Everyone pays for sins of a few

By Don Stedman

Colorado's 1990-1991 oxygenated fuels program to control carbon monoxide emissions has just come to an end. The cost of the four-month program was between $7 and $20 million dollars. As in the past, it will be declared a success since the Colorado Department of Health (CDH), both mandates and evaluates the program.

The 1990 legislature required the state auditor general to independently investigate the cost-effectiveness of both the annual AIR emissions tests and the oxygenated-fuel program. The CDH has been quite active in attempting to control this process.

The department's most recent suggestion is that there is no need for the state auditor to carry out any evaluation of the oxygen-fuels program since oxygenated fuels are mandated nationwide by the 1990 Clean Air Act amendments. This argument is spurious since the same amendments also mandate annual emissions programs. Furthermore, CDH itself claims that the nationwide imposition of oxygen-fuels arises because of the "success" of the Colorado program.

Oxygenated fuels reduce carbon monoxide (CO) emissions from vehicles. The University of Denver has measured tens of thousands of vehicles on the road in Denver using a new remote sensing technique, which has been validated by both the Environmental Protection Agency and the California Air Resources Board. The data show that half the emissions come from less than 10% of the vehicles -- the gross polluters -- none of which are within a year of being new, but are between 5 and 10 years old.

Many vehicles over 10 years old are quite clean. The improvement caused by oxygen-fuels is mostly confined to the gross polluting cars. It would be a lot more cost-effective to repair these gross polluters rather than force oxygenated fuels on everyone.

This conclusion can also be reached by reviewing the results of other studies. The EPA conducted a study of 85 vehicles. When fuels were mixed to the same vapor pressure, the two dirtiest vehicles emitted 106 and 144 grams/mile of CO, respectively. The three cleanest all emitted less than 20 grams/mile, and the median of the fleet emitted only 4 grams/mile. When oxygen-fuels were tested, the two worst cars emitted 88 and 102 grams/mile for a total savings from the two vehicles of 60 grams/mile. This CO reduction from only two vehicles was more than the total reduction from the 53 cleanest vehicles in the same fleet.

The study should clearly that the dirty cars burn cleaner and get better mileage using oxygen-fuels, while the cleanest cleaner vehicles, whose emissions are essentially irrelevant when compared to the dirty ones, pay for the program by their lost gas mileage and increased fuel costs.

The Colorado Department of Health (CDH) has generated a data base containing studies of 175 vehicles. Half the CO from the entire fleet was emitted by the 26 dirtiest vehicles. The dirtiest of all emitted 211 grams/mile of CO.

Using oxygenated fuel, the CO emissions from this vehicle were reduced to 181 grams/mile, an impressive 30 grams/mile reduction. This reduction is particularly impressive when one realizes that the five cleanest vehicles studied emitted only 5.5 grams/mile altogether. These clean vehicle emissions were reduced to 5.3 grams/mile when all five vehicles were analyzed at the maximum level of fuel oxygenation.

Professor Gary Bishop at the University of Denver points out that oxygenated fuels are like cold medicine. The fuels only operate on the symptoms, not the cause of the problem. The disease analogy is most appropriate. If the mayor of San Francisco forced all city dwellers to take AZT with breakfast, there would certainly be a reduction in the incidence of AIDS-related symptoms. But the cost-effectiveness would not be very good.

The state auditor should be encouraged to stick to his mandate and carry out the most thorough independent evaluation of cost-effectiveness of the oxygen-fuels program for his appropriation will allow.