

RETURN TO:

Joseph Harding
Portable Generator Manufacturers' Association
1300 Sumner Avenue
Cleveland, Ohio 44115
EMAIL: smaldonado@thomasamc.com

SUBJECT: BSR/PGMA G300-202x, Safety and Performance of Portable Generators

Dear Mr. Harding:

We have reviewed your April 13, 2023 letter regarding the subject standard and wish to vote as follows:

- Affirmative**
- Affirmative with Comment**
- Negative with Comment**
- Abstain with Comment**

Please note, in order to be considered, all negative and abstention votes must include comments indicating a reason for the vote. In addition, negative votes must be accompanied by supporting written reasons and, where possible, proposals for a solution to the problem raised. The comments may be provided in the space provided below or on the comment form that was included with the letter ballot materials.

Comments: See attached comment form and letter

Submitted By: Janet Buyer

Company: U.S. Consumer Product Safety Commission

PLEASE RETURN TO THE PGMA OFFICE
BY NO LATER THAN MAY 13, 2023



May 12, 2023

Mr. Joseph Harding
Technical Director
Portable Generator Manufacturers Association
1300 Sumner Ave.
Cleveland, OH 44115-2851

SUBJ: CPSC Staff Comments on BSR/PGMA G300-202x, *Safety and Performance of Portable Generators*

REF: PGMA document, "Rationale for Proposed Revision to the ANSI/PGMA G300-2018 Standard to Address Carbon Monoxide Injuries," March 20, 2023

Dear Mr. Harding:

Thank you for providing the U.S. Consumer Product Safety Commission (CPSC) staff an opportunity to participate in the canvass for the Portable Generator Manufacturers' Association's (PGMA) draft standard that is a proposed revision to ANSI/PGMA G300-2018, *Safety and Performance of Portable Generators*.

CPSC staff has voted negative on the proposed revisions. This letter provides CPSC staff's comments associated with the negative vote.¹

First, the staff finds the changes to be inadequate to address the CO poisoning hazard from portable generators, especially for certain foreseeable and well-known hazard patterns including generators outdoors, near living spaces with the exhaust infiltrating living spaces and certain configurations of generators in attached garages with the garage door open (among others). Staff has previously advised the CPSC Commissioners that, based on currently available evidence, the performance requirements in the Commission's recently published Supplemental Notice of Proposed Rulemaking (SNPR)² are necessary to adequately address the hazard and recommend those for PGMA G300.

Additionally, staff assesses that both PGMA's modeling to support the revision from 800 ppm to 600 ppm, and PGMA's statement that ANSI/PGMA G300-2018, *Safety and*

¹ The views expressed in this letter are those of CPSC staff, and they have not been reviewed or approved by, and may not necessarily reflect, the views of the Commission.

² 88 Fed. Reg. 24346 (Apr. 20, 2023). Available on CPSC's website at <https://www.cpsc.gov/s3fs-public/SupplementalNoticeofProposedRulemakingSNPRSafetyStandardforPortableGenerators.pdf?VersionId=zxwp.NpJ8nNCxLf7C1p3zMVqLB1MrgE> (Document ID CPSC-2006-0057-0118 in www.regulations.gov).

Performance of Portable Generators (referred to hereafter as PGMA G300) is 99 percent effective, are incorrect. In particular:

(a) PGMA stated in the referenced document that it used the modeling results from the Commission's notice of proposed rulemaking that was published in 2016³ (2016 NPR) to arrive at its 99 percent effectiveness estimate. That modeling is not appropriate for the different purpose of evaluating the shutoff sensor approach for the reasons described in sections 2.1 and 2.7 in the National Institute of Standards and Technology (NIST) Technical Note 2202: *Simulation of Residential CO Exposures from Portable Generators with and without CO Hazard Mitigation Systems Meeting Requirements of Voluntary Standards*.⁴ To assess the effectiveness of PGMA G300 and PGMA's draft standard, modeling that follows the methodology described in that report needs to be performed.

