

## ATTACHMENT E

### CORRECTIONS TO THE STAFF REPORT: INITIAL STATEMENT OF REASONS FOR THE PUBLIC HEARING TO CONSIDER PROPOSED AMENDMENTS TO ENHANCED VAPOR RECOVERY REGULATIONS TO STANDARDIZE GAS STATION NOZZLE SPOUT DIMENSIONS TO HELP ADDRESS STORAGE TANK OVERPRESSURE

[Note: The corrections and updates to the originally proposed Initial Statement of Reasons (ISOR), published on September 4, 2018, that are made public with the “Notice of Public Availability of Modified Text” are shown in underline to indicate additions and ~~striketrough~~ to indicate deletions. Only ISOR sections with corrections and updates are included in this attachment. For the entire ISOR, refer to [Staff Report: Initial Statement of Reasons](#). The symbol “\*\*\*” means that intervening text not amended is not shown. [Bracketed text] is not part of the proposed modifications.]

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#### EXECUTIVE SUMMARY

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CARB staff estimates a total cost increase of about \$20,520 for nozzle manufacturers for incorporating additional nozzle dimensions in the CARB certification process. If nozzle manufacturers were to pass on these costs along with an estimated 20 percent markup, this would result in \$24,624 in costs to California businesses through 2030. This could result in approximately \$52.41 on average in additional cost per impacted California business-owned GDF ( $\$24,624 \div 5,305 \div 10,202$  impacted GDFs) over 11 years, which is considered to be negligible.

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#### VIII. ECONOMIC IMPACTS ASSESSMENT

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##### C. Description of Businesses

###### 1. Number and Description of Potentially Affected Businesses

As described in the following sections, CARB staff determined the number of businesses potentially affected by the proposed amendments (~~5,344~~10,208) based on the number of nozzle manufacturers (6) and the number of statewide GDFs (10,202) with assist vapor recovery systems (~~5,305~~).

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## ***Gasoline Dispensing Facilities***

The proposed amendments have direct benefits (cost-savings) for gas dispensing facilities (NAICS codes 447110, 447190, 424720) with assist systems and In-Station Diagnostic (ISD) systems that have experienced frequent ISD overpressure alarms. Based on field study results where use of the EOR nozzle reduced the ISD overpressure alarm frequency at five of the six (80 percent) study sites (see Chapter II), CARB staff predicts that about 80 percent of these GDFs will experience substantially fewer overpressure alarms once they install an improved assist nozzle. Because some GDF operators pay authorized service providers to respond to every ISD overpressure alarm, rather than self-clear the alarms, reducing the number of overpressure alarms will result in reduced GDF operating costs. The next two sections, C.2 and C.3, describe the GDF size categories and how many may experience an economic benefit from implementation of the improved assist EOR nozzle. Section E and Table 5 summarize the information sources and calculations CARB staff used to predict how many GDFs may experience an economic benefit.

The proposed amendments also have an indirect effect on GDFs with assist systems that may not experience a direct economic benefit from installation of improved assist nozzles. About 5,305 GDFs throughout California have assist systems. Table 5 summarizes the information sources and calculations CARB staff used to estimate the total statewide number of GDFs with assist systems. The proposed amendments require all GDFs with assist systems to replace the old version of the Healy Model 900 that does not have the improved EOR spout assembly. However, this proposed requirement has no cost impact for two reasons. First, Franklin Fueling Systems, the manufacturer of the Healy assist nozzle, no longer manufactures nor distributes the old model, and CARB staff's survey of parts distributors and service contractors indicates their stock of the old model nozzle will be depleted by the end of 2018 (before the proposed amendments would become effective) [CARB, 2018a]. Second, the proposed amendments provide an exception that allows GDF operators to use the old model nozzles until the end of their useful life, even if the useful life extends beyond four years. State law (Health and Safety Code § 41954.1) and CARB certification procedures CP 201 and CP-206 currently specify that vapor recovery systems installed before the effective or operative date of additional or amended standards may remain in use for the remainder of their useful life or for up to four years after the effective date of the new standard, whichever is shorter.

