

## **Questions and Answers Regarding Charges Made July 16 by KGO Channel 7 on Possible Fuel Seeps and Car Fire Dangers Associated with Cleaner-Burning Gasoline**

---

KGO Channel 7's 6:00 p.m. broadcast on July 16, 1996 focused on interviews with three California Air Resources Board (ARB) employees who conducted some of the vehicle inspections during the cleaner burning gasoline test program. These employees--Dave Leary, Todd Carter and Frank Gutierrez--work as Field Representatives in the Heavy-Duty Diesel Branch in the ARB's El Monte offices. KGO also presented seep data for four of the fleets in the test program.

### **1. How was the test program conducted?**

In mid-1994, the ARB formed an Advisory Committee to provide ongoing advice on implementation on the cleaner-burning gasoline program. Under the guidance of a Performance Subcommittee, cleaner-burning gasoline was tested during a six month period in over 800 vehicles in private business or governmental fleets accumulating over 5 million miles. At the same time, a control fleet of over 600 vehicles was operated on conventional gasoline. There were four private fleets: Bank of America, GTE, Pacific Bell North and Pacific Bell South. There were also four government fleets: Caltrans, City of Sacramento, County of Sacramento and CSU Fresno. Caltrans and CSU Fresno only operated vehicles on the test fuel. The other six fleets had both test fuel vehicles and conventional fuel vehicles. The primary object was to see if there were performance or materials compatibility problems associated with the cleaner fuel.

Fleet maintenance personnel were instructed to report whenever a vehicle's fuel system was adjusted, repaired or replaced outside of the scheduled maintenance, or driveability problems were encountered. In addition, both the test and control fleet vehicles were inspected periodically and maintenance logs were reviewed to determine if there were problems that could be fuel-related. The Performance Subcommittee established a Technical Review Panel to review, evaluate and render an expert opinion as to the nature of any reported fuel system or driveability incidents. Seven members of the 19-member panel were from vehicle manufacturers, 7 were from the oil industry, and 5 represented the ARB or the Bureau of Automotive Repair.

At least 80 members of the ARB staff worked on some aspect of the performance test programs. They included engineers who designed the program, coordinated with the fleet operators, inspected maintenance records, and reviewed and verified reported incidents. They also included field inspectors, chemists who analyzed the fuel, programmers and data processors, and a statistician.

### **2. What was the role of the three inspectors in the test program?**

The periodic vehicle inspections were normally conducted by ARB employees. In all, 18 ARB inspectors--most of whom were (like the three interviewed inspectors) Heavy-Duty Diesel Branch field representatives with automotive backgrounds--conducted more than 2700 vehicle inspections during the program. The three inspectors interviewed by KGO conducted around 400 inspections of test program vehicles (about 270 inspections on test vehicles and the rest on control vehicles), all in Southern California. This represented less than one-sixth of the total ARB inspections. The vehicles they inspected were also inspected at other times by other ARB staff. Inspectors were directed to prepare and submit a

fuel system inspection log for each vehicle inspection, and generally did not have other responsibilities in the test program.

### **3. What did the three inspectors report with regard to seeps and leaks?**

The term "seep" was used to characterize a wet spot, wetness or a stain near a gasket, seal, or fitting. Seeps are a fairly common occurrence, and, in the absence of evidence of an ongoing fluid leak, are not normally the reason for repair or maintenance. A "seep" is differentiated from a leak such as a "drip" or "run" by the fact that no actual fuel is observed at the time of inspection.

Of the 270 inspections of test fleet vehicles conducted by the three interviewed inspectors, they reported 70 seeps--a rate of 26%. Of their 130 inspections of control vehicles, they reported 9 seeps--a rate of 7%. One of the three inspectors reported seeps in 39% of his 94 inspections of test vehicles, but no seeps in his 52 inspections of control vehicles.

