

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
Hydrogen Gas-Measuring Devices (3.39.)
CCR Title 4, §§ 4001 and 4002.9

December 9, 2019

FINAL STATEMENT OF REASONS

UPDATED INFORMATIVE DIGEST

Pre-existing California laws and regulations directly relating to this proposed regulation have not changed during this rulemaking activity. Modifications to the proposed text, changes to the Initial Statement of Reasons (ISOR), and any additional documents relied upon added after the publication of the Notice of Proposed Action are summarized below. As authorized by Government Code §§ 11346.9 (d) and 11347.1, the California Department of Food and Agriculture (Department) incorporates these changes in the rulemaking file.

SUMMARY OF CHANGES TO THE PROPOSED REGULATION

The Department notified the public of proposed changes to the regulation and posted them on its website for review and comment:

45-Day Public Review and Comment Period:

The 45-day notice and public comment period for this proposed regulation began on May 31, 2019, and closed at 5:00 p.m. on July 16, 2019.

The Department did not schedule a public hearing, and one was not requested by any other entity.

California law requires the Department to adopt in regulation the specifications, tolerances, and other technical requirements published in the National Institute of Standards and Technology (NIST) Handbook 44, Section 3.39. regarding hydrogen gas-measuring devices (hydrogen dispensers) used for commercial purposes that dispense gaseous hydrogen as a motor vehicle fuel. The Department also has authority to modify, amend, or reject those requirements as deemed necessary by the secretary of the Department. Exceptions to the national uniform model regulation are adopted by the Department in CCR § 4001. Exceptions, and modifications or additional requirements not published in NIST Handbook 44 are adopted in the appropriate subsection of CCR § 4002. Current California regulation provides for multiple accuracy classes (2.0, 3.0, 5.0, and 10.0) of hydrogen dispensers which are assigned accordingly during type evaluation testing. NIST Handbook 44, Section 3.39. adopts only one accuracy class (7.0). This proposed rulemaking maintains the existing California-specific accuracy classes and adopts by reference the NIST Handbook 44 accuracy class 7.0. This proposed regulation also repeals other

California-specific exceptions and additional requirements in CCR §§ 4001 and 4002.9 that are no longer necessary. The current edition of the national uniform model regulation in NIST Handbook 44 is more applicable to the hydrogen fueling industry than the state's requirements. Repealing California-specific requirements and adopting the national uniform model regulation further aligns California with the national standard.

15-Day Notice of Modifications to the Proposed Text:

Based upon comments received during the 45-day public comment period, the Department made changes to the proposed text. A 15-day notice and public comment period for this proposed regulation began on October 14, 2019 and closed at 5:00 p.m. on October 30, 2019.

Changes to the proposed text, addendum to the ISOR, and Notice of Proposed Regulatory Action are as follows:

UPDATE TO THE ISOR – PURPOSE AND NECESSITY

§ 4001. Exceptions.

Paragraphs N.3. Test Drafts., N.4.1. Master Meter (Transfer) Standard Test., N.4.2. Gravimetric Tests., N.4.3. PVT Pressure Volume Temperature Test., N.6.1.1. Repeatability Tests., and T.3. Repeatability.

The Department uses CCR § 4001. Exceptions. to not adopt in California regulation certain sections of NIST Handbook 44, and when necessary, uses CCR § 4002.9 to adopt California-specific language amending specific paragraph designations. The Department proposes to repeal these paragraph designations from CCR § 4001. Exceptions. because the requirements in the corresponding paragraph designations published in the current edition of NIST Handbook 44, Section 3.39. are more applicable to today's hydrogen fueling industry than those that were adopted in 2014 in CCR §§ 4001 and 4002.9. In 2014, the Department promulgated a regulation for the enforcement of hydrogen dispensers by removing the tentative code status of NIST Handbook 44, Section 3.39. During 2014 and prior, the hydrogen fueling industry was still in its infancy. The Department lacked historical data to confirm whether hydrogen dispensers in service at that time were able to comply with the minimum measured quantity (MMQ) requirements in paragraphs N.3., N.4.1., N.4.2., and N.4.3., or with the repeatability test requirements in paragraphs N.6.1.1. and T.3. The Department adopted modifications to the national uniform model regulation during the 2014 rulemaking to relax those requirements and allow for a test draft size of twice the MMQ and a repeatability test draft size of no less than 1,000 scale intervals (divisions). Since 2014, the hydrogen fueling industry has improved the precision of hydrogen dispensers. Consequently, regulation in California no longer needs to be relaxed and

