

Proposed Amendments to the Gasoline Deposit Control Additive Regulation

Public Hearing
November 16, 1995

California Environmental Protection Agency

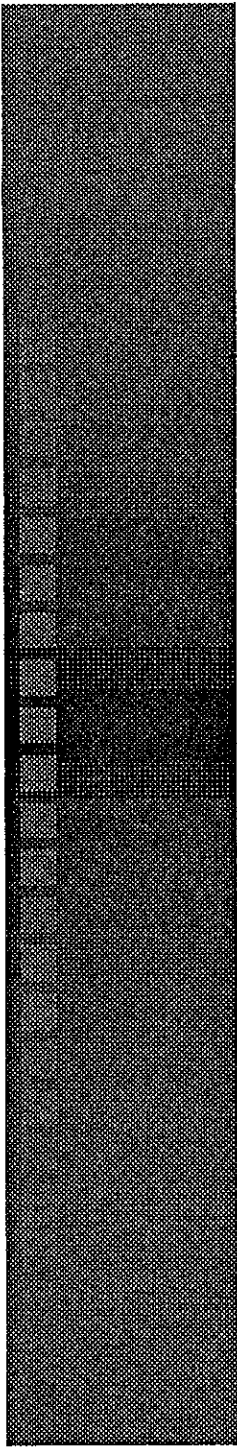


Air Resources Board



Overview

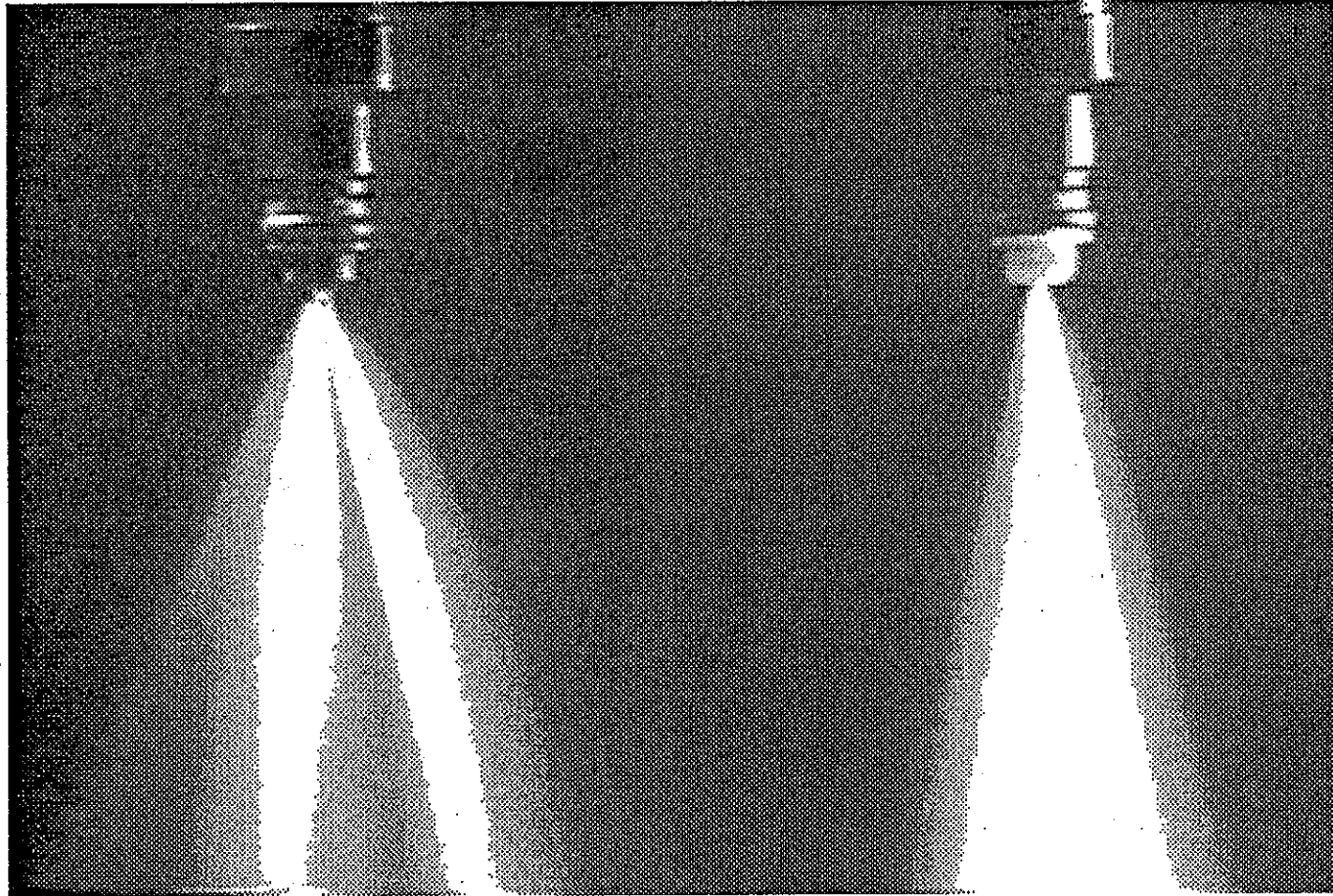
- Background
- Discussion of Proposed Amendments
- Summary



