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**Real-Time Non-Fuel Background Emissions**

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**ABSTRACT:**

The state of California has adopted a "real-time" evaporative emission procedure that will be used starting with the 1995 model year. This test, which focuses on high temperature conditions, and measures all sources of evaporative emissions, represents a very stringent requirement. Non-fuel background emissions, i.e., paint, adhesives, and even air conditioning refrigerant, can be a significant fraction of the total measured emissions.

California has included a provision in their regulations that allows for the subtraction of background emissions, using a methodology to be developed in the future. This paper reviews the history of non-fuel emission regulations, provides data showing the magnitude of the problem using the new real-time procedure, and suggests a methodology for establishing a new background emission test procedure.

Using the procedures recommended in this paper, vehicle background emissions ranged from .09 to .25 grams per day for the three vehicles included in this study. Two sources of emissions that might be erroneously included in a background measurement were identified. These are fuel hose permeation and crankcase/intake system breathing losses. The effect of engine oil and other fluids was also quantified.