provide for a draft size of twice the MMQ or of repeatability test drafts taken at 1,000 scale intervals (divisions).

At its 2019 annual meeting, the National Conference on Weights and Measures (NCWM) voted to remove the tentative code status from NIST Handbook 44, Section 3.39. This change becomes effective in January 2020 when the next edition of NIST Handbook 44 is published. Many states automatically adopt the requirements published in the current edition of the handbook, and some states do not have authority to amend, modify, or reject parts of NIST handbooks like California does. Therefore, the Department proposes to remove these paragraphs to proactively align California's regulation with the national uniform model regulation. Beginning in 2020, manufacturers may submit their hydrogen dispensers to the National Type Evaluation Program (NTEP) to be nationally type approved, marketed, and placed in service in all 50 states. By removing these paragraphs from California regulation, hydrogen dispensers having been issued a NTEP Certificate of Conformance may be installed in California without being required to comply with differing California and national requirements. This will enable manufacturers to fabricate hydrogen dispensers to one set of specifications and not have separate designs for dispensers destined for different markets. This will further promote the growth of zero-emission vehicles in the U.S. The Department also proposes to concurrently remove these corresponding paragraphs from CCR § 4002.9 with this rulemaking. Refer to § 4002.9, below for further explanation.

§ 4002.9. Hydrogen Gas-Measuring Devices (3.39.)

A.4. Type Evaluation.

The Department proposes to remove the word, "device" from this section and replace it with "article." This change is necessary to specify that all the requirements for hydrogen dispensers adopted in this article are applied during type evaluation of the device.

S.5.2. Location of Accuracy Class 3.0, 5.0, and 10.0 Information.

California's current regulation does not include accuracy class 2.0 in the title of this paragraph designation, even though accuracy class 2.0 was included in the table in T.2. Tolerances. During the 45-day public comment period, the Department proposed to remove accuracy class 3.0 entirely from the regulation. Comments received from stakeholders during that public comment period stated that both accuracy classes 2.0 and 3.0 are still applicable to the hydrogen fueling industry. They confirmed in their comment letters that hydrogen dispensers are being designed that will be capable of meeting those accuracy classes. They claimed that retaining these accuracy classes in California regulation will incentivize manufacturers to build more accurate devices than what is available today. Although no hydrogen dispenser has yet met this accuracy class during type evaluation,

the Department agreed to keep accuracy classes 2.0 and 3.0 adopted in regulation in anticipation of those devices soon being available in the marketplace.

The Department proposes to keep accuracy class 3.0 references throughout paragraph S.5.2. including its Note at the bottom. The Department removes accuracy class 7.0 references in the Note and in the label example below it. One stakeholder states the current language in the Note regarding issuance of type approval certificates is too restrictive. In California, devices may be either type approved by the National Type Evaluation Program (NTEP) or by the California Type Evaluation Program (CTEP). In the future, when hydrogen devices are type approved by NTEP and placed in service in California, they, too will be required to comply with paragraph S.5.2., so it is necessary the Note include provision for an NTEP approved device. The Department considered the comment and agreed to amend the language of the Note to better articulate these alternatives. The commenter said the last sentence of the Note is unnecessary and does not further clarify the topic of this section. The Department agrees with the commenter and therefore removes it from regulation.

