# For The Defense™

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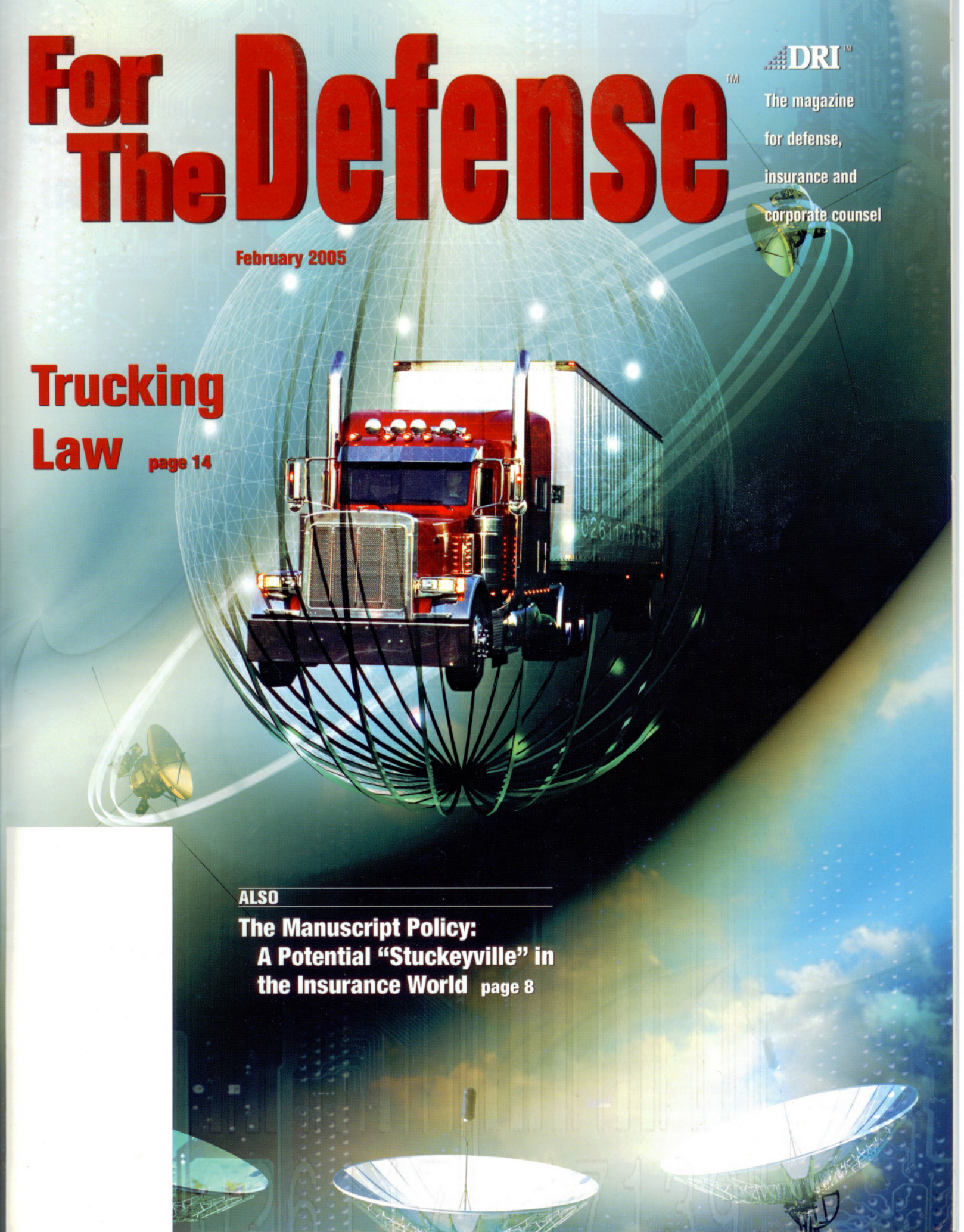

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*A Modern Understanding*

# How to Defend When Technical Data Is Involved

**by Dennis G. Seley and Robert M. Shannon**

Commercial vehicle manufacturers originally developed the electronic control module, or ECM, in concert with high-tech companies as a means of improving the quality of their products as well as managing product maintenance. Messaging and positioning systems (such as Omnitrax by Qualcomm) were designed simply to improve communication with a driver on the road. Many companies now offer software that monitors engine performance, including the speed of the vehicle within certain parameters. Alert plaintiffs' attorneys have now turned the tables on manufacturers and are asserting, with some success, that these technological developments can provide accident-specific data and, therefore, are important to an assessment of fault in connection with road accidents.

