

**DOCKETED**

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December 31, 2018

Commissioner Andrew McAllister  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512

Re: California Energy Commission  
Proposed Rules Governing Energy Efficiency  
of Rotary Air Compressors  
Docket No.18-AAER-05  
Comments regarding Reciprocating Compressors

Dear Commissioner McAllister:

This letter is submitted on behalf of Quincy Compressor in order to respond to certain claims and requests made in the December 21, 2018 Letter from the Appliance Standards Awareness Project and the American Council for an Energy-Efficient Economy (ASAP-ACEE).

**I. Misguided Claims About European Union Regulation and State Regulation.**

The ASAP-ACEE claims concern claimed regulation of rotary air compressors by the European Union and Vermont. Neither of those jurisdictions, one very large and one very small, has yet adopted any binding regulations, making it premature to rely upon their example as they confront many of the same issues the Energy Commission is now addressing.

The European Union (EU) has been working on possible regulation of rotary air compressors since before 2014, but has not yet finalized a standard. This effort, referred to as Lot 31, may result in similar requirements for rotary air compressors, but it is impossible to say with certainty what its terms will be. Because the EU has failed to move forward with regulations, and is not expected to complete its process until calendar 2020 at the earliest, the argument that California's standard is needed to harmonize with European standards is factually unsupported – there are not yet any such final EU standards to harmonize. Given this reality, ASAP-ACEE's argument supports *delaying* Commission action to regulate rotary air compressor efficiency, not proceeding with such action as ASAP-ACEE apparently desires.

There is little in Vermont's action regulating rotary air compressors to commend it as an example to the California Energy Commission. Vermont has the second smallest population of

any state in the United States<sup>1</sup> and a rotary air compressor market estimated at less than fifty units per year in sizes which would have been regulated by the DOE Energy Conservation Rule.<sup>2</sup>

In May 2018, the Vermont Legislature mandated that by July 1, 2020, all rotary air compressors sold in that state must comply with the withdrawn DOE efficiency standard. 9 V.S.A. §§2795(a)(8), 2796(d)(2).

No proposed implementing regulations have yet explained how to certify compliance and upon what basis such certification can be made, <https://publicservice.vermont.gov/content/vt-appliance-efficiency> (visited Dec. 30, 2018). The likely manufacturer response will be to withdraw ALL rotary air compressor products from the Vermont market, given the disproportionate testing and certification costs in relation to any sales likely to be made. Such withdrawals are likely to hurt Vermont businesses by making important equipment unavailable but do nothing to improve energy efficiency in Vermont or anywhere else.

## **II. Mandating Testing and Listing of Reciprocating Air Compressors in California Will Reduce Available Reciprocating Compressor Models But Generate Little Data.**

The ASAP-ACEE comment asks the Commission to expand its proposed rule to mandate the testing and listing of reciprocating air compressors of 10 horsepower size or larger.

Quincy makes reciprocating air compressors as well as rotary air compressors. Quincy submits that the expansion of the proposed rule to require reciprocating compressor testing is costly, unwise, and likely to lead to withdrawal of many such models from the California market without generating any significant usable efficiency data.

Quincy has conducted a significant number of tests of rotary air compressor efficiency in the past two years at its Bay Minette, Alabama manufacturing plant. There are established test protocols to be used, protocols keyed to rotary air compressors, NOT reciprocating compressors.<sup>3</sup>

Significantly, ASAP-ACEE asks for the application of “CEC’s proposed compressors test procedure,” without addressing the very significant problems with applying that suspended DOE

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<sup>1</sup> The 2018 Vermont Population is estimated at 623,960 people; <http://worldpopulationreview.com/states/vermont-population/> California’s is estimated at 39,776,830. <http://worldpopulationreview.com/states/california-population/>

<sup>2</sup> As noted in Atlas Copco’s December 21 comment, a reasonably accurate way to estimate the size of a state’s rotary air compressor market is to use the state’s percentage share of US GDP and apply that percentage to total US rotary air compressor sales for that year, resulting in estimate Vermont sales of about 42 units per year. Vermont’s GDP in 2013 was \$29,099M; <https://fred.stlouisfed.org/series/VTNGSP>. The US GDP in 2013 was \$16,784,900M. <https://countryeconomy.com/gdp/usa?year=2013>. The resulting percentage was 0.1733%; predicting the sale of about 42 units a year in Vermont. There are an estimated 6,000 different models of rotary air compressor to choose from.

