



AMERICAN
BAKERS
ASSOCIATION

April 13, 2023

By Electronic Submission: SKa@aqmd.gov

Mr. Sarady Ka
Program Manager
South Coast Air Quality Management District (SCAQMD)
21865 Copley Drive
Diamond Bar, CA 91765

Subject: Comments on SCAQMD Proposed Amended Rule 1153.1

Dear Mr. Ka,

The American Bakers Association (ABA) appreciates the opportunity to comment on the proposed amendments to South Coast Air Quality Management District (SCAQMD) Rule 1153.1: *Emissions of Oxides of Nitrogen (NOx) from Commercial Food Ovens*.

ABA is the voice of the baking industry. The baking sector provides nutritious and low-cost products to consumers while also helping to support national feeding programs. Serving its members from global wholesale baking companies and suppliers to baking industry entrepreneurs, ABA is the only bakery-specific national and state trade association, delivering results on priorities affecting the companies that feed the world. Since 1897, ABA has worked to build the talent pool of skilled workers with specialized training programs, and forge industry alignment by establishing a more receptive environment to grow the baking industry. ABA's membership has grown to represent more than 300 companies with a combined 1000+ facilities. The commercial baking sector provides over 86,000 jobs in the state of California along with \$4.46 billion in wages and \$5.53 billion in tax revenues.

ABA is concerned that the food industry has been prematurely singled out for the first ever sector-based Zero-Emissions regulation in California, yet there is no zero-emissions baking oven technology currently available. The baking sector's NOx emissions footprint represents a small fraction of NOx emissions when compared to other industrial stationary sources and mobile sources in the SCAQMD. ABA's member commercial bakeries are open to adopting electric oven technology when it is truly available, but the transition should be mandated only when feasible and in a stepwise manner from natural gas to hybrid ovens to full electric ovens, as California has done with electric vehicles. We understand that SCAQMD has continued an open dialogue with impacted stakeholders and we appreciate the ongoing dialogue with the regulated community. Our concerns are discussed below.

BACKGROUND

Commercial Baking Sector Ovens

Commercial baking operations in California include facilities that produce 1200 buns per minute and 200 bread loaves per minute. These are not small bakeries with "kitchen" style ovens. Ovens are a significant capital investment for a baking company and with proper maintenance can

operate for 30-40 years. PAR 1153.1 would require commercial bakery ovens older than 22 years to be scrapped and switched to net-zero NO_x technology (i.e., electric ovens) in 2027. According to the SCAQMD's March 30th presentation, there appear to be some discussions for a phased-in approach based on the type of oven. However, SCAQMD should ensure a thorough step-by-step regulatory transition for commercial ovens from natural gas to hybrid and then to electric, where feasible. Where electric oven technology continues to be infeasible, the agency should provide clear regulatory language on how implementation will be phased in, what criteria will be considered, and who will determine when the rule becomes effective. ABA believes these considerations should be in place prior to the amendments being finalized, rather than considering additional modifications once the rule is updated. The regulated community needs certainty.

Infrastructure Needs and Impacts

As recently as this winter, California has had to work through the challenges of increased stress on its electric grid, which typically occur during the summer and fall months. ABA understands that SCAQMD has had conversations with electric utilities regarding necessary upgrades to electric transmission and distribution infrastructure to support the dramatically higher power loads for food manufacturing facilities to convert from natural gas-fired to electric-fired ovens.

The added electric load for each commercial-scale electric oven could be larger than the present electricity demand for the entire baking facility. In some cases, it is estimated that each bakery will need 5x times more electricity to continue its operations. Each baking facility itself will need significant infrastructure upgrades, including switching from a low voltage to a high voltage facility, which raises worker safety and training concerns. The details of the transition to zero NO_x technology needs to be thought through in a step-by-step manner before any rule amendment is adopted. ABA endorses working towards lowering emissions, but we are skeptical that the California electric grid can handle this transition presently, given the electric reliability and availability challenges that the state is experiencing.