As a corollary to the development of this new technology, unprepared commercial vehicle owners, operators and carriers may now face claims of spoliation of evidence if all electronic data concerning the occurrence of an accident is not immediately preserved intact. This article addresses some of the ways in which plaintiffs' counsel have claimed that failure to preserve electronic evidence should affect the outcome of civil litigation. Success in a spoliation claim can effectively reduce or eliminate the plaintiffs' burden to establish fault. On the defense side, adequate preparation should be made from the outset to preserve evidence and therefore eliminate the issue of spoliation altogether, forcing plaintiffs' counsel to prove their case on the merits or not at all.

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## Electronic Data Now Available in the Marketplace

### DDEC or ECM Data

Computer data now generated by commercial vehicles results from a variety of electronic control systems.

Detroit Diesel is the manufacturer of the diesel engine and control system contained within the Freightliner tractor. DDEC is now in its fourth generation; each generation has gradually increased the power of the onboard computer and the software for reading data from that computer.

DDEC enables and monitors every mechanical function of the tractor, from braking to fuel mileage to gear shifting. Diagnostic codes for certain basic functions are flashed to the driver on the dashboard of the tractor at startup. Still more codes and more detailed historical information are available to technicians servicing the tractor using a handheld device that is plugged into a port beneath the dash of the tractor. This handheld unit displays information on a small screen and can print out the information and codes that it reads on a cash register-type tape. This tape can show specific codes demonstrating performance and maintenance items, as well as historical information such as miles traveled during the most recent trip and miles per gallon. The handheld device can be reset so that only the most recent data is displayed. Most mechanics who use the device are attempting to find recent information that is relevant to the service needs of the vehicle.

A more sophisticated method of reading DDEC information involves use of a laptop computer equipped with the most current Detroit Diesel software plugged into the port under the tractor's dash. DDEC reports can run up to 20 or more pages of detailed diagnostic and historical data, including average speed, mileage, and RPM information for the last 30 days of operation of the tractor; more generalized monthly reports covering the three most recent months of operation; and very specific information on two reports called the Last Stop Report and the Hard Brake Report.

The Last Stop Report displays second-by-second braking, speed, and RPM for the last minute prior to the stop, along with other more general information. The report is overwritten if the tractor remains stopped for 15 seconds and thereafter travels at a speed greater than one mile per hour.

The Hard Brake Report is generated every time the tractor decelerates at a rate greater than five to 10 miles per hour per second, depending upon the setting. Speed is measured for the Last Stop Report, the Hard Brake Report, and all other DDEC information systems by a vehicle speed sensor located on the tail shaft within the transmission of the tractor; there is no other device such as an accelerometer that detects the speed of the tractor-trailer combination. Typical of the mechanical/computer interface with the systems, however, the proper tire size must be programmed into the onboard computer for the vehicle speed sensor to result in an accurate mile per hour

reading that, in turn, affects a speed limitation feature within the onboard computer system.

Central to the DDEC system is a computer known as the ECM or Electronic Control Module. Other hardware in the DDEC system includes the sensors attached to virtually every mechanical component in the tractor with wires coming into the ECM. There is a small display screen on the dashboard of the tractor that will display some of the ECM data when the tractor is turned on, such as fault codes that demonstrate problems with the tractor's component systems.

The DDEC system does not transmit information to a remote location. It must be read at the tractor either with a handheld device, a laptop computer, or by reading the Pro Driver display unit on the dash. A truck fleet operator can program a speed governor feature on the DDEC system that will limit the speed that the truck driver can achieve. One of the printouts contained in the DDEC for reports is an audit trail which shows the last three changes to the speed governor setting, including the date and registration number for the tool used to make the change.