The proposed amendments also might result in negligible nozzle cost increases for GDFs throughout California (about 10,202 GDFs [CEC, 2017a & 2018]), including those that do not have assist systems, if nozzle manufacturers pass on new certification costs. As described in the following sections, CARB staff estimates a total cost increase of about \$20,520 for nozzle manufacturers for incorporating additional nozzle dimensions in the CARB certification process. If nozzle manufacturers were to pass on these costs along with an estimated 20 percent markup, this would result in \$24,624 in costs to California businesses through 2030. This could result in approximately \$2.41 on

average in additional cost per impacted California business-owned GDF (\$24,624 ÷ 10,202 impacted GDFs) over 11 years, which is considered to be negligible.

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## **2. Percentage of Small, Mid-Sized, and Large Businesses**

For the purpose of undertaking an economic impact assessment, Government Code § 11346.3, subdivision (a)(4)(B), defines a small business as a business that is all of the following:

- (i) Independently owned and operated.
- (ii) Not dominant in its field of operation.
- (iii) Has fewer than 100 employees.

Company profile information available for the six nozzle manufacturers indicates none of them meets the definition of small business and none is based in California.

CARB staff estimated that about 86 percent of California GDFs ~~with assist systems~~ are small businesses, about 10 percent are mid-sized businesses, and about 4 percent are large businesses based on the following:

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## **D. Compliance Costs**

No cost increases are anticipated for any California-based businesses. As noted earlier, nozzle manufacturers—all of which are based out of state—may have a small increase in initial nozzle certification costs and certification renewal costs associated with the additional time needed for CARB certification staff to evaluate compliance with an increased number of nozzle dimensions and to prepare certification documents. Health and Safety Code § 41954(e) states that CARB shall charge a reasonable fee for certification not to exceed the actual cost. CARB certification evaluation costs, including any cost increases resulting from amended or new standards and specifications such as those proposed for nozzle dimensions, are invoiced to and paid by the nozzle manufacturers seeking CARB certification to sell their products in California. The fee revenue is deposited into the Air Pollution Control Fund/Vapor Recovery, which reimburses the cost of CARB staff's billable time.

Table 4 provides a summary of cost calculations, information sources, and assumptions. Based on CARB staff's review of the historical frequency of certification applications and conversations with nozzle manufacturers, eight nozzles are anticipated to go through the certification process during the lifetime of the proposed amendments. CARB staff estimated a total cost of about \$17,100 for re-certifying the three currently certified balance and assist vapor recovery nozzles that are still sold in California,<sup>1</sup> and

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<sup>1</sup> Two balance nozzles (VST-EVR-NB (G2) and Emco Model A4005-EVR) and one assist nozzle (Healy Model 900 with the improved EOR spout assembly) are sold in California. VST no longer sells the

the three ECO nozzles that might be certified before the effective date of the proposed amendments. CARB staff estimated a total potential cost of \$2,280 for incorporating additional dimensions in the review of these six nozzles when nozzle manufacturers apply for certification renewal. The combined costs for re-certification and certification renewal equate to an additional cost of about \$3,230 per nozzle. CARB staff estimated a total potential cost of about \$1,140 for incorporating additional dimensions in the review of potential future prototype nozzles when nozzle manufacturers apply for initial certification and certification renewal. These costs sum to about \$20,520 over the 11-year lifetime of the proposed regulations. This estimated cost is negligible over 11 years and CARB staff assumes nozzle manufacturers will absorb this cost without any increase to nozzle prices for their customers (GDFs, parts distributors and service contractors).

CARB staff contacted design engineers at the five nozzle manufacturers that currently produce CARB-certified nozzles or have submitted certification applications for prototype nozzles. They said they already incorporate the proposed nozzle spout and bellows dimensions in their design specifications review process and therefore would not have any increase in development process costs.

If nozzle manufacturers were to pass on any certification cost increases along with an estimated 20 percent markup, this would result in up to \$24,624 ( $\$20,520 \times 1.2$ ) in costs to California businesses over the 11-year lifetime of the proposed regulations. This could result in approximately \$52.41 in additional cost per impacted GDF California business ( $\$24,624 \div 5,305$  10,202 impacted GDFs) over 11 years, which is considered to be negligible. As described in Table 4(B), CARB staff estimates annual costs for different types (categories) of California businesses that own GDFs based on the estimated number of nozzles they need to replace each year. CARB staff estimates average costs of about \$0.21 per year per business for the most common type of small business, "Single-GDF Operators", and about \$1.26 per year per business for small businesses that own two to twelve GDFs. CARB staff estimates an average cost of about \$8.40 per year per business for the most common type of non-small business ("Independent Businesses with 10's to 100's GDFs"), and about \$4.20 and \$29.40 per year per business on average for the other non-small business types ("Major Oil Companies" and "Hypermarkets").

