior to accepting verbal comments, I'm going to present the proposed regulation and the process. Pursuant to Government Code Section 11346.8, the Commission is holding this public hearing to accept verbal comments from the public on the proposed regulatory language and proposed negative declaration for Commercial and Industrial Air Compressors Appliance Efficiency Standards. No Commissioner will present, nor a decision will be made at this hearing.

As Leah mentioned before the proposed regulation has been reviewed for 45 days, which concluded on December 31st, of 2018. In parallel, as part of the California Environmental Quality Act, the negative declaration was available for a 30-day review, which also ended on December 31st, 2018.

The next step is the possible adoption of the proposed regulation at the January 9th, 2019 California Energy Commission's business meeting. If the Commission decides to publish 15-day language to address any other comments received during the written comment period, or at today's hearing, we will be sending out a revised agenda that strikes the item from the January 9th business meeting, so that the 15-day language can be considered.

The proposed standard will reduce electric consumption and therefore greenhouse gas emissions,

criteria pollutants and other particulates associated with the electricity generation primarily from natural gas power plants.

The proposed regulation will not change the type of materials currently used for the manufacturer of air compressors and will not increase or generate new waste streams that could be considered hazardous.

Energy Commission staff has found that there are no significant adverse effects to the environment from the proposed efficiency standard.

A Prepublication Final Rule Notice was issued by the U. S. Department of Energy on December 5th, 2016. The standard was not published as scheduled in the *Federal Register*. Since the rule was not published, California is not preempted from setting a state efficiency standard for these products.

In general, air compressors have a lifetime of 13 to 14 years, with a shipment calculated to be around 3,700 units in California. Commission staff relied on DOE analyses including the Technical Support Document dated December 2016; the Final Rule of Air Compressors dated December 5th, 2016. In addition, Commission staff also used the analysis from the California Investor Owned Utilities Code and Standards Enhancement Team.

In response to reading comments I took another

look at the shipments analysis and updated the numbers of shipments used to calculate the statewide energy savings. I will discuss this on the savings slide.

For the scope of the regulation, we proposed to cover compressors that are rotary, lubricated, liquid or air cooled with a fixed or variable speed process motor. Air compressors that operate between 75 and 200 pounds per square inch gauge of air pressure. The proposed scope is consistent with DOE's Pre-Publication Final Rule and does not expand or narrow it.

In Section 1602, we proposed to add new language that is consistent with the DOE definitions in test procedure, as well as the Pre-Publication Final Rule.

A minor modification was done to the language to change "distributed" and "commerce" to "sold or offered for sale in California," to align with the state's traditional authority. Also, we used the term "state regulated compressors," since the regulation only affects compressors sold in California.

All other definitions are consistent with the DOE's final rule.

In previous rulemakings, which took effect on October 1st, 2018 the Energy Commission adopted into Section 1604, the federal test procedure for compressors. In this rulemaking we proposed to allow manufacturers to

use alternative efficiency determination methods, or AEDMs, in accordance with the procedures listed in Section 422.63 and 429.70 of Title 10 of the Code of Federal Regulations.

The purpose of this change is to help lower the test burden on manufacturers by allowing them to use software or calculations to predict the efficiency of a compressor without having to test every single model. The standard was included in Section 1605.3 and be applicable to compressors sold or offered for sale in California.

The standard is based on a calculated isentropic efficiency of the unit compared to the minimum package isentropic efficiency calculated and dependent on the volumetric flow rate and the percentage loss reduction.

The isentropic efficiency is calculated by the ratio of isentropic pressure compared to the real pressure as defined in ISO 1217. The volumetric flow rate is used to calculate the package isentropic efficiency that results in combination with percentage loss reduction value. It is used to calculate the minimum package isentropic efficiency.

This is a table, which has the different equations used for the type of compressor to calculate the minimum package isentropic efficiency. We're proposing an efficiency level that aligns with DOE proposal at Standard Trial Level Two.

The proposed efficiency for compressors is identical for the one proposed by DOE. Staff proposed an effective date of January 1st, 2022. This provides about five years from the time the DOE originally published its Pre-Publication Final Rule in about three years from today.

From Section 1606, we propose to remove the clause that exempted compressors from submitting data, as we are adding requirements for compressors that will be verified through the data submittal requirements in this section. In order to validate the data submitted for compressors under this proposed rule, additional fields other than the ones proposed in the DOE regulation were included. The Commission uses this additional information to crosscheck the information submitted.

The Commission requires data to be submitted at the time the efficiency standard takes effect, and before the unit subject to those standards is sold or offered for sale in California.