(b) PGMA's own modeling to support the revision to 600 ppm does not include any scenarios with the generator running outside and CO coming into the house, which are foreseeable scenarios and thus were included in the modeling performed for CPSC staff to assess the voluntary standards⁵ and the SNPR. CPSC's generator-related CO fatality data for the 18-year period of 2004 through 2021 shows that 6 percent of the 1,332 consumers who died in these incidents were killed by generators that were operating outside. For that same 18-year period, staff estimates that 77,658 consumers had medically-attended CO injuries from generators and staff assesses that at least some of these injuries occurred from this scenario as well. This is an important scenario to include because a generator with shutoff but without any CO emission rate reduction does not provide protection when the generator is used outside, CO infiltrates inside, and the shutoff does not activate. A tragic, real-life example of the occurrence of this scenario is a PGMA G300-certified generator that caused the CO deaths of a family of three.⁶ Moreover, staff conducted a case study that further demonstrates this scenario is not a rare occurrence: in the greater New Orleans area following widespread power outages caused by Hurricane Ida in the Fall of 2021, staff found that at least 63 homes had CO inside from portable generators operating outside. Residents in six of these homes felt ill with one or more CO poisoning symptoms, and ambulances transported

³ 81 Fed. Reg. 83556 (Nov. 21, 2016).

⁴ <http://dx.doi.org/10.6028/NIST.TN.2202>

⁵ Staff briefing package on voluntary standards https://www.cpsc.gov/s3fs-public/Briefing-Package-on-Portable-Generator-Voluntary-Standards.pdf?VersionId=hLnAkKQ6bCD_SKin8RE6Iax.BjZsB5x3 (Document ID CPSC-2006-0057-0107 in www.regulations.gov).

⁶ Document ID number CPSC-2006-0057-0110 in www.regulations.gov. PGMA suggested in its letter to CPSC staff dated October 27, 2022 (Document ID CPSC-2006-0057-0109) that the exhaust flowed directly into the house through an open door; however, per the officials' report of the incident, the first responders had to force entry into the house because all the windows and doors were locked closed. The generator was situated on pavement beside the house under its eaves. Because there were no open doors or windows, it is reasonable to assume that the exhaust entered the house primarily through soffit vents in the eaves into the attic.

10 people to the hospital. One was admitted overnight; the treatment for the other nine is unknown to staff.⁷

(c) PGMA states that for its own modeling to support the revision to 600 ppm, PGMA selected 7 out of the 37 houses plus the additional 3 detached garages that NIST modeled, and that its modeling results showed no deaths occurred in any of these structures. Based on PGMA's statement that 560 simulations were performed, staff assesses that each structure was modeled with the generator operating in just one location. PGMA did not state where that location was. CPSC's incident data show that for the fatalities that occurred in houses, more than one third occurred with the generator operating in living space locations, approximately one quarter occurred with it operating in the basement, and approximately one quarter occurred with it operating in the attached garage; therefore, all these locations were included in NIST's modeling for the SNPR. Furthermore, NIST's modeling included the likely scenario of the consumer restarting the generator after it shut off for the reasons stated in section 8 of NIST Technical Note 2048: *Simulation and Analysis Plan to Evaluate the Impact of CO Mitigation Requirements for Portable Generators*⁸; it appears that PGMA failed to model this scenario.

Thank you for the opportunity to review and comment on PGMA's draft safety standard.

Sincerely,

Janet L. Buyer
Project Manager, Portable Generator Project

cc: Jacqueline Campbell, CPSC Voluntary Standards Coordinator

⁷ See TAB D in the SNPR in the link provided in footnote 2. When the responding fire department or consumer reported how the exhaust entered the house, entry into the attic was the most common pathway.

⁸ <http://dx.doi.org/10.6028/NIST.TN.2048>.