Background- *Summary*

- Deposit control additive regulation adopted by Board in 1990
- Board intended to preclude excess emissions from motor vehicles with dirty fuel systems
- Board established a per gallon standard to assure that all motor vehicle gasoline is effective in cleaning deposits

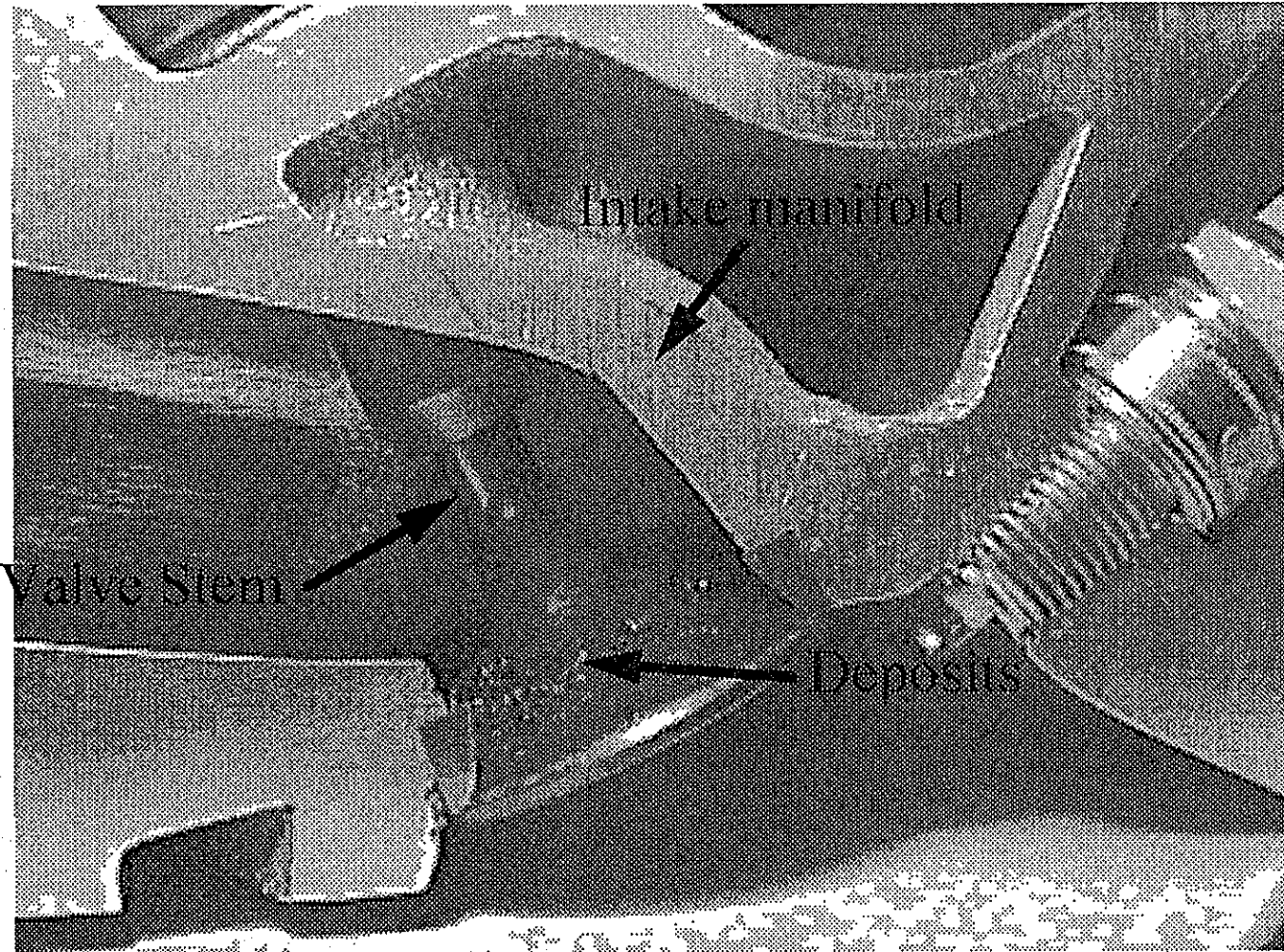
Effect of Deposits on Port Fuel Injectors