The proposed regulation does not have any specific marking or label. However, each unit of covered compressor will be required to have the manufacturer name or brand name, the model number, and the date of manufacturer marked permanently, legibly and conspicuously in an accessible place on the compressor. This is effective on the same date as the standard.

Exceptions from enforcement was removed from Section 1608 of the California Code of Regulations, Title 20.

The proposed regulation is technically feasible since there is existing technology available, and currently used to increase the efficiency of covered compressors. This includes multi-staging air and improvements, as well as auxiliary component improvement.

This graph demonstrates for one class of compressors that there are products already available that meet the proposed efficiency level. The data points above the blue line meet the proposed efficiency levels.

I did not include graphs for all the product classes in this presentation, but they all similarly show that many products will meet the efficiency standard. This graph was taken from the technical support document from DOE.

The proposed standard is cost effective for each class compressor. This chart shows that the life cycle net benefit, meaning the savings over the life span of the compressor, exceeds the one time incremental cost of the compressor in each product line. Per unit monetary savings per year range from 364 to $1,000, depending on the type of compressor.

In response to written comments we took another

look at the shipment analysis and updated the shipments to 3,700 units for 2022 to calculate the statewide energy savings. The proposed standard will have significant statewide energy savings. After 13 years, the proposed efficiency standard is expected to save a net benefit of $22 million per year. Even with the updated numbers, this proposal is still cost effective.

Based on written comments received, we think there may be some confusion on the last certification. First, test labs do not have to have a specific certification to obtain approval as a Commission-approved test laboratory. The requirements for test lab approval are in section 1603.

Second, the test lab does not have to be approved before running the test that supports the data submitted to the Commission. However, the test lab does have to have run the test procedure in the last year.

Finally, test labs can obtain approval at any time, but must be reapproved annually.

In conclusion, California Energy Commission staff finds the proposed regulation technically feasible and cost effective over the lifetime of the appliance.

If we move forward without 15-day language here is the information for the Business Meeting of January 9th. It will be held in this room, the Art Rosenfeld Hearing

Room, at 10:00 a.m. on the 9th. For the participants on the phone, the address here is 1516 9th Street, Sacramento, California, 95815. The Art Rosenfeld Hearing room is located on the first floor.

With that, I would like to open the hearing for public comments. Hold on, first we have some presentations, right? So first presentation, will you prefer presenting here or from the podium?

MR. PRATOR: From the podium.

MR. GALDAMEZ: Okay. For the first presenter we have Atlas Copco Compressors.

(Colloquy to set up presentation.)

MR. PRATOR: Thanks, Alex.

We would like to thank the Commission for allowing us to come today and present these comments. Atlas Copco has already submitted comments previously. I think we have an additional one we filed this morning. My name is David Prator. I'm with Atlas Copco. Just for reference purposes my declaration is attached to our first set of comments we submitted previously.

Atlas Copco is very supportive of this effort by the Commission to enforce an EL2 rating to the industry. We think there is a lot of advantage to that. We're supportive as long as we can sort out what we consider an issue with the data usage. So for the next few minutes,

I'd like to talk a little about that and present a recommendation on how we think that the Commission can resolve that issue.

So our first slide is kind of the Executive Summary of all of the points that we are going to try to cover today. First, we think that the proposal that was published omits 10 C.F.R. Section 431.343, which includes by reference some of the very important information that's included in the DOE presentation.

Because of the smaller size of the California market relative to the U.S. size market the testing costs are proportionally much higher and a major impediment to keeping many of the compliant rotary models on the market. Allowing the use of currently existing data, July 2020 and before, industry test data will greatly reduce the adverse impacts of the proposal.

And finally the DOE and the Atlas Copco agrees with this statement, one fourth of the current rotary air compressor models fail to meet the proposed standards.

So I think we will all agree that the U.S. market is a larger market. In 2013, the number of compressors sold, covered by this standard, was about 23,700 units. In comparison, in the same year, the number of units sold in California was about 3,100 units. So it represents about 13 percent of the US total.

And this is really an important point, I think this last point, there's about 6,000 distinct rotary compressor models offered for sale in the United States in California. Of the 6,000, because there are only 3,100 units sold, of the 6,000 units there were few if any of many of those models that were sold in California.

ISO 1217 has been a recognized global standard for determining compressor efficiency standards for many years. It was developed actually jointly between Compressed Air and Gas Institute, PNEUROP, which is the European equivalent of the CAGI, and many manufacturing companies and customers around the world. It was issued as an ISO standard and then later it was issued as an ANSI standard, American National Standard Institute standard so it's not only a global standard, but it's also a US standard.

There's no reason, really, to question the accuracy of the ISO 1217 data. We in the industry have used this standard for many years, with many of our customers, most of our customers, and there's not been a question about the accuracy of the test method itself. So many of our sophisticated customers have relied on this data for many years and it's not really come into question yet.