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Model EVR-NBBK nozzle in California, and Franklin Fueling Systems discontinued manufacturing the version of the Healy Model 900 without the EOR spout assembly.

**Table 4: Cost Estimates**

**A. Nozzle Manufacturers.** Calculations and assumptions for estimating potential increases in initial nozzle certification costs and certification renewal costs associated with the additional time needed for CARB certification staff to evaluate compliance with an increased number of nozzle dimensions<sup>^</sup>

<b>Description</b>	
One-time cost: CARB certification staff time needed to amend Executive Orders to re-certify three currently certified nozzles still sold in California (1 assist nozzle and 2 balance nozzles <sup>(a)</sup> ), and three ECO nozzles that might be certified before the effective date of the proposed nozzle dimension requirements (assumes all six nozzles will be re-certified in 2020). = 30 hours/nozzle x 6 nozzles x \$95/hour	\$17,100
Potential ongoing cost: CARB certification staff time needed to incorporate additional dimensions in four-year certification renewal process for six nozzles (assumes three vapor recovery nozzles and three ECO nozzles will have two certification renewals each before 2030, e.g., in 2024 and 2028) = 2 hours/nozzle x 6 nozzles x \$95/hour x 2 renewals/nozzle	\$2,280
<b>Total cost estimated per nozzle for (a) three currently-sold vapor recovery nozzles and (b) three ECO nozzles that might be certified before the proposed nozzle dimension requirements become effective</b> = (\$17,100 + \$2,280) ÷ 6	<b>\$3,230</b>
Potential ongoing cost: CARB certification staff time needed to incorporate additional dimensions in certification application process, and four-year certification renewal process, for future prototype nozzles (assumes there might be two new nozzle prototypes submitted for certification review by the end of 2022, and two renewals each, in 2026 and 2030) = 2 hours/nozzle x 2 nozzles x \$95/hour x 3 (1 certification + 2 renewals)	\$1,140
<b>Total cost for 11 years (2020-2030)</b> = \$17,100 + \$2,280 + \$1,140	<b>\$20,520</b>
Total cost for FY2019/2020: Assumes three vapor recovery nozzles and three ECO nozzles will be re-certified = 30 hours/nozzle x 6 nozzles x \$95/hour	\$17,100
Total cost for FY2020/2021: Assumes one new nozzle prototype will be certified = 2 hours/nozzle x 1 nozzle x \$95/hour	\$190
Total cost for FY2021/2022: Assumes one new nozzle prototype will be certified = 2 hours/nozzle x 1 nozzle x \$95/hour	\$190
<b>Total cost for first 3 years (through FY 2021/2022)</b>	<b>\$17,480</b>

<sup>^</sup> CARB certification evaluation costs, including any cost increases resulting from amended or new standards and specifications such as those proposed for nozzle dimensions, are billed to the nozzle manufacturers seeking CARB certification to sell their products in California.

**Table 4: Cost Estimates** [continued]

**B. Businesses that Own California GDFs.** Calculations and assumptions for estimating potential increases in nozzle price and associated costs to small and typical (non-small) businesses that might occur if nozzle manufacturers pass on increased CARB certification costs