**Qualcomm, Inc.**

Qualcomm, Inc., headquartered in San Diego, has developed a second computerized system for tractor-trailer combinations that is used by several of the major carriers to monitor their fleets. The Qualcomm System is an entirely optional feature relative to the operation of the tractor itself and contains several levels of options that may be chosen by the user at corresponding price ranges.

First, the Omnitrax system allows a fleet manager at a home base to locate and communicate with every tractor in the fleet. The onboard system contains three pieces of hardware: a black box containing a computer which is connected to the DDEC ECM, a combination keyboard and display window called the EDU or Enhanced Display Unit in the cab, and a satellite antenna system that can communicate with two satellites in geosynchronous orbit around the earth at roughly the equator. One of the satellites handles the geographic location of the tractor and the other satellite handles any communications between the tractor and home base as well as transmission of operation data from the tractor to the home base. Communications between the home base and the driver are basically text messages similar to e-mail that are not transmitted via the Internet, but rather from the truck to the satellites to Qualcomm San Diego and then by landline to the corporate home base of the customer and vice versa.

Another optional Qualcomm feature is a program called SensorTRACS. The SensorTRACS program allows the fleet operator to produce a detailed set of reports similar to DDEC reports, but different in two important and fundamental ways:

**Law enforcement agencies across the country do not have a uniform policy.**

1) The reports can be produced from a remote location without the need to actually read anything at the tractor itself; and
2) While the DDEC ECM recalls information on an ongoing basis microsecond by microsecond, that data when fed into the black box of the Qualcomm system is stored not moment-by-moment, but in summary form.

A particular carrier might select a weekly schedule for SensorTRACS reporting. More frequent reports may be excessive for the user's needs and are very expensive. Under a weekly schedule, the black box installed in the tractor will transmit a week's worth of data, including average RPM and speed, as well as the amount of time operated within certain parameters, such as the time operated in excess of 70 miles per hour. However, the Qualcomm SensorTRACS data cannot be used to determine the speed of a tractor at any particular point in time during the week summarized on the weekly SensorTRACS report.

## Particular Problems Presented by the Availability of Electronic Data

With the increasing sophistication of onboard computer systems such as the DDEC hardware and software and supplementary global positioning systems such as Qualcomm, law enforcement officials and accident reconstruction professionals potentially have a great deal of data available to them when investigating a commercial truck accident. Law enforcement agencies across the country, however, do not have a uniform policy on whether and under what circumstances either to obtain or at least preserve such evidence.

When computer hardware or the data downloaded close in time to the accident is not preserved, the potential for losing helpful or harmful data increases. Experienced plaintiffs' attorneys will forward a letter very quickly after an accident informing the trucking company to preserve any and all hardware and data-containing records relating to the performance of the driver, vehicle speeds, and other data just prior to the accident. As with law enforcement agencies across the country, particular trucking companies have varying degrees of computer sophistication and knowledge of the capacities of these systems. Even within companies, various departments can have different levels of understanding of their electronic systems. Different departments such as operations, maintenance, and risk assessment may all have their particular interest in this data, but may know nothing about anyone else's. All of these factors can greatly complicate the initial accident investigation and later response to discovery.

Because this area is emerging in both technology and scope, litigation experts and consultants must be carefully selected. Multiple consultants may be necessary for computer technology sub-specialties such as programming and software analysis. A trend toward electronic discovery is expanding and judges will permit plaintiffs' attorneys access to a trucking company's computer system, provided proper safeguards are in place to prevent discovery or loss of computer data unrelated to the accident and to prevent inadvertent damage to software or data storage.