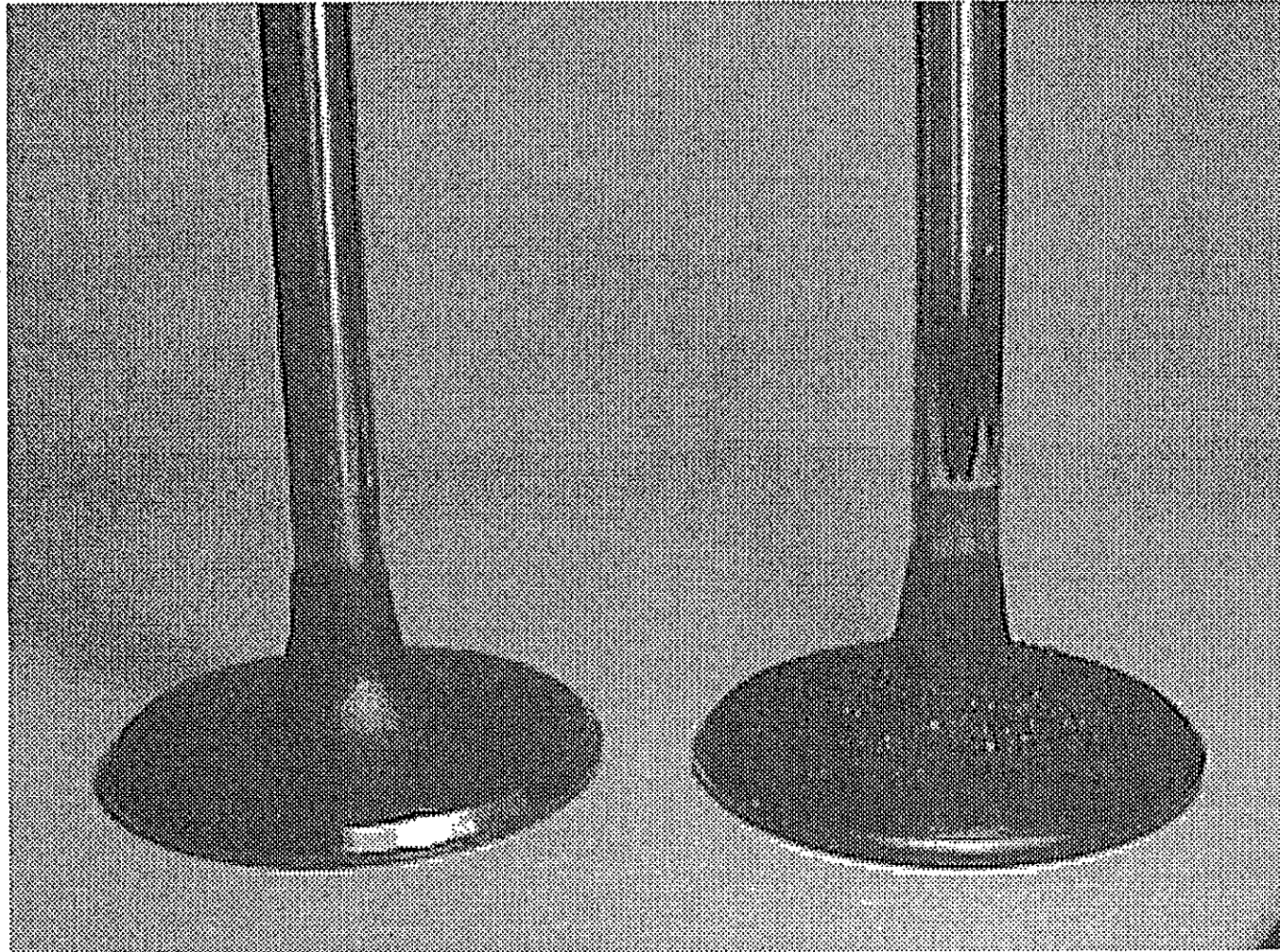
Plugged Injector

Clean Injector

Deposit Formation on Intake Valves



Deposit Formation on Intake Valves



Clean Valve

Dirty Valve



Background-

Air Quality Benefits

HC 3 tpd

CO 30 tpd

NO_x 2 tpd

Background-

Regulatory Requirements

- Additization of all commercial gasoline
- Formal application
- Vehicle testing to demonstrate additive effectiveness
 - ◆ Keep Clean: port fuel injectors & intake valves
 - ◆ Clean Up: port fuel injectors
- Recordkeeping



Background-

Program Status

- Over 230 certifications approved to date
- Certification review and enforcement procedures were developed to implement regulatory requirements

Proposed Amendments

- Certification Test Fuel Properties
- Recordkeeping
- Test Methods
- Other

Proposed Amendments

- Provide regulatory “housekeeping”
- Do not represent any fundamental changes to current regulation
- Maintain environmental benefits

Proposed Amendments-

Certification Test Fuel

- Certification test fuel properties must represent maximum requested gasoline properties
- Certain test fuel properties must be formulated to be at least 80% of requested maximums
- Other test fuel properties must be representative of typical commercial gasoline

Certification Test Fuel Amendments- *Rationale*

- Minimizes test fuel requirement uncertainty
- Minimizes the need for “supplemental” testing