<b>Description</b>						
<b>1. ESTIMATION OF TOTAL NUMBER OF NOZZLES PER BUSINESS CATEGORY</b>						
	<b>Business Category</b>					<b>TOTAL</b>
	<b>SMALL</b>		<b>MID</b>	<b>LARGE</b>		
	<u>Single-GDF Operators</u>	<u>Owners Have 2 to 12 GDFs</u>	<u>Independent Businesses with 10's to 100's GDFs</u>	<u>Major Oil Companies</u>	<u>Hyper-markets</u>	
<u>Approximate Percent of California GDFs Owned by Business Category</u> <sup>a, b</sup>	<u>60%</u>	<u>26%</u>	<u>10%</u>	<u>1%</u>	<u>3%</u>	<u>100%</u>
<u>Approximate # of GDFs Owned by Business Category</u> = % of CA GDFs x 10,202 GDFs statewide [CEC, 2017a and 2018]	<u>6,121</u>	<u>2,653</u>	<u>1,020</u>	<u>102</u>	<u>306</u>	<u>10,202</u>
<u>Average # of Nozzles per GDF</u> [CARB, 2017b Appendix 5]	<u>10.5</u>	<u>10.5</u>	<u>10.5</u>	<u>10.5</u>	<u>13.6</u>	<u>10.7</u>
<u>Average Nozzle Age (Years)</u> [CARB, 2018 Appendix J]	<u>3.5</u>	<u>3.5</u>	<u>3.5</u>	<u>3.5</u>	<u>2.0</u>	<u>3.5</u>
<b><u>Approximate # of Nozzles per Business Category</u></b>	<b><u>64,271</u></b>	<b><u>27,857</u></b>	<b><u>10,710</u></b>	<b><u>1,071</u></b>	<b><u>4,163</u></b>	<b><u>108,072</u></b>
<b>2. Estimation of potential per-nozzle cost increase that might result from certification cost increase (if passed on by nozzle manufacturers)</b>						
<u>Certification cost increase with 20% markup (total over 11 years)</u> = \$20,520 x 1.2				<u>\$24,624</u>		
<u>Estimated statewide # of nozzles (from Table 4.B.1 above)</u>				<u>108,072</u>		
<u>Average statewide nozzle age (years) [CARB, 2018 Appendix J]</u>				<u>3.5</u>		
<u>Estimated # of nozzles replaced each year</u> = Statewide # of nozzles ÷ Average nozzle age				<u>30,878</u>		
<u>Estimated # of nozzles replaced over 11 years</u>				<u>339,658</u>		
<b><u>Estimated potential cost increase per nozzle if certification cost increase is distributed across nozzles replaced over 11 years</u></b> = \$24,624 ÷ 339,658 replacement nozzles				<b><u>\$0.07</u></b>		

**Table 4: Cost Estimates [Part B, continued]**

<b>Description</b>					
<b>3. ESTIMATE OF NUMBER OF NOZZLES REPLACED PER YEAR AND ASSOCIATED COST INCREASE</b>					
<b>Description</b>	<b>Business Category</b>				
	<b>SMALL</b>		<b>MID</b>	<b>LARGE</b>	
	<u>Single-GDF Operators</u>	<u>Owners Have 2 to 12 GDFs</u>	<u>Independent Businesses with 10's to 100's GDFs</u>	<u>Major Oil Companies</u>	<u>Hypermarkets</u>
<u>Assumed # of Nozzles Replaced per Year Per GDF</u> = $\frac{\text{Average \# of nozzles per GDF}}{\text{Average Nozzle Age}}$	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>7</u>
<u>Assumed Average # of GDFs Owned by Individual Business</u> <sup>c, d, e, f</sup>	<u>1</u>	<u>6</u>	<u>40</u>	<u>20</u>	<u>60</u>
<u>Assumed # of Nozzles Replaced per Year Per Individual Business</u> = $\frac{\text{\# of GDFs owned by typical individual business} \times \text{\# of nozzles replaced per year}}$	<u>3</u>	<u>18</u>	<u>120</u>	<u>60</u>	<u>420</u>
<b><u>Approximate Cost per Individual Business within Each Category per Year of Increased Certification Costs</u></b>	<b><u>\$0.21</u></b>	<b><u>\$1.26</u></b>	<b><u>\$8.40</u></b>	<b><u>\$4.20</u></b>	<b><u>\$29.40</u></b>