## Case in Point

A recent trial court case in California illustrates the potential difficulties created for litigators by the presence of electronic monitoring equipment on a commercial truck. An accident occurred involving a fully loaded big rig traversing a severe downslope on an interstate highway. Witnesses testified that the driver appeared to be losing his brakes and speeding. An initial minor accident had previously blocked

the fast lane of traffic on the interstate. Although most automobile traffic was able to funnel into the right lane to avoid the initial accident, one or more of the automobile drivers cut directly in front of the driver of the big rig in the slow or right-hand lane, who then changed lanes to the fast lane. He then observed the vehicles stopped directly in front of him because of the first accident and swerved to his right. As his vehicle entered the right-hand lane, his trailer turned over, crushing to death a Good Samaritan sitting within a vehicle parked between the oncoming traffic and the initial accident scene, near the left-hand shoulder of the interstate. There were at least 12 witnesses to the accident, including people in moving vehicles as well as those who had stopped and gotten out of their cars to observe the aftermath of the initial accident.

California Highway Patrol personnel at the scene suggested that the available ECM data be downloaded immediately. However, the CHP did not have the facilities to download such information themselves. Because of their ongoing investigation into the driver's fault and the potential that bad brakes had contributed to the accident, the CHP took possession of both the tractor and the trailer, ultimately removing what it considered to be relevant brake parts from the trailer and storing them for evidence in a planned criminal prosecution based on excessive speed for road conditions. Although the CHP photographed portions of the trailer's braking system extensively, the photographs were inexplicably lost.

Both the tractor and trailer were eventually shipped overland to the branch offices of the fleet owner located in a small town in California. At that point, however, the thread of communication between the parties was lost. The person in charge of the lot where the tractor and trailer were stored was not specifically made aware of the need to keep the vehicles as evidence. Although counsel was immediately retained by the fleet owner and counsel quickly retained an expert to analyze available accident information, the expert in question did not have a DDEC 4 reader to analyze the ECM information but rather read the information with a DDEC 3 reader. This had two unfortunate effects:

1) The DDEC 3 reader printed out only that information that a DDEC 3 was able to provide, not the greatly enhanced extra information that would have been provided had the system been read with a DDEC 4 reader; and
2) The DDEC system inputted a trip indication, which effectively meant that persons who tried to read the system thereafter with the DDEC 4 reader could no longer do so.

Plaintiffs' counsel wrote the requisite letter to his opponent some weeks after the accident to request that all electronic data be kept inviolate until it could be obtained during the course of routine discovery. Counsel did his job to advise the client of this request. However, plaintiffs' counsel did not conduct any immediate follow-up. As the years passed, personnel at the trucking company came and went. The fact that there had been an accident involving the particular tractor and trailer receded into distant memory. No paper trail was kept of documentation requiring that the ECM be downloaded prior to returning the tractor to service, or requesting that the trailer be segregated and preserved during the pendency of litigation.

Because it was an eyesore, the accident trailer was eventually scrapped by a new manager who was unaware of its history. In the normal course of business, the tractor was ultimately returned to service. Therefore hard brake data relevant to the time of the accident was effectively overwritten by other data concerning more recent hard brake incidents.

On the eve of trial, plaintiffs' counsel directed a barrage of discovery asking for the first time specifically for ECM information, and further requesting that the defendant offer all of the information on its AS400 computer system relevant to Qualcomm and SensorTRACS data. By this time, the ECM data no longer existed. Qualcomm and SensorTRACS data did not provide any information that was accident-specific, although by this time plaintiffs' counsel and the court found it difficult to believe that this was so.

Plaintiffs' counsel moved for sanctions for spoliation of evidence, suggesting that the defendant's answer should be stricken and that the only issue appropriate for trial was damages. Plaintiffs claimed that had hard brake data been available, they would not have had to rely on the untrustworthy and varying accounts of a dozen eyewitnesses to determine the speed of the big rig just prior to the accident. Plaintiffs also claimed that a study of Qualcomm and relevant ECM data, had it existed, would have shown that this particular driver had averaged well in excess of the highest permitted speed for his vehicle in his travels throughout the country for the defendant. Defendant was just as eager to have the evidence in question for trial, as its accident reconstruction had shown that the accident was not in fact caused by excess speed but rather was a result of the actions of an adverse driver who had cut in front of the big rig.

### Defense Lawyers' Checklist

1. Identify all data sources regarding accident vehicle and company computers.
2. Obtain message and position history regarding accident trip.
3. Obtain message and position history regarding applicable maintenance.
4. Compare logs to message and position history (fuel receipts).
5. Develop accident protocol regarding accident data collection.
6. Download ECM pursuant to protocol.
7. Videotape with police approval and attendance.
8. Preserve all data and equipment involved.
9. Collect all maintenance records regarding tractor and trailer.