There were two instances where one of the three inspectors reported a drip or run on an inspection log. In the first, during a periodic inspection of a vehicle in the GTE fleet the inspector reported a run on a fuel pump line and indicated the run could be oil. The vehicle was inspected 16 days later by a GTE mechanic and another ARB inspector; they reported no runs, drips or seeps. The second instance was during the same set of GTE inspections--another of the three inspectors reported a carburetor drip as well as a fuel pump seep, and no repairs were made to this vehicle as well. In addition, in an inspection of Bank of America test fleet vehicles one of the inspectors reported some "seeps" that he indicated were "severe." As described in the response to Question 6, an immediate follow-up inspection of these vehicles by a GM representative and a fleet mechanic found the conditions to be normal and not warranting repairs.

### **4. How did the frequency of seep and leak reports from the three inspectors compare to observations by other ARB inspectors and fleet mechanics?**

The other 15 ARB inspectors reported seeps in 114 of the 1617 test vehicle inspections they conducted--a rate of 7%. They reported 31 seeps out of 764 inspections of control vehicles--a rate of 4%.

For logistical reasons, all of the inspections (other than some of the initial inspections) of the 173 test vehicles and 241 control vehicles in the County of Sacramento fleet were conducted by fleet mechanics rather than ARB employees. During the course of the entire test program, only one seep was reported on a test vehicle in the County fleet, and that seep was not reported in the subsequent inspection of the vehicle. No seeps were reported for the control vehicles.

Of all the inspections conducted by inspectors other than the three interviewed, there were 6 reported drips or runs. Two were observed during initial inspections of control fleet vehicles. Three were drips observed during initial inspections of test fleet vehicles, before the cleaner burning gasoline was delivered to the fleet. One drip was reported on a test vehicle during the test period, and the inspector noted that it resulted from a mechanical problem (a loose fitting).

### **5. Are KGO's figures on the reported seep rates for various test and control fleets accurate?**

KGO presented "seep data" for a total of four fleets. KGO's claims were as follows:

**Claim:** "In Pacific Bell's Costa Mesa test fleet, 11 out of 60 vehicles using the new gas had seeps. By contrast, the company's Laguna fleet was using the old gas, and that fleet had only 1 seep out of 100 vehicles."

**Facts:** For each of the performance test program fleets mentioned by KGO, the ARB has identified the total number of seeps reported for the fuel system components on each vehicle (a seep that was reported for a component on a vehicle, and was also reported for the same component and vehicle on a subsequent inspection without intervening repairs, was counted as one seep). We have also identified and then subtracted two categories of these seeps: (1) those identified in initial inspections (usually before the test fuel had been used), and (2) those that were reported in one inspection but were not reported in the subsequent inspection. The resulting figure for each fleet represents the number of reported new seeps that were not transitory.

There were 55 vehicles in Pacific Bell's southern California test fleet, which was located in the City of Commerce. Eight seeps were reported on these vehicles at some point. One reported seep was not observed in the subsequent inspection, leaving 7 seeps representing a rate of 13%. Pacific Bell's Southern California control fleet was made up of 38 vehicles located in Laguna Niguel. Two seeps were reported for these vehicles at some point; none of these were observed in the initial inspection, and none were followed by an inspection where a seep was not reported. Thus the conventional gasoline vehicles had a rate of 5% reported new seeps that were not transitory.

**Claim:** The GTE test fleet had "80 seeps out of 120 vehicles inspected."

**Facts:** There were 256 vehicles in the GTE test fleet. Seeps were reported at some time on 69 components on these vehicles. Eliminating the 4 seeps found in the initial inspection and the 48 seeps that were not observed in the subsequent inspection leaves 17 seeps--a rate of 7%. By comparison, of the 157 vehicles in the GTE control fleet operating on conventional gasoline, there were 11 reported seeps after eliminating the one seep reported in an initial inspection and the one seep not reported in the subsequent inspection--a rate of 7%.

**Claim:** The Bank of America test fleet had "15 seeps out of 20 cars."

**Facts:** There were 20 Bank of America test fleet vehicles, on which 22 seeps were reported. Eliminating the 7 reported seeps that were not observed in the subsequent inspection leaves 15 components out of 20 vehicles with reported new seeps. KGO failed to report, however, that 6 out of the 10 vehicles in the Bank of America control fleet operating on conventional gasoline were also reported to have new seeps after eliminating any that were reported at the initial inspection or were not reported in the subsequent inspection.