- (a) For the purpose of this economic impact assessment, CARB staff defines large businesses as “major oil companies” (Chevron, ExxonMobil, Shell, BP, and Conoco Phillips) and “hypermarkets” (e.g., Costco, Sam’s Club, Walmart, Safeway/Vons, Raley’s, and Ralph’s/Food 4), and mid-sized businesses as those independent businesses that own tens to hundreds of GDFs but are not major oil companies (e.g., G&M Oil Company, Au Energy, United Oil, World Oil, Rotten Robbie, Apro, Pilot Travel Centers, and Western Fuel). See section VIII.C.2 for more information about these business categories and a description of how CARB staff estimated the percentage of GDFs owned by each.
- (b) California small businesses include independent GDF owners with fewer than 100 employees. As described in section VIII.C.2, small businesses own the majority—about 86 percent—of California retail GDFs, and about 60% are single-store operators. Census Bureau statistics indicate gas stations in California had on average eight employees between 2011 and 2015 [U.S. Census Bureau, 2018]. Consequently, businesses may own as many as about 12 GDFs [ $100 \text{ employees} \div 8 \text{ employees per GDF} = 12.5 \text{ GDFs}$ ] and still be defined as a small business. See section VIII.C.2 for more information about the small business categories and a description of how CARB staff estimated the percentage of GDFs owned by each.
- (c) Small business owners who are not single-store operators may own from 2 to about 12 GDFs (see above footnote (b)); CARB staff experience indicates they average about 6 GDFs each.
- (d) Mid-size businesses can own from 10 to >200 GDFs; CARB staff experience indicates there are about 30 such businesses and they average about 40 GDFs each.
- (e) Estimate assumes there are 5 major oil companies that own 1% (about 102 GDFs) in California =  $102 \text{ GDFs} \div 5 = 20.4 \text{ GDFs per business}$ , rounded to 20 for cost estimates.

- (f) Estimate assumes there are 5 hypermarket businesses that own 3% of California GDFs:  
= 306 GDFs ÷ 5 = 61.2 GDFs per business, rounded to 60 for cost estimates.

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## **G. Potential Private Sector Cost Impacts and Benefits**

### **1. Potential Costs and Benefits to a Small Business**

No direct cost impacts were identified for GDFs throughout California, more than 80 percent of which are likely to be small businesses (see section VIII.C). Cost impacts were identified for nozzle manufacturers, but company profile information available for the five nozzle manufacturers active<sup>2</sup> in California indicates none meets the definition of small business and none is based in California. Nozzle manufacturers may have small increases in initial nozzle certification costs and certification renewal costs associated with the additional time needed for CARB certification staff to evaluate compliance with an increased number of nozzle dimensions. CARB staff estimated a total certification cost increase of about \$20,520 for nozzle manufacturers over the 11-year lifetime of the proposed regulations. This estimated cost is negligible over 11 years and CARB staff assumes nozzle manufacturers will absorb this cost without any increase to nozzle prices for their customers (GDFs, parts distributors and service contractors). However, it is possible manufacturers could pass on the \$20,520 in certification cost increases to GDFs in California. (See section VIII.D for a description of certification cost estimates.) If nozzle manufacturers were to pass on all costs along with an estimated 20 percent markup, this would result in \$24,624 (\$20,520 x 1.2) in costs to California businesses over the 11-year lifetime of the regulation. On average, this could result in approximately \$52.41 in additional cost per impacted GDF California small business (\$24,624 ÷ 5,305 10,202 impacted GDFs) over the 11-year lifetime, which is considered to be negligible. As described in Table 4(B), CARB staff estimates average costs of about \$0.21 per year per business for the most common type of impacted California small business, "Single-GDF Operators", and about \$1.26 per year for small businesses that own two to twelve GDFs, which are considered to be negligible costs.

GDFs owned by small businesses that pay ASPs to respond to every ISD overpressure alarm, rather than self-clear the alarms, are expected to have cost-savings of about \$962 per year per GDF with implementation of the improved assist EOR nozzle. CARB staff estimates there are more than 100 GDFs that are owned by small businesses predicted to have this cost-savings (see Table 5). The cost-savings sum to about \$1.24 million over the 11-year lifetime of the proposed regulations for small businesses. The proposed amendments would ensure that such cost savings are preserved by preventing the introduction of nozzle designs with dimensions known to increase air ingestion and ISD alarm frequency.

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<sup>2</sup> These include the five nozzle manufacturers that currently produce CARB-certified nozzles or have submitted certification applications for prototype nozzles.