So DOE adopted basically 1217, as the foundation

of its test method, and used the 1217 data to help develop the efficiency standards that were not released yet, but have been developed.

So most existing rotary compressors models have been tested with ISO 1217. And that's certainly true with those members that are in CAGI.

As I said the DOE used ISO 1217 as the foundation for the development of its test standard. And they've said on many occasions since that the 1217 data was usable to certify compliance with DOE efficiency standard.

DOE postponed the test rule effective date to December 30, 2017, and suspended any enforcement of the test rule for at least five years until after the compliance date of their yet-to-be-published energy standards.

As a result of that DOE action, most of the industry has yet to start using the DOE testing for their standard test for compliance. We continue to use ISO 1217, so it's been very slowly adopted within the industry.

The compliance certification, thank you Alex, for presenting some information this morning. The proposed rule requires the listing of each rotary air compressor model offered for sale in California on the Modern Appliance Efficiency Database. It requires that this is based on a compliance certification used to test -- use of

DOE test rule or mathematical modeling, validated with the DOE test rule.

This is very interesting and very important, the last point, so far there's not been a single lab certified to provide such testing yet. Lab certification apparently does not retroactively validate prior test data. Conservatively, when we read the standard is that we have to retest up to 6,000 models for the sale of units in California.

AEDM requires some DOE testing to validate the model, presumably also at a California-certified lab. And when CAGI, many years ago initiated a program for third-party testing and we contracted with a laboratory that does that on our behalf. And so we have a very good idea of what it costs for members to test and so this is going to be about $4,000 per model. Many of the smaller manufacturers have reported much higher costs for testing of their machines.

So if you consider the 6,000 models that are sold in California today, or offered for sale in California, the cost to retest all of those machines would be in excess of $20 million. The DOE actually suspended the application of the test rule for various reasons, but one of the reasons that they stated was that there was a high cost of testing to small businesses, so DOE actually backed off of

requiring that testing early on.

So we think that many manufacturers will simply withdraw from California models that have fewer or no sales of the 6,000 units. And these can be units that fail. They can also be units that would pass testing the EL2 level testing, and yet they will be taken off of the market here in California.

ISO 1217 is a basis of the DOE test rule. They both measure the same parameters and then calculate efficiency in exactly the same way. The data is reliable. The 1217 data is a reliable measure of compressor efficiency and it has long been used in the marketplace.

We think the use of existing 1217 data to certify compliance will reduce compliance cost and reduce the number of efficient models withdrawn from California. 1217 data results are fundamentally equal to the DOE test rule results, so there's no material conflict between the two.

We provide it here and we provided in our earlier comments that we submitted, I think page 17 through 18, some language that we think that the Commission would consider or could consider to help rectify the problem, the data issue problem. And again we support the proposal that's out there, but we need a way to manage the data, to use the preexisting data, which has been fundamentally proven to be accurate.

And finally Atlas Copco would sincerely support a request that the Energy Commission remove item four from the January 9th, 2019 Business Agenda, in order to accommodate the 15-day comment period on the proposed revisions regarding the prior test data. We think that this would help alleviate the manufacturers' problems. And we think that this would continue to provide all of the menu of products that are models that are offered today in California and would be a definite win-win for both of us.

I would also like to include the revised language to include omitted 10 C.F.R. Section 431.343

And that's it for my comments. Thank you very much.

MR. GALDAMEZ: Thank you.

And now we're going to have a presentation by Brian for PG&E right, or?

MR. BOYCE: Investor owned utilities.

MR. GALDAMEZ: I think, so yeah.

MR. BOYCE: Thank you, Alex. I'm Brian Boyce, with Energy Solutions on behalf of the California Investor Owned Utilities. And I'm here to present a restatement of our written comments from a few days ago on the commercial and industrial air compressors 45-day language.

So the investor owned utilities also known as the Codes and Standards Enhancement Team in California, has

supported the federal process for a number of years and then over the last year, we've supported the state process here in California. We submitted a CASE report back in March of 2018 and in general, we support the Energy Commission with moving ahead with standards for air compressors.

A quick recap, this has already been presented by Alex and Atlas Copco, but there was 45-day language released on November 16th, and here we are today at the public hearing.

Here's a little side-by-side comparison of our CASE report with the proposed express terms. We proposed a higher efficiency level than was proposed by the Energy Commission, which we would note is still cost effective. We proposed a one-year gap between adoption and effective date. And we also proposed test limits requirements for reciprocate compressors that would allow data to be gathered for potential efficiency programs or a possible future energy conservation standard.