- Provides flexibility to formulate a certification test fuel
- Ensures that certification test fuels are representative of the requested maximum properties

Proposed Amendments- *Recordkeeping*

- Proposed to delay the amendments to the recordkeeping requirements
- Allow consideration of how the final U.S. EPA deposit control additive regulation will apply to California

Proposed Amendments-

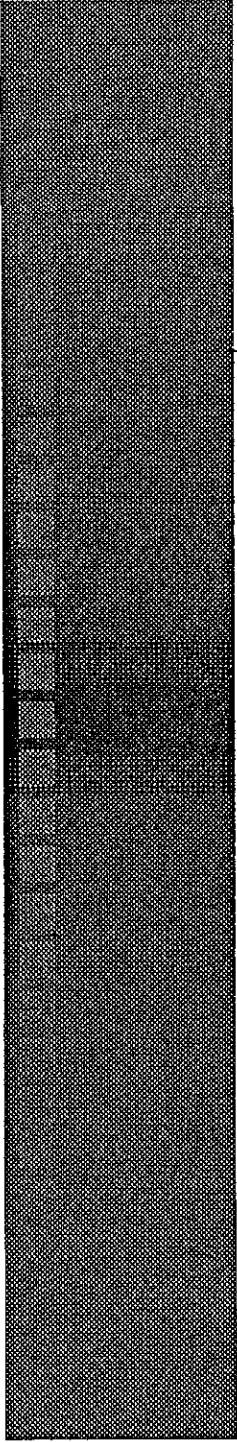
Test Methods

- Update PFI and IVD keep-clean test method with ASTM D 5598 and ASTM D 5500
- Revise ARB clean-up test method to incorporate ASTM D 5598

Test Method Amendments-

Rationale

- Provides consistency with anticipated U.S. EPA vehicle testing requirements under the final regulation
- Provides improved QA/QC and reduce test variability
- May reduce invalid runs



Proposed Amendments- *Manual Correction*

- Allows the practice of manual additive correction
- Requires documentation

Proposed Amendments-

Other

- Clarify definition of “gasoline”
- Clarify definition of “gasoline formulation”
- Require test method reproducibility as part of application package
- Require additive concentration on a volume basis as part of application package

SUMMARY

- Amendments provide clarity, specificity and flexibility to the additive regulation
- Amendments provide consistency with the future U.S EPA additive regulation
- Amendments maintain current air quality benefits