TECHNICAL COMMENTS

ABA respectfully provides the following comments on SCAQMD's PAR 1153.1 based on the Working Group Meeting #7 (Mar. 8, 2023) slide presentation.

A. The Public Participation Process Must Start from SCAQMD's New Zero-Emissions Proposal

First, ABA requests that SCAQMD provide the usual opportunity for public comment and participation for this proposed rule, which was not done here due to the re-writing of the proposed rule in early 2023. It is our understanding that PAR 1153.1 was originally proposed as a rule to limit NO_x emissions from existing natural-gas fired ovens to 30 ppm NO_x, which would have required low-NO_x burners or hybrid gas-electric oven technology (which is in its infancy but beginning to be available commercially). This proposal was discussed with stakeholders for some 18 months. However, only in January 2023 did SCAQMD re-write the proposal to require zero NO_x emissions, which as a practical matter is the equivalent of mandating early retirement of natural gas ovens and capital investment in new electric ovens. Stakeholders have not had an opportunity to recalibrate to this entirely different rule proposal. Accordingly, ABA suggests that SCAQMD convene a stakeholder workshop to discuss the possibility of transitioning to electric ovens. The workshop should include representatives from the baking industry (ABA and others),

owners of baking facilities in the South Coast and California, oven equipment manufacturers, technical experts from the baking industry such as AIB International, and technical experts from the relevant electric utilities, as well as staff and leadership from key agencies such as CARB, CEC and CPUC.

B. Commercial-Scale Electric Ovens Are Not Currently Available and Zero-Emissions Is Not Achievable

The central requirement of emissions standards is that they be “achievable.” Cal. Health & Safety Code (HSC) § 40406 defines “best available retrofit control technology [BARCT]” as “an emission limitation that is based on the maximum degree of reduction **achievable**, taking into account environmental, energy, and economic impacts by each class or category of source.” SCAQMD’s Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, at G-2, May 6, 2005, describes BARCT as “[a]n air emission limitation that applies to existing sources and is based on the maximum degree of reduction **achievable**, taking into account environmental, energy, and economic impacts by each class or category of source.” Similarly, HSC § 40405 defines “best available control technology” as “an emission limitation that will **achieve** the lowest achievable emission rate for the source to which it is applied” including “(1) The most stringent emission limitation that is contained in the state implementation plan for the particular class or category of source, unless the owner or operator of the source demonstrates that the limitation is **not achievable**.” An emission standard is not achievable if emissions control technology is not available.¹ In addition, under HSC § 40440.11, in situations where SCAQMD is going beyond federal Clean Air Act standards, it is doubtful that SCAQMD could require baking facilities to switch to an entirely new and unproven technology such as electric ovens, as opposed to adding emissions controls to existing gas-fired oven technology.²

The rulemaking record for PAR 1156.1 shows that electric ovens are not available technology at this time and thus zero emissions are not achievable. Although the baking sector has embraced sustainability and has invested millions in new technology such as low-NOx burners in ovens; low-NOx boilers for steam and electricity, hybrid gas-electric ovens; and solar/storage microgrids; the reality is that electric oven technology at the scale of commercial baking ovens is only in pilot stages and will not be available for 3-5 years. As SCAQMD knows, the sole equipment vendor that it spoke with does not manufacture ovens for all commercial-scale bakeries, but rather

¹ See, e.g., HSC 40440.11(c)(2) (SCAQMD must “[d]etermine that the proposed emission limitation has been met by production equipment, control equipment, or a process that is commercially available for sale, and has achieved the best available control technology in practice on a comparable commercial operation for at least one year, or a period longer than one year if a longer period is reasonably necessary to demonstrate the operating and maintenance reliability, and costs, for an operating cycle of the production or control equipment or process”); *Sierra Club v. EPA*, 479 F.3d 875, 883 (D.C. Cir. 2007) (it is “not feasible” to set an emission standard when “the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations”) (citing Clean Air Act § 112).