**Claim:** The Caltrans test fleet had seeps in "30 out of 80 vehicles."

**Facts:** There were 25 vehicles in the Caltrans test fleet. Only 1 seep was ever reported, and that was reported in an initial inspection before the test fuel was used.

**6. Were there instances where one of the three inspectors reported that seeps he had observed presented a safety hazard? If so, what happened?**

We are aware of one such instance. During a July 6, 1995 inspection, two of the three inspectors reported 19 seeps on 14 vehicles in the Bank of America test fleet vehicles, and one of them raised safety concerns about the vehicles. The vehicles consisted of 8 GM Astro vans, 5 Ford Escorts and 1 Dodge Omni. In response, the next day a GM factory field representative inspected the fleet vehicles along with the two inspectors from the previous day, another ARB employee, and Bank of America representatives. The GM representative confirmed his conclusion in the attached July 21 letter, reporting that the vehicles in both the test fleet and the control fleet had a build-up of road dirt and debris on the front of the throttle bodies.

He stated that "this condition is not uncommon on this type of vehicle," that "the described condition in no way affects the vehicles['] performance or durability" and that he "would not hesitate to recommend that these vehicles be kept in service." To date, the Bank of America fleet operators have not deemed it necessary to make any repairs of the reported conditions on any of the vehicles.

**7. Were there any instances where the managers of the private and government fleets concluded that vehicles with seeps reported by the three inspectors needed to be taken out of service and repaired?**

Not that we know of. The fleet managers, who were the persons ultimately responsible for assuring that their vehicles were safe and in good working order, were typically notified of problems considered to be serious. We are not aware of any instance where a fleet manager concluded after further investigation that a vehicle reported to have a seep needed to be repaired or taken out of service.

**8. What steps were taken in the test program in response to the seep reports from the three inspectors and others?**

Because of concerns over reported seeps in both the test and control vehicles, the Technical Review Panel created a special Task Group to determine if the occurrence of seeps could be related to cleaner-burning gasoline. This Task Group was headed by Dr. Loren K. Beard of the Chrysler Corporation, a recognized expert in the field of automotive fuel systems. It also included Dr. Gerald Barnes of General Motors, Dr. Brian Rippon of Ford, and field representatives from General Motors' Service Technology Group. The Task Group was assisted in the field by ARB staff.

Members of the Task Group visited some of the California fleets operating on both the test and control fuels, including the GTE test fleet in Ventura. They also investigated seeps on similar mileage and age vehicles in the Detroit area. The Task Group's conclusions were stated in a November 1, 1995 letter from Dr. Beard, also attached. He stated:

"Based on these [the Task Group's] evaluations, we conclude that the 'seeps' do not represent an abnormal condition. In particular, many of the seeps that were evaluated in the California fleets may not be fuel related at all. Some appeared to be motor oil, others possibly brake fluid or coolant. In both the California and Michigan-based vehicles, carburetors, fuel pumps, and fuel filters seem to be areas where dust and grime accumulate, without any evidence of actual fuel leaks. Also, similar accumulations of 'grime' were identified near PCV and EGR fittings, coolant and power steering fluid hoses and lines, and master cylinders. Based on a review of these findings with my colleagues at Ford and General Motors, the task group recommends that the 'seeps' identified in both the conventional and CP2 [California Phase 2 cleaner-burning gasoline] fueled fleets be considered 'not fuel related', and removed from further consideration of the analysis of fuel-related incidents in the program."

**9. What did the final report for the test program say about observations of seeps and leaks? Were the three inspectors' seep data "thrown out"?**

The final report identified on page 1-38 the total number of reported seeps that were in the database at that time. It then broke out the number of seeps reported during the initial "baseline" inspections, and the number of reported seeps that were not identified during the subsequent inspection. The report described the Task Group formed by the Technical Review Panel to investigate seeps, and its conclusion that the reported seeps should be characterized as normal occurrences not attributed to the test fuel. The reported seeps were accordingly not included in the calculations of potentially fuel-related "incidents."