<sup>3</sup> Although these tests were conducted using the DOE test procedure, the proposed rule as currently written appears to require Quincy to re-do these tests of rotary air compressors because these tests were not conducted by a California certified laboratory, even though no such laboratories yet exist for the DOE test standard. These problems are explained in more detail in the Atlas Copco comments dated December 21, 2018 and filed with the Commission on that date.

test rule.<sup>4</sup> At the outset, the Test Rule is expressly limited to “rotary air compressors,” NOT reciprocating compressors. 10 C.F.R. § 431.344(a)(2). ASAP-ACEE fails to acknowledge the absence of any agreed-upon test procedure, apparently assuming that the DOE Test Rule could be easily applied to reciprocating compressors. That assumption is plainly incorrect.

The DOE Test Rule carefully defined the equipment with which a bare rotary air compressor was to be tested:

All equipment indicated in Table 1 of this appendix must be present and installed for all tests specified in this appendix. If the compressor is distributed in commerce without an item from Table 1 of this appendix, the manufacturer must provide an appropriate item to be installed for the test.

DOE Test Rule, 10 C.F.R. Appendix A, Subpart T, ¶ B.4. This listing of ancillary equipment in Table 1 to the Test Rule is critical to making an “apples to apples” comparison of rotary air compressor efficiency. DOE December 5, 2016 Final Conservation Rule Package, pp. 34-37. That equipment list was tailored to assure consistent testing of rotary compressors, NOT to testing of reciprocating compressors. Until there is an agreed upon list of ancillary equipment to be tested with a reciprocating compressor, it will be very difficult to make “apples to apples” comparisons.

Unlike the situation with rotary compressors, where there is a Compressed Air & Gas Institute (CAGI) test program, there is no equivalent industry test program for reciprocating compressors. While ISO1217 can, in theory, be applied to a reciprocating compressor, this kind of testing is done much less frequently with reciprocating compressors. Indeed the cost of the test is often more than the cost of the reciprocating compressor being sold.

Fabricators are a much larger player in the reciprocating compressor market than is the case for rotary air compressors. Fabricators take reciprocating compressors and customize them to address very specific and quite disparate industry needs, with the bare compressor being the primary common element. The fabricator is a different entity than the maker of the compressor and is often a much smaller company serving specialty markets. Judging by comments already filed in this proceeding, those companies are ill equipped to carry an additional testing burden, especially for data which may not allow valid comparisons between different applications of reciprocating compressors.

DOE specifically decided NOT to regulate reciprocating compressors, and discussed its rationale to decline such regulation in detail in the DOE December 5, 2016 Final Rule Package, pp. 37-45. Many opposition comments were made to DOE regarding inclusion of this machine segment during the DOE comment period. Those arguments persuaded DOE that regulation was inappropriate. If the Commission is relying upon the record of the DOE rulemaking proceeding

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<sup>4</sup> Those problems are discussed in detail in the comments already filed by Atlas Copco and by several other manufacturers. Those problems, it is predicted, will result in the likely withdrawal of a significant number of rotary air compressor models from the California market, even though these machines comply with efficiency standards. The costs of testing where sales are few will lead many makers simply to withdraw models with low sales volumes from California rather than incur known high costs for highly uncertain (and small) sales.

here, then that record plainly does not support the ASAP-ACEE request for broader regulation and testing.

At present, reciprocating compressors are NOT widely offered for sale in sizes larger than 30 horsepower, in contrast to rotary air compressors, which are offered in sizes up to 200 horsepower and above. In addition, these reciprocating machines tend to be operated more intermittently than rotary air compressors and to use less energy overall. Rotary air compressors are much more likely to be used in a “base load” configuration as would be done to supply compressed air for a factory. The energy and environmental savings from improving rotary air compressor efficiency are likely to be far more substantial than from regulating reciprocating compressors.

Under the circumstances, the very substantial problems with the proposed application of the test rule to reciprocating compressors weigh heavily against Commission action to mandate such testing and certification. The Commission should decline to extend its testing and certification rules – which are already highly problematic – to a class of compressors DOE declined to regulate for efficiency and for which DOE declined to mandate testing.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Chris Knuffman", with a long horizontal flourish extending to the right.

Chris Knuffman

I certify under penalty of perjury under the laws of the State of California that the foregoing factual statements are true and correct to the best of my knowledge, information and belief:

December 31, 2018

Bay Minette, Alabama