² HSC § 40440.11 (“Best available control technology; establishment or revision; district considerations and duties; frequency of change (a) In establishing the best available control technology that is more stringent than the lowest achievable emission rate pursuant to federal law for a proposed new or modified source, the south coast district shall consider only **control options or emission limits to be applied to the basic production or process equipment existing** in that source category or a similar source category.”).

is a niche supplier of specialty ovens which would not work for commercial scale and throughput. SCAQMD must realize that commercial bakeries do not all use the same ovens or vendors and that a “one size fits all” approach is not possible. Different baking facilities have different product lines, each with specific oven types and performance parameters necessary to meet its operational needs. Bakers are willing to adopt electric ovens when that technology is technically and economically available; however, it is indisputable that the electric oven technology is not currently available at commercial scale.

ABA encourages SCAQMD to consider the comments submitted by Yorke Engineering LLC, dated April 5, 2023, on behalf of our member Bimbo USA Group which detail the experience of bakers in California, including two major facilities in the South Coast region. These comments emphasize the following critical points, which the SCAQMD must consider in its rulemaking:

1. There are currently no proven, commercial-scale electric ovens available in the baking industry. The only significant manufacturer of electric ovens has indicated that its equipment cannot replace large commercial scale ovens;
2. In some applications, such as english muffin baking, electric oven technology will likely not be able to replicate the baking profile needed for the products even if the technology is scaled;
3. Electric ovens have no track record of performance;
4. Bakers will have to go through an extensive “retooling” period in which scores of baking recipes are tested and adapted to electric ovens. This research and development period might take up to 2-3 years.

Moreover, as discussed above, the electrical infrastructure needed to install electric ovens does not currently exist.

C. The PAR 1153.1 Electric Oven Mandate Can Be Phased In As Technology Becomes Available

In light of the barriers to adoption evident in the rulemaking record, SCAQMD cannot at this time legally require electric ovens at any facility in California. However, the baking industry wishes to facilitate the transition to lower emissions technology as soon as possible. Accordingly, ABA does not object to SCAQMD promulgating a version of PAR 1156.1 at this time -- provided that zero emissions limits do not become effective at particular facilities until the legally required prerequisites are demonstrated. ABA suggests that the PAR include the following language making effectiveness of the proposed emissions limits contingent on authoritative demonstrations of achievability, as follows:

[PAR 1153.1 proposed text]

“The emissions limits in Rule 1153.1 shall be effective for a facility 24 months after:

(1) a determination by SCAQMD and AIB International, Inc. (or other independent body with technical expertise in the baking industry) that zero-NOx emissions oven equipment with comparable heat input, comparable radiant, conductive, and convection heating properties, and comparable throughput capacity as equipment currently installed at such facility, is commercially available in the U.S. market;

(2) a determination by the [California Energy Commission] that the electric transmission and distribution grid serving such facility is adequate and ready to serve the electric load required by such facility after conversion to zero-NOx emissions technology;

(3) a determination by SCAQMD that such zero-NOx emissions oven equipment is available at reasonable cost, consistent with the cost-benefit analysis supporting Rule 1153.1; and

(4) a determination by SCAQMD and the California Air Resources Board that, based on cradle-to-grave lifecycle analysis (including supply of electricity on a lifecycle basis), NOx and greenhouse gas emissions from zero-NOx equipment mandated to be installed at such facility will be less than emissions from equipment currently in use at such facility.

D. SCAQMD Must Provide its Technical Analysis for Public Review

As flagged in the Yorke Engineering letter, SCAQMD has not yet made its NOx Cost Effectiveness Analysis available for public review and comment. ABA concurs in Yorke Engineering's request that the baking industry should have an opportunity to see SCAQMD's inputs and assumptions and to conduct an independent analysis using actual industry data prior to the rulemaking advancing any further. SCAQMD is required by law to provide this analysis and underlying assumptions and data. Pursuant to Cal. HSC § 40727.2(d), SCAQMD "shall prepare a written analysis" which includes evaluation of "(1) Averaging provisions, units, and any other pertinent provisions associated with emission limits. (2) Operating parameters and work practice requirements. (3) Monitoring, reporting, and recordkeeping requirements, including test methods, format, content, and frequency. (4) Any other element that the district determines warrants review." Subsection (f) requires that "The analysis required by this section shall be provided to the public upon request." Accordingly, there cannot be proper stakeholder engagement until SCAQMD provides copies of its analysis and underlying data.