Paragraphs N.3. Test Drafts., N.4.1. Master Meter (Transfer) Standard Test., N.4.2. Gravimetric Tests., N.4.3. PVT Pressure Volume Temperature Test., N.6.1.1. Repeatability Tests., and T.3. Repeatability.

The Department applies the same rationale (used above for amendments to CCR § 4001. Exceptions.) in the removal of these paragraphs from § 4002.9. Refer to the detailed explanation in CCR § 4001. Exceptions. above.

Table T.2. Accuracy Classes and Tolerances for Hydrogen Gas-Measuring Devices

The Department proposes to add accuracy classes 2.0 and 3.0 back to Table T.2. Concerned stakeholders provided comments that they and other manufacturers are developing hydrogen dispensers that will soon meet accuracy class 3.0 (and possibly 2.0). Although these kinds of devices are not yet in mainstream production, keeping these accuracy classes in California regulation allows manufacturers to continue their pursuit of researching and designing higher precision hydrogen dispensers and marketing them in the state.

T.6. Tolerance.

The Department proposes removing this paragraph. Similar to the reasoning above for removing paragraph requirements in N.3., N.4.1., N.4.2., and N.4.3. from CCR § 4001, there is no longer a need to have paragraph T.6. in California regulation. In order to align California regulation with the national uniform model regulation, the maximum error of the minimum measured quantity no longer needs to be twice the applicable tolerance in Table T.2. as hydrogen devices can now deliver a more precise amount of gaseous hydrogen to

meet the manufacturer's declared minimum measured quantity. Harmonizing California's regulation with the rest of the nation allows hydrogen devices to be manufactured and placed in service in multiple states, thus promoting expansion of the hydrogen fueling infrastructure in the U.S.

Changes to the Notice of Proposed Regulatory Action

The Department makes a change to the *Anticipated Benefits of the Proposed Regulation* section to include this statement, "The Department does not anticipate this regulation will further protect public health and safety, worker safety, the environment, or contribute to the prevention of social discrimination. It will, however, benefit the fairness of commerce and promote an improvement in the delivery of hydrogen gas as vehicle fuel from a hydrogen gas-measuring device. These benefits improve the transparency of business transactions in the marketplace."

The Department makes a change to the *Disclosures Regarding The Proposed Action* section. The local mandate determination (Item 1) currently reads, "Mandate on local agencies *and* school districts: None" and is modified to read, "Mandate on local agencies *or* school districts: None" (italics added for emphasis).

Other non-substantive edits are made to correct grammatical and formatting errors of the regulation. The Department did not add additional documents relied upon to the rulemaking file during this 15-day public comment period.

UPDATE OF DOCUMENTS RELIED UPON

In adopting the proposed regulation, the Department did not rely on any additional data, technical, theoretical or empirical study, or documents other than those identified in the Initial Statement of Reasons.

MANDATE ON LOCAL AGENCIES OR SCHOOL DISTRICTS

The Department determines that this proposed regulation does not impose a new mandate on local agencies or school districts. While the proposed regulation includes modified device specifications, accuracy class requirements, and testing procedures used by local government to test and seal hydrogen dispensers, the mandate to do so is already enacted in California law and therefore, this regulation does not impose a new mandate on local government. The proposed regulation does not change local agencies' or school districts' responsibilities, normal business operations, or incur additional non-reimbursable costs.

ALTERNATIVES CONSIDERED

The Department determines that no reasonable alternative it considered or that has otherwise been identified and brought to its attention would be more effective in carrying out the purpose for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the adopted regulation, lessen the impact on small businesses, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law. No alternatives were offered by stakeholders during this rulemaking activity.

INCORPORATION BY REFERENCE

As cited in the Initial Statement of Reasons, NIST makes Handbook 44 publicly available online free of charge on its website.

SUMMARY AND RESPONSE TO COMMENTS

The Department included a copy of each written comment received during the rulemaking process in this rulemaking file. The Department sequentially numbered each written comment for ease of reference.