## 10. Did seeps reported on test vehicles contribute to more serious problems?

Not that we know of. During the test program there were 56 reported instances where a fuel system component was adjusted, repaired or replaced in circumstances outside of the scheduled maintenance. Of these 56 "incidents," 10 were on vehicles for which seeps had previously been reported. In 7 of the 10, the seep had been identified on a component that was not part of the incident. In one of the remaining three cases, the incident was categorized by the Technical Review Panel to be a normal occurrence given the age, mileage, and use of the vehicle. With regard to the other two vehicles, the fuel pump was replaced and carburetor overhauled on a vehicle in the GTE test fleet, and an accelerator pump diaphragm was replaced on a vehicle in the Pacific Bell North fleet (not visited by the three inspectors). In neither case was the occurrence of a seep a sign that the component was one that was going to fail. [Attachments: GM's 7/21/95 letter, and Loren Beard's 11/1/95 letter]

---

### **CHRYSLER CORPORATION** **Chrysler Technology Center**

November 1, 1995

Dean Simeroth  
Chief, Criteria Pollutants Branch  
California Air Resources Board  
2020 L Street Sacramento, CA 95814

Dear Mr. Simeroth,

As part of its program to evaluate the performance of California Phase 2 reformulated gasoline (CP2), Air Resources Board (ARB) inspectors have examined the fuel system integrity. Vehicles operating on both conventional gasoline and CP2 were examined. During the course of these examinations, the inspectors identified a number of "seeps" in vehicles from both the conventional and CP2 populations. As we understand it, a "seep" may be a wet spot or a stain near a gasket, seal, or fitting, suggesting that fuel may have "seeped" from this area under some operating conditions. A "seep" is differentiated from a "drip" or "leak" by the fact that no actual fuel is observed at the time of inspection.

Our task group has been asked to evaluate these "seeps" to determine whether, collectively, they appear to be abnormal. To that end, we have visited some of the California fleets operating on both conventional and CP2 gasoline, and have evaluated some similar mileage and age vehicles here in the Detroit area. Based on these evaluations, we conclude that the "seeps" do not represent an abnormal condition. In particular, many of the seeps that were evaluated in the California fleets, may not be fuel related at all. Some appeared to be motor oil, others possibly brake fluid or coolant. In both the California and Michigan-based vehicles, carburetors, fuel pumps, and fuel filters seem to be areas where dust and grime accumulate, without any evidence of actual fuel leaks. Also, similar accumulations of "grime" were identified near PCV and EGR fittings, coolant and power steering fluid hoses and lines, and master cylinders.

Based on a review of these findings with my colleagues at Ford and General Motors, the task group recommends that the "seeps" identified in both the conventional and CP2 fueled fleets be considered "not fuel related", and removed from further consideration in the analysis of fuel-related incidents in the program.

Sincerely,

Signed

Loren K. Beard, PhD  
Fuels Specialist  
Chrysler Corporation

cc:

Jerry Barnes, General Motors  
Brian Rippon, Ford

---

**STG**  
**GM Service Technology Group**

July 21, 1995

TO: Keith Macias, California Air Resources Board (CARB)

FROM: John Stott, G.M. S.T.G. Field Engineering

SUBJECT: B of A Fleet

On July 7th I visited the Bof A service garage in downtown Los Angeles. Keith Macias of the CARB had contacted me and asked if I would assist in inspecting several vehicles with reported fuel seepage. I inspected the vehicles with Keith, representatives from B of A, and the EPA inspectors that had reported the problem.

The problem reported by the inspectors was a dampness, or seepage, on the front throttle bodies on the fleets Astro vans. The inspectors noted that they had not seen this condition on the vehicles at the start of the test. It should be noted however, that these vehicles had very low mileage on them at the start of the test.

Our inspection revealed a build up of road dirt and debris on the front of the throttle bodies. This condition is not uncommon on this type of vehicle. The condition is most apparent on vehicles used in hot and/or dusty climates. While this condition was apparent on all of the same type of vehicles that we looked at, it was also apparent on all of the same type of vehicles that we looked at in the control fleet. As an extra precaution we looked at vehicles not involved in the ARB testing and they also had the same condition.

I would not hesitate to recommend that these vehicles be kept in service. The described condition in no way affects the vehicles performance or durability.

Sincerely,

Signed

John Stott  
STG Engineering