could possibly constitute tampering, depending on the emissions result of the recalibration. (This is also true for manufacturer recalibrations; however, if manufacturers are the only parties issuing recalibrations, such problems are easier to enforce.) This is not to say that EPA intends on preventing such aftermarket recalibrations or even manufacturer recalibrations. However, if EPA's concerns regarding the emissions result of such recalibrations increase as it receives further data on the subject, EPA may determine that certain steps must be taken (possibly in the form of a mandatory certification program) to ensure that recalibrations are consistent with the Act and to preserve emission performance of vehicles.

One of the more frequently cited comments by the manufacturers was that reprogramming should be restricted to dealerships for reasons of security. However, EPA received no evidence that tampering is necessarily less likely to occur if reprogramming is limited to dealership employees, which according to NADA constitute more than one million individuals (including one-third of all technicians) at over 23,000

dealerships nationwide.

The Agency believes that if the appropriate security measures are instituted for reprogramming, the risk of tampering would be virtually the same for independent technicians and

dealership employees. EPA questions manufacturer comments to the effect that they can ensure the security of recalibration information as long as it is provided only to dealerships. The manufacturers failed to provide any data from prior actions against dealerships to substantiate the assertion that manufacturers can prevent their dealerships from engaging in undesired activities. Also, EPA is not forbidding manufacturers from using contractual and other arrangements to protect against inappropriate use of the reprogramming equipment.

EPA is encouraged that the aftermarket industry recognizes that as a result of providing independent technicians with reprogramming capabilities there is some concern over the potential for tampering. EPA also appreciates the many suggestions made by the aftermarket to reduce the potential for tampering. However, EPA believes that manufacturers should be allowed to develop and implement the systems which they believe are most secure, such as encryption systems, taking into consideration the amount of reprogramming they perform and available technology. If EPA subsequently determines that security

and tampering concerns develop into a problem due to the release of this information, EPA may require other measures to limit tampering and to prevent emissions increases.

EPA disagrees with comments regarding the inability of independent technicians to correctly perform reprogramming. First, the new electronic systems are too complex for independent or any other technicians to indiscriminately alter. Second, based on EPA observations, reprogramming according to manufacturer instructions is not a difficult task. Procedures could be easily detailed in manufacturer repair manuals as they typically are for other repairs. Therefore, any training need to perform reprogramming should be minimal. If manufacturers believe that extra training is necessary prior to technicians performing reprogramming, then they should make available whatever training materials they believe are necessary to ensure that independent technicians can properly perform reprogramming.

EPA believes that manufacturer concerns over warranty and recall responsibilities for vehicles that might be recalibrated improperly by independent technicians are unfounded. Manufacturers will be in control of the process by which reprogramming is provided. In addition, as discussed earlier, the task of reprogramming is not difficult.

EPA believes that any increasing danger of undetectable tampering would be more a result of the proliferation of reprogrammable computer chips than it is a result of who repairs vehicles. The proliferation of reprogrammable computer chips is in the control of the manufacturers who can elect not to use reprogramable chips or who can provide many other safeguards short of a permanent bar against reprogramming by aftermarket technicians. This possibility of increased tampering may also provide an incentive for manufacturers to minimize the amount of manufacturer-ordered reprogramming that occurs.

In addition, EPA never indicated that manufacturers would be responsible for reimbursing owners or independent technicians for reprogramming performed outside a dealership. EPA also has a difficult time understanding how allowing independent technicians to perform reprogramming recommended by the manufacturer would be a disincentive for owners to seek future emission-related repairs, since almost all manufacturer commenters indicated that such repairs occur during the warranty period and

are, therefore, likely to be performed by dealerships.

EPA believes that GM's comments mis-state the competitiveness concerns of a level playing field expressed by Congress. With the advent of eraseable computer chips, dealers can perform reprogramming in minutes, while independent technicians, if forced to return a vehicle or its module to a dealer for reprogramming, would be at a significant time and cost disadvantage. According to one manufacturer, it is difficult to predict how long an independent technician would have to wait at a dealership to have a reprogramming event performed on a vehicle brought in by the independent technician. The manufacturer indicated that an independent technician might have to wait four to five days.

EPA agrees with the aftermarket commenters that forcing independent technicians to return computers to dealers for reprogramming requires excessive manpower, would result in loss of income due to delays, is onerous and unnecessary. In addition, the Agency believes that requiring independent technicians to do so does not constitute access to repair information as conceived by Congress in section 202(m)(5) of the CAA.

EPA agrees with the example provided by an aftermarket commenter regarding one of the differences to independent technicians as to the difference between replaceable computer chips and eraseable computer chips and any requirement that independent technicians return an electronic control module (ECM) to a dealer for reprogramming. Where an independent facility buys a computer chip from a dealer, the vehicle remains operable while the repair facility searches for the part, orders the part, and transports the part. However, if an independent facility would have to remove the computer from a vehicle and take it to an authorized dealer to have it reprogrammed, the affected vehicle is not operable. Even ignoring the potential for lack of cooperation by a dealership to provide reprogramming, the cost to independent technicians and the inconvenience to their customers could be substantial.

There is also concern, as expressed by ETI and others about the damage that could result from transporting exposed electronic parts, which are very sensitive to static electricity, physical damage, and fluids, including water. As ETI noted, a computer module that starts out needing only a reprogramming service may need replacement simply because it was transported to a dealer and damaged along the way.