So first we'd like to note that TSL 3 is still cost effective for the class of rotary compressors that are in the scope of the Energy Commission's Energy Conservation Standard. According to our own figures, which we do use shipment on the order of about 31,000 to 35,000 per year, there is about 223 gigawatt hours per year more of stock

energy savings, after stock turnover. And 36,507 metric tons of CO2e of greenhouse gas emissions reductions after stock turnover, while still being cost effective, as compared to TSL 2.

We recommend that the Energy Commission shorten their gap between adoption and compliance to early 2020. We note that the Warren-Alquist Act only requires a one-year gap between adoption and compliance.

We also note that the Energy Commission has made several concessions to manufacturers. Like, this was written kind of with the assumption that the older test data could also comply with DOE's test procedure, but I understand there's some issues that need to be ironed out there. However, there's also the AEDM process that allows test burden to be reduced.

And so due to these concessions we think that a shorter compliance period is appropriate to start generating energy savings more quickly for the state.

This slide basically speaks to the fact that between DOE's NOPR stage and its final rule, pre-publications stage, there were numerous issues raised, legitimate issues raised by manufacturers. And DOE took great lengths to incorporate a lot of that analysis into its final rule. So, just as an example here on this slide we look at annual operating hours, which was pointed out by

CAGI and numerous other manufacturers to be -- it appeared to be a little bit overstated. So if we take a look at the TSD (phonetic) of DOE's final rule there is an annual energy consumption appeared to be reduced by about 18 percent between the NOPR and Final Rule stages, which suggested a reduction in annual operating hours. And additionally the product lifetime increased, which would be the result of fewer operating hours per year. You would expect a longer overall amount of time for the compressors to operate.

So just to point to this one example, it does show that any issue that really was addressed in the NOPR stage, and this goes to the test procedures as well, it should not be re-litigated in this context.

The investor owned utilities support test-and-list for additional classes of compressors. We understand that there is a lack of data at this point on reciprocating compressors. It's understandable that you can't have a standard without enough test data. But we would like to see an EL 0 published for these other classes of compressors to generate important data that will immediately support energy efficiency incentive programs by utilities such as the California Investor Owned Utilities. But also throughout the country other jurisdictions could run incentive programs based off of California's database.

And eventually the Energy Commission or other regulatory bodies could adopt a future energy conservation standard based off of this data.

And we'd also note that the Energy Commissioner has, there were precedents for test-and-list examples for other products in Title 20.

So the investor owned utilities are, and the CASE Team, are supportive of the use of basic models and AEDM rules. We acknowledge that this does reduce test burden and it allows manufacturers to represent products that don't necessary have extremely high volumes of shipments in its standards compliance.

So this is obviously a main point of contention. We support the use of older data if it does comply with the DOE requirements. I'm eager to learn from the manufacturing experts here the nuances of the proof of this older data and some of the differences. I know that there are tighter tolerances in DOE's test requirements as compared to ISO 1217 and the existing CAGI program, but we do support the use of older data if it complies with DOE's requirements.

So in conclusion we support the Energy Commission moving ahead with energy conservations standards for air compressors. We note that higher efficiency standards are cost effective for rotary compressors and would generate

cost-effective energy savings higher than TSL 2. We support an earlier compliance date of 2020.

We note that issues raised in the federal proposed rulemaking step has been addressed by DOE and do not need to be re-litigated necessarily here. We support test-and-list for reciprocating compressors and other categories of rotary compressors. And we support AEDM's and basic model definitions that the Energy Commission is adopting from the federal example. And we also support older test data being used for compliance if it complies with the DOE test procedure. Thank you.

MR. GALDAMEZ: Thank you, Brian.

With that, I would like to open the hearing for public comments. Public comments from in-person participants please come to the microphone, the podium in the middle of the room. Please state your name and affiliation for the court reporter. A copy of your comments is appreciated, but not required.

Public comments from participants on WebEx please use the raised-hand feature and you will be unmuted. Once unmuted, please state your name, affiliation, clearly for the court reporter prior to starting your comments.

Phone-only participants, all lines will be unmuted when given the floor. Please state your name and affiliation for the court reporter. Remember please to

speak clearly, so that the court reporter records your comment accurately, so that we can address it.

With that I think I have Chris Knuffman from Quincy Compressors.

MR. KNUFFMAN: Good morning, my name is Chris Knuffman from Quincy Compressor in Bay Minette, Alabama. We'd like to thank the Commission for allowing us to comment on the proposed rulemaking. Quincy Compressor supports the rule as long as the data problems are able to be fixed.