During the 45-day public comment period, the Department received written comments from three entities:

1. Andrei Brezoica of County of San Diego, Department of Agriculture, Weights and Measures on May 31, 2019, comment 1;
2. Elán Bond of Nel Hydrogen A/S on July 16, 2019, comments 2-3;
3. Jennifer Hamilton of the California Fuel Cell Partnership on July 15, 2019, comment 4.

During the first 15-day public comment period, the Department received one comment from one entity:

1. Elán Bond of Nel Hydrogen A/S on October 30, 2019, comment 5.

The Department considered each written comment received and either responded to comments individually or grouped comments of a similar topic. The following are summarizations of public comments and the Department's responses to them:

Summary of written comment 1:

The Department appreciates the commenter offering this comment to amend and clarify language in the Note at the bottom of paragraph S.5.2. of CCR § 4002.9. The commenter states that both NTEP and CTEP type approval certifications are applicable in California. The commenter also recommends to remove or amend the last part of the Note as it does not contribute to the clarity of the topic of this section – identifying the device accuracy class on a label affixed to the device.

Response to this comment:

The Department agrees to amend this paragraph to allow for NTEP or CTEP type approval certifications, and remove the remainder of the Note because it is not necessary.

Summary of written comments 2, 3, and 5 (Grouped):

This group of comments offers general support for adding the national uniform model regulation accuracy class 7.0 to the other California-specific accuracy classes 2.0, 3.0, 5.0 and 10.0. Other comments include keeping accuracy classes 2.0 and 3.0 as some manufacturers are researching and developing hydrogen dispensers in the near future that will meet these higher precision tolerances. One commenter offers an extensive bulleted list of benefits this proposed regulation will provide to the hydrogen fueling industry upon adoption. Some of these benefits include incentivization of new product design technologies and standardization of the state's test processes compared with other states and, as stated in comment five, "across global markets" of hydrogen fueling. Accurate and durable dispensers benefit end-users as well.

Response to these comments:

The Department appreciates the general support of adopting accuracy class 7.0 and keeping accuracy classes 2.0 and 3.0. The Department is mandated to adopt the current edition of NIST Handbook 44 in CCR § 4000, and authorized the flexibility to add multiple accuracy classes in California regulation which will benefit the hydrogen fueling industry. Adopting accuracy class 7.0 aligns California with the rest of the U.S., and keeping accuracy classes 2.0 and 3.0 expands innovation and offers a more competitive marketplace with a higher accuracy of delivery of gaseous hydrogen as a motor vehicle fuel.

Summary of written comment 4:

Similar to comments 2, 3, and 5, above, this commenter also offers general support for adopting accuracy class 7.0 and keeping accuracy classes 2.0 and 3.0. However, this commenter recommends removing the sunset date for accuracy class 3.0 and adding a sunset date of January 1, 2021 for accuracy classes 5.0 and 7.0.

Response to this comment:

The Department appreciates the commenter offering support for adoption of accuracy class 7.0. and keeping accuracy classes 2.0 and 3.0 (without a sunset date) in regulation. However, the Department does not agree with adopting a sunset date for accuracy classes 5.0 and 7.0. After considering all comments received, the Department determines that it is not beneficial to have sunset dates on these accuracy classes because many hydrogen dispensers already in service in California are type approved for accuracy class 5.0. To add a sunset date to that accuracy class would in effect prevent manufacturers from continuing to install and place in

service that model of device in the state. It would be detrimental to the growth of the hydrogen fueling industry in California to exclude accuracy class 5.0 devices from being installed in the future. The same logic applies to accuracy class 7.0, especially as this class of device harmonizes California regulation with the national uniform model regulation in NIST Handbook 44, Section 3.39. If, in the future, NCWM adopts a higher precision accuracy class, the Department may consider amending this section through future rulemaking to align with changes made to NIST Handbook 44. The Department declines to add a sunset date to accuracy classes 5.0 and 7.0 with this proposed regulation.