### Plaintiffs' Arguments

Plaintiffs contended that the defendant either destroyed or hid information with respect to: (1) the trailer that was involved in the accident; (2) the ECM and its data; and (3) the SensorTRACS system with which the truck was equipped. It was apparently plaintiffs' belief that the SensorTRACS system would report a constant stream of data directly into the defendant's computers, which remained indefinitely within the computer system's database. Plaintiffs retained an AS400 computer expert to visit defendant's home office, examine its computer system, and attempt to retrieve this data. Plaintiffs also contended that the available SensorTRACS data for the tractor in question, which showed

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only zeroes in all categories of information, had been tampered with by the defendant in order to hide available data relevant to the accident.

With respect to the ECM data, plaintiffs claimed that the destruction of available information by the overwriting of hard brake and last stop data when the tractor was returned to normal business usage was deliberate, justifying a terminating sanction. The same contention was made with respect to the destruction of the remains of the trailer. While the issue of the trailer's destruction did not involve electronic data, its loss created suspicion in the minds of plaintiffs' counsel and the court which consequently made the more sophisticated issues regarding the loss of electronic data harder to litigate.

### Defendant's Arguments

Regarding the ECM, defendant argued that it had responded to all document requests directed fully and completely. There were no motions or orders with respect to this data prior to the motion for terminating sanctions, and defendants were not then and had never been in violation of any court order regarding production of documents. Within defendant's responses was such data available from the ECM as was within the defendant's possession. Until the last several months prior to trial, plaintiffs had never made an express request to examine or download the ECM themselves. On the other hand, the defendant had made the recommendation that the ECM be studied by a Detroit Diesel expert in order to obtain available data. Plaintiffs' counsel simply concurred in that recommendation. Had plaintiffs believed that the ECM data was critical early in the progress of the litigation, they had the option to ask for an examination, and they never did so.

Regarding the SensorTRACS data, defendant demonstrated that no data had been destroyed or lost; the equipment simply never reflected any actual data because of a poor electrical connection within its wiring system resulting in a page full of zeroes rather than actual data. Defendant had produced all documents in its possession in response to the request for production directed by plaintiffs. Plaintiffs' claim that the SensorTRACS data remained available in the company's computer system was proven to be untrue by defense expert witnesses.

Regarding the trailer, the defense demonstrated that all key brake parts had been removed, examined, and photographed prior to the movement of the trailer to its resting place in the east and its subsequent destruction. During the course of the litigation, no one had ever requested an opportunity to inspect what was left of the trailer. Plaintiffs' counsel's initial letter requesting preservation of evidence did not even mention the trailer itself, as opposed to its brake system. Experts on both sides testified as to the materiality—or lack of it—of what was left of the trailer to the prosecution of the lawsuit.

### Outcome

On the date set for trial, the court initially heard discussion from both sides concerning issues involving electronic data. A four-month evidentiary hearing ensued, with both sides and the court struggling to find the truth within the lengthy and contradictory expert testimony that was elicited by the plaintiffs and the defense. Prior to a definitive ruling, and at the urging of the trial judge, the case settled. However, the cost to both sides in terms of time, expense, and angst was extreme.

## Recommendations

Defending allegations concerning the interpretation of electronic data generated in the trucking industry requires careful analysis and strategy at the outset of litigation. Take the time initially to understand the electronic data that is available on your accident vehicle. If necessary, contact the manufacturers of the electronic data systems and obtain their input. It is important to take all necessary steps immediately to preserve such data, both because it may help you and your client and because the other side will almost certainly ask for it. If the data is adverse, consider mounting a challenge to the relevance and reliability of that technical data, assisted by the manufacturer of the particular data system and your client.

Electronic information is only one piece of the puzzle in any given accident. As the reliability and sophistication of such data improves, however, it becomes an increasingly important piece, and one which defense counsel must thoroughly understand at the outset. FD