I have a couple of comments on the test-and-list process. For reciprocating compressors the DOE method doesn't fit and the DOE rules don't fit for reciprocating compressors even though ISO 1217 does. And the main reason for that is there is no definition of ancillary equipment and no defined protocols for reciprocating compressors. Reciprocating compressors were eliminated early on in the DOE rulemaking process and there is no industry standard for testing recip compressors.

This would allow, if there were such protocols we would be able to have comparable apples-to-apples data, but it doesn't exist. The next point with reciprocating compressors, the savings really isn't scalable like rotary compressors, because they're more intermittent duty.

And those are my final comments. Thank you.

MR. GALDAMEZ: Thank you.

We're going to continue here on the floor, Russell Randle with Atlas Copco.

MR. RANDLE: For the record Russ Randle representing Atlas Copco, a couple of comments. Again, Atlas Copco supports the Efficiency Level 2 and if the data problems can be fixed, if the data problems can be fixed.

A couple of points to raise here. One of the proposals that's been put forward suggests that the data would be usable if they comply with a procedure that did not exist until 2017. But nobody has suggested that the data are at all inaccurate. We submit that it's unwise to discard millions of dollars of accurate data particularly when the Commission has chosen an expedited timeline. And so we would suggest that that's to elevate form over substance and to retard, not improve, energy efficiency going forward.

We reiterate the request for a 15-day language and that the matter be taken off the agenda from the January 9th meeting lest it be viewed as prejudging any correction of these problems, both in terms of putting in the correct Code of Federal Regulations citation for ISO 1217, and to deal with the certification issues, the language that we have submitted going forward.

Finally, in terms of the oil-free compressors or

lubricant-free, we had submitted additional language given the test-and-list that was put forward. It seems to be a fundamental misunderstanding. These compressors, the oil-free, are quite a lot more complex and quite different machines than is the case for lubricant injected. They are used in places where very high purity, high-pressure air is needed, including hospitals, pharmaceutical manufacturers, semiconductor manufacturing and aerospace.

Unlike the situation where the lubricant cools the machines when you're with a lubricant-injected one, a much more complicated cooling mechanism and sometimes a two-stage mechanism is needed. These are quite different machines going forward.

These special applications can be served by an unregulated kind of compressor, turbo compressors. We've talked about the difficulties with testing and the withdrawal of models in those circumstances. The effect, unintended, of test-and-list could be to put a bunch of unregulated compressors in this field as opposed to the use of the oil-free. We don't think that's a good public policy result. DOE specifically rejected that result when it considered this issue at that point.

Finally, with regard to the accelerated timeline that's been suggested, that's all the more reason to resolve these data problems very quickly. And it should be

noted the DOE went for a five-year timeline precisely because there was insufficient engineering personnel to meet a three-year timeline that had been proposed. That has not changed. And in particular smaller manufacturers will be placed at a serious disadvantage. Well, that's not my client. It does not serve the industry well to knock out participants.

We appreciate the time for the Commission and the opportunity to comment.

MR. GALDAMEZ: Thank you.

Continuing on the floor we have Dave Prator for VP Corp I believe -- oh, no? Okay. That was part of the comments, okay.

So then let's go to Mark Lessans here on the floor.

MR. LESSANS: Thank you, Alex, just briefly if I could expand on our comments that we submitted? Oh, I'm sorry, Mark Lessans with Ingersoll Rand.

I just want to expand briefly on our comments that we submitted on the 28th of December. Our comments were not all that substantive in large part, because with say for a few clarifications we actually support pretty much exactly what the CEC has proposed in the 45-day language.

Ingersoll Rand strongly supports the DOE

standards that were finalized, and presumably headed to the *Federal Register* for publication as a national appliance standard. And it's been admittedly a little bit difficult to take care of some of the product planning as lawsuits have ensued. And we have been preparing for the standards and then they appear to have been delayed.

And ultimately what we think would be best is to -- and what we recommended to the CEC -- is to essentially take exactly what would have been required by DOE and implement that as law in California. We think that would do a bit for manufacturers, certainly for our company, we think for the industry as a whole, and serve as a model for other states that rely on the California database and certification program to implement their standards as well.

On some of the other recommendations that have been made from some of the other commenters, I think that there are issues, some of which have been raised with test-and-list requirements as they relate to some of the products outside of the scope of this regulation. I think a lot of those issues were covered and addressed during the DOE rulemaking process and led to why they decided to go the way that they did.

Ultimately, Ingersoll Rand is not opposed to continuing dialogue with CEC and the various stakeholders on a potential framework for test-and-list in the future.

But there are a number of issues with some of the existing products, or some of the existing classes of products that have been recommended for test-and-list, and what would come with requiring a verification program for various product groups.