## 2. Potential Costs and Benefits to a Typical Business

No direct cost increases are anticipated for any California-based businesses, including GDFs owned by ~~small and~~ mid-sized and large businesses, which make up less more than ~~820%~~ of the California retail fuel market. In addition, no direct cost increases are anticipated for gas station parts distributors and service contractors.

Nozzle manufacturers, all of which are based out of state, may have small increases in initial nozzle certification costs and certification renewal costs associated with the additional time needed for CARB certification staff to evaluate compliance with an increased number of nozzle dimensions. CARB staff estimated a total cost of about \$17,100 for re-certifying the three currently certified balance and assist vapor recovery nozzles that are still sold in California and the three ECO nozzles that might be certified before the effective date of the proposed amendments. CARB staff estimated a potential cost of \$3,420 for incorporating additional dimensions in certification renewal review for these six nozzles, and certification application and renewal reviews for potential future prototype nozzles. (This includes the ECO nozzles currently being tested or under review.) These costs sum to about \$20,520 over the 11-year lifetime of the proposed regulations. This estimated cost is negligible over 11 years and CARB staff assumes nozzle manufacturers will absorb this cost without any increase to nozzle prices for their customers (GDFs, parts distributors and service contractors). Also, nozzle manufacturers already incorporate the proposed nozzle spout and bellows dimensions in their design specifications review process and therefore would not have any increase in development and certification process costs to pass on to their customers.

If nozzle manufacturers were to pass on the increase in certification costs along with an estimated 20 percent markup, this would result in \$24,624 ( $\$20,520 \times 1.2$ ) in costs to California businesses over the 11-year lifetime of the proposed regulations. On average, this could result in approximately \$52.41 in additional cost per impacted GDF California business ( $\$24,624 \div 5,305$  impacted GDFs) over the 11-year lifetime, ~~which is considered to be negligible.~~ As described in Table 4(B), CARB staff estimates an average cost of about \$8.40 per year for the most common type of non-small business (“Independent Businesses with 10’s to 100’s GDFs”), and about \$4.20 and \$29.40 per year on average for the other non-small business types (“Major Oil Companies” and “Hypermarkets”).

GDFs that pay ASPs to respond to every ISD overpressure alarm, rather than self-clear the alarms, are expected to have cost-savings of about \$962 per year per GDF with implementation of the improved assist EOR nozzle (see section E and Table 5).

## 3. Potential Costs and Benefits to Individuals

No direct costs or benefits are anticipated for individuals (i.e., non-businesses). In addition, no indirect or induced costs or benefits for individuals, such as costs or

savings being passed on to consumers, are anticipated. Cost-savings are anticipated for GDFs; consequently, no cost increases are expected to be passed to GDF customers. At the same time, the cost-savings for each GDF are likely to be relatively small, about \$962 per year per GDF; consequently, CARB staff does not anticipate a noticeable reduction in the price of gasoline at the pump for customers.

Also, nozzle manufacturers already incorporate the proposed nozzle spout and bellows dimensions in their design specifications review process and therefore would not have any increase in development and certification process costs to pass on to their customers. The small estimated increase in CARB certification process costs is negligible over 11 years and CARB staff assumes nozzle manufacturers will absorb this cost without any increase to nozzle prices for their customers (GDFs, parts distributors and service contractors). As described in earlier sections, even if nozzle manufacturers were to pass on the increase in certification costs along with an estimated 20 percent markup, this would result in a negligible cost increase to GDF owners of about \$52.41 per GDF on average over 11 years.

#### **4. Potential Impact on Jobs, Business Competitiveness, and Business Creation, Elimination, or Expansion**

No creation or elimination of jobs within California is expected from implementation of the proposed regulatory amendments because:

- The potential certification cost increase predicted for nozzle manufacturers is too small to affect the number and salary of employees (~\$3,230 per nozzle manufacturer, for one-time certification cost and two renewals); and
- The potential cost to GDF owners if the nozzle manufacturers were to pass on the certification cost increase, about \$52.41 per GDF on average over 11 years, is too small to affect the number and salary of employees.

The proposed regulatory amendments are not expected to result in the creation, elimination, or expansion of nozzle manufacturers, GDFs or other business in California for the same reasons. Similarly, the proposed amendments are expected to have no noticeable effect on the ability of California businesses to compete with businesses in other states.