ABA is also concerned that SCAQMD's economic analysis omits several critical considerations that are legally required under California law (including CEQA), such as the following:

1. the economic and environmental costs of forcing the retirement of currently installed ovens which are still within their useful life (which as noted in the Yorke Engineering comments is likely 30-40 years rather than SCAQMD's unsupported assumption of 22 years), including the emissions (and carbon) footprint of retiring in-service equipment, scrapping electrical wiring and components, and the indirect (Scope 3) emissions from the manufacture, materials (including extractive/mining impacts associated with steel and copper components) and shipping of new equipment;
2. the anticipated levels of food waste that would result from testing and trialing baking recipes in order to transition to electric ovens;
3. the effect of PAR 1153.1 on food prices, availability and nutrition (particularly for disadvantaged communities, vulnerable persons and children) due to reduction of production output from California baking facilities affected by the rule;
4. the environmental impacts of leakage of baked goods production to areas outside of California requiring greater transport emissions;
5. the comparative lifecycle emissions profile of electricity used by electric ovens in the applicable electric service area compared to in-use natural gas-fired ovens, considering

emissions from electric generation, including the use of diesel generators during peak demand and the NOx penalty from electric generation, transmission and conversion losses;

6. electric grid availability, reliability and readiness, including availability of backup power during power curtailments;
7. the economic and environmental costs of diverting renewable electricity for use in electric ovens, including environmental justice implications of denying availability of renewable electricity to rural and disadvantaged communities due to higher costs and demand and the health and environmental impacts on host communities of electric generation facilities whose output will increase as a result of the use of zero-NOx technology at baking facilities.

In short, SCAQMD has not completed its evaluation of the proposed rule, which should be done through a fulsome stakeholder and regulatory agency engagement process. In particular, SCAQMD seems to be making some unfounded assumptions, including in relation to (1) availability of oven technology, (2) the assumption that renewable energy would be used to power electric ovens, and (3) that grid infrastructure is adequate to handle the increased load/demand from electric ovens. SCAQMD should open these issues to more thorough public stakeholder engagement.

E. The NOx Cost Effectiveness Analysis in Incomplete

ABA is unable to locate details regarding the NOx cost effectiveness analysis that is required to be done by SCAQMD. First, ABA is unable to determine the basis of the costs and emission calculations that went into the analysis. We understand that capital costs were determined based on a 25-year estimated life for a commercial bakery oven, but we believe that several costing considerations have been excluded or underestimated. These include:

1. cost for a facility to conduct electrical upgrades to a bakery;
2. required increase in power demand, especially during peak demand times;
3. increase in electricity cost for electricity provider to upgrade substations and lines, bringing power to the plant;
4. cost of larger cables required for the additional electric load required for the electric ovens;
5. building infrastructure upgrades required to support larger electric load at the facility while managing the rolling brown outs Southern California has been facing;
6. worker safety considerations for the electric load; and
7. NOx emissions associated with electricity production on-site or by the electricity provider.

CONCLUSION

The American Bakers Association appreciates the opportunity to provide our comments as the SCAQMD works on Proposed Amended Rule 1153.1. We remain concerned that the pace and details of these proposed changes may not have been thoroughly vetted, particularly with regard to infrastructure needs and the ability to transition to electric ovens. Accordingly, ABA

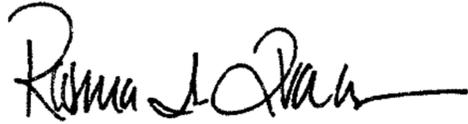
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recommends a stepwise transition from natural gas to hybrid ovens, and finally to electric ovens when the technology is available. If you have additional questions, please contact [Rasma Zvaners](#).

Sincerely,

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

Rasma Zvaners
Vice President Regulatory & Technical Services