And so ultimately, like I said, we're not opposed to further exploring that, but from our perspective the most straightforward way to go would be to, as a start, adopt exactly what DOE would have required for their regulation.

I'll note this is the first time in this country that these compressors will be regulated. And so our company, and I assume the industry as a whole, has been going through the preparations of potentially having a national standard. And we still have work to do in order to make sure that we are fully compliant with those requirements.

It also sounds like we will need to have a California-certified verification of our own labs as well, so there's still a bit of work to do. We still need to better understand exactly what this is going to mean once the regulations take effect. It's our recommendation that we continue down that pathway and address additional product classes at a later date once we have a better understanding of how the product certification and

verification process works.

We're happy to go through in more detail, some of the reasoning behind or what it would entail to have test-and-list requirements for other product groups or why we would recommend not necessarily a test-and-list requirement at this time for those products. As well as some of the technical differences between the ISO 1217 test and what is in the proposed test procedures.

We do have Steve Eaton from our company on the line as well. And if appropriate today, we can certainly talk to that in more detail or we can also do that at a later time as we move forward as well. But certainly I just wanted to get that on to the record and just to try to provide some additional context for our comments and what our position is. Thank you.

MR. GALDAMEZ: Thank you.

Give me a second here. So I want to put here this information. There we go. Do we have anybody on the WebEx that would like to --

UNIDENTIFIED SPEAKER: Yeah, (indiscernible)

MR. GALDAMEZ: So anybody on the WebEx that would like to submit a comment, I'm giving the floor to the phone and WebEx, so just pick up.

MR. EATON: Hi, Alex. This is Steve Eaton, if you can hear me? I'm using my phone.

MR. GALDAMEZ: Yeah, that's fine. Go ahead, Steve. State your name and association.

MR. EATON: Right, so I'm Steve Eaton. I'm with Ingersoll Rand company. You just heard from Mark. I just wanted to I guess make, further on from what Mark said, and reiterating the comments from Atlas Copco and from Quincy regarding the existing data. The DOE study, which CEC has leveraged was based on published data in what we call the (indecipherable) datasheet (indiscernible) the reason the ISO 1217 (indiscernible) national standard.

(Audio continually breaks up.)

But when you think about what (indiscernible) the fact that the responsible manufacturers who used this test method for many, many years -- it goes back to the 1970s, originally -- but the language in the CEC Rules and Regulations reflecting the appropriate use of data that was collected prior to these new rules coming into force would be welcomes. And would significantly reduce the concern and potential burden that could be inadvertently created.

It doesn't lead to anything, anymore maturity (phonetic) in the outcome. The outcome being to ensure that in California the more efficient machines are the ones that are placed on the market itself.

And that's it.

MR. GALDAMEZ: Thank you.

Anybody on the phone, if you guys would mute your phone until you're given the floor, I'd appreciate it. It seems like there's a lot of background noise.

Does anybody else have a comment?

MR. STARR: Yeah, Louis Starr with NEEA.

MR. GALDAMEZ: Okay go ahead, Luis. Just state your name and yeah, do it again, sorry.

MR. STARR: Okay, great. This is Louis Starr with Northwest Energy Efficiency Alliance. I just wanted to -- a couple of things. I was going to have a few comments, but then perhaps later if it's okay, I wouldn't mind the Atlas Representative, if he can bring back up the slides and I thought there were a few on there that I think would be valuable to discuss. But I'll start with my comments now and then if we are able to follow up on that, at a later time, I think that would be good.

I just wanted to say Northwest Energy Efficiency Alliance is supportive of California establishing standards and using the DOE test procedure. I think one of the things I see is that this is a test procedure that's been out. It seems like it's something that's likely to be adopted in the future. And I think this is an excellent opportunity for California to take advantage of some work that has been developed by DOE and actually get some energy savings inside of the State of California.

But I think this also has --

(Audio cuts out following WebEx announcement.)

MR. GALDAMEZ: Well, I guess we'll take a two or three-minute break and hopefully everybody will be back by then.

(Off the record at 10:55 a.m.)

(On the record at 10:56 a.m.)

MR. GALDAMEZ: We had a technical difficulty here, so Louis you were -- if you could just introduce yourself again, you have the floor. Let's start and just repeat your comment. I apologize for the inconvenience on this.

(Off mic colloquy as audio difficulties continue.)

MR. GALDAMEZ: All right, Louis Starr, just one more time, I apologize. Go ahead. You have the floor. Hello, can you hear me? Louis?

(No audible response.)

MR. GALDAMEZ: I guess, is anybody online? Can they hear me to speak up?

MR. GRANDA: Hello. Hello, can you hear me?

MR. GALDAMEZ: Yeah, who is this?

MR. GRANDA: Hi, this is Chris Granda from the Appliance Standards Awareness Project.

MR. GALDAMEZ: Okay, Chris. I'm going to give

the floor for now. We had a technical difficulty there and I'll give the floor back to Louis later when he can hear me. Why don't you go ahead and introduce yourself and submit. You have the floor.

MR. GRANDA: Thank you very much. Chris Granda, Senior Researcher Advocate at the Appliance Standards Awareness Project. We support the CEC's proposal for California state compressor standards, and also the comments of the California investor owned utilities.

I'm getting quite a bit of feedback here, so I'm not sure whether people can hear what I'm saying.

MR. GALDAMEZ: Yeah, we can hear you. I'm going to mute myself. Maybe that will help.

MR. GRANDA: Thank you.

With regards to the issue of test and list for reciprocating equipment we are sympathetic to the concerns brought up by Quincy Compressor with the DOE test method not being appropriate for reciprocating equipment. But if as Mr. Knuffman said ISO 1217 is appropriate, and if there is pathway towards using ISO 1217 test data for certification, perhaps that opens the door to test-and-list for larger reciprocating equipment as well.

And those conclude my remarks. Thank you.

MR. GALDAMEZ: Thank you.

Do we have anybody else on the phone that can

hear me? Louis Starr, can you hear me?

MR. STARR: Yeah, I made it back.

MR. GALDAMEZ: Okay, sorry about that. We had technical difficulties. So if you can reintroduce yourself and restart your comments, you have the floor.

MR. STARR: Yeah. Okay, thanks. So my name is Louis Starr. I'm with Northwest Energy Efficiency Alliance. I just wanted to say I'm supportive of the California Energy Commission establishing rules for air compressors and picking up where DOE left off with setting standards.

So I think not only does setting standards have value in saving energy in California, but I think it also progresses energy efficiency across the rest of the nation, which I think has a lot of value. And it also has, generally with the market, increasing efficiency and they're allowing additional programs and other things to work.

I'd also like to speak in support of doing a test-and-list requirement on reciprocating air compressors. I realize that there's some issues right now perhaps with reciprocating air compressors, but perhaps in a follow-on rulemaking that could be something that's done in the future as we work out some of the kinks with some of the testing requirements. And then also reporting procedures

and then creating a database associated with that.

So I think that's all I wanted to say. Also if we have time to look at some of the Atlas comments I had -- or there was a presentation I thought it would be helpful. I had a few questions on that and I thought some clarifications there might further the conversation. Thank you.

MR. GALDAMEZ: Thank you, Louis.

And do we have more people online or on the phone that would like to submit a verbal comment?

(No audible response.)

MR. GALDAMEZ: No. Okay. So we're going to be here until noon in case somebody walks in and wants to make more comments or calls in, but for now I mean if you guys want to stay you're more than welcome. I'm not forcing you out. There are pretty good (indiscernible) you can go eat and enjoy the morning.

Oh, there's one more? So we have one more commenter that just came in on the line. Steve Eaton, go ahead. You have the floor. If you could introduce yourself first on the phone?

MR. EATON: Yeah, can you hear me on the phone?

MR. GALDAMEZ: Yeah, go ahead. Hello?

MR. EATON: Again, about the question about reciprocating compressors being added as a test-and-list --

MR. GALDAMEZ: Sir? Steve, hello? Could you introduce yourself and your affiliation for the court reporter and then start your comments? I appreciate it. Thank you.

MR. EATON: So Steve Eaton, again Ingersoll Rand, wants to add a comment regarding the test-and-list for reciprocating compressors. I think the CEC should understand that during the DOE test rule writing, because they early on eliminated reciprocating compressors along with other technologies from their rulemaking, there was no further consideration to some of the complexities that would come into definition.

I think one of the earlier commenters made the comment about there was a pretty consistent list for what part of a rotary oil-fitted or lubricated compressor to be tested and what's out of scope as part of the test. It's those types of details that need to be fully documented in order to provide the framework to any kind of test-and-list.

Because otherwise you're not comparing apples-to-apples. One manufacturer who is testing to 1217 may be including something that another manufacturer is not. And therefore the data that you gather number one, is not necessarily useful to end consumers. And also, potentially could put one manufacturer at an advantage or disadvantage,

because of how they presented their data, perhaps not knowing that they've even done that, because it's not well enough defined.

So I think if there's any consideration for that, it needs to be something that is given a lot more detail in working groups. As the DOE did, as they developed their test rule, which was really ISO 1217 with some boundaries and putting some training wheels on perhaps is how I would describe it. It really constrains a test person or person conducting a test that how to conduct an ISO 1217 test and what is in and out of scope. And it was that ambiguity that the DOE didn't like in the first place.

MR. GALDAMEZ: Is that your end of the comment?

MR. EATON: Yeah. That's the end of my comment, yes.

MR. GALDAMEZ: Okay. Cool.

Do we have anybody else on the phone? No. Okay. Well, like I said we'll be here until noon and you guys are free to go if you would like, or?

(Off mic colloquy.)

MR. GALDAMEZ: Okay. Louis, do you want to discuss the Atlas slide?

MR. STARR: Yeah, you know, if you could pull those up it would be dandy.

MR. GALDAMEZ: Do you know what slide you're

referring to?

MR. STARR: You know. I didn't see all of them, so the main thing I was going -- the two or three questions that I really had was I think they had some suggestions for possible ways of the differences between the DOE and what they're proposing. And I'm trying to figure out if there is some kind of solution there.

MR. GALDAMEZ: Let me know when I've reached the slide I guess.

MR. STARR: Yeah. Okay. Keep on going.

MR. GALDAMEZ: Okay.

MR. STARR: Okay, maybe this one here. Oh, this is on --

MR. GALDAMEZ: This is on the ISO.

MR. STARR: Actually, I think it was that last one, the previous one.

MR. GALDAMEZ: The one with the suggested language?

MR. STARR: Yeah, with these things I kind of wonder if these are these the four items that were questions asked to DOE; is that what these are?

MR. GALDAMEZ: No, I think this is suggested language to our Section 1606 on how we can --

MR. STARR: Okay. Is the Atlas guy there able to talk a little bit?

MR. GALDAMEZ: Sure, it's just a hearing so it's kind of not a discussion meeting.

MR. STAR: Oh, okay. Well, maybe I can ask this. I would say my thoughts are if all these things happen -- well there's two questions. One, if all these things happen it seems like we would find it acceptable. But my other question is to implement all of these (indiscernible - audio cuts out) impossible inside the framework the DOE sets (indiscernible) or you. So that's a question for him and then a question for you.

MR. GALDAMEZ: Okay.

MR. SAXTON: Hi, Louis. It's Pat Saxton. I'm the Acting Manager of the Appliances Office. So the purpose of the hearing is to not engage in stakeholder-to-stakeholder questioning. But certainly any kind of clarifying questions like your previous one, perfect. But if it is specific stakeholder-to-stakeholder discussion let's take that offline and out of the hearing.

MR. STARR: All right. Okay, good enough. Well, actually that would be a (indiscernible) and so if all these things are happening then the manufacturer would be okay if everything is implemented here; is that correct?

MR. GALDAMEZ: Yes. That's correct.

MR STARR: Okay. All right, I think that's probably kind of in the how the meeting is laid out, I

think probably (indiscernible) at that point then.

MR. GALDAMEZ: Okay.

So you guys can adjourn, again we'll wait here until noon in case somebody calls and there's more comments coming in.

Thank you everybody for coming and taking your time out of your busy days. Thank you.

(Off the record at 11:09 a.m.)

(On the record at 11:28 am.)

MR. GALDAMEZ: Okay, so we received a written comment on the chat box. It greets as follows: "Hello, I'm Chris Johnson with the Compressed Air and Gas Institute. We provided written comments. We support the CEC proposal, but we believe it is very important to allow the use of historical data obtained through testing to ISO 1217."

And that's the end of the comment. I'm just reading it out loud so that it is part of the recording here.

(Off the record at 11:29 a.m.)_

(On the record at 11:37 a.m.)

MR. GALDAMEZ: Okay, I've got a comment from is that Curtis?

UNIDENTIFIED SPEAKER: Matt Smith.

MR. GALDAMEZ: Oh, Matt Smith.

"Curtis would like to that we support the

position as espoused by CAGI, Atlas Copco, Quincy and Ingersoll Rand. Historical test data performed in accordance with ISO 1217 should be allowed to show compliance with the new standard. If not, the burden on manufacturers will be substantial especially for smaller market shareholders. We have not reviewed the impact at this time, but given our volume in California, and the known costs of testing, we would likely be forced to severely restrict our product offering in the state."

And that's the end of the comment.

(Off the record at

(On the record at

MR. GALDAMEZ: So we have reached noon. All the comments have been received and I will officially conclude the hearing. Thank you for the participation. And just if you have any questions in the future on the process you guys have my contact information and I'll be happy to answer that.

Thank you so much and have a good day.

(The public hearing was adjourned at 12:00 p.m.)

REPORTER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 8th day of January, 2019.

_____

Eduwiges Lastra
CER-915

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I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 8th day of January, 2019.

Myra Severtson
Certified Transcriber
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