

HHD-CV-08-6002967-S : SUPERIOR COURT
RENAY EMMANUELE, ET AL : J.D. OF HARTFORD
VS. : AT HARTFORD
LAWFORD HOWELL, ET AL : MARCH 24, 2011

**Plaintiffs' Memorandum of Law in Support of the Admission
of the DDEC-IV Engine Usage Data into Evidence**

I. Factual and Procedural Background

The Detroit Diesel Electronic Control (DDEC) system allows a truck's owner to be able to download periodical engine management reports that record the use of the engine—whether it is in “drive,” “idle,” or “off” at any given date and time in 2-hour increments.¹ See **Exhibit A**, the Daily Engine Usage Reports for Lawford Howell's tractor for January 7 and 8, 2008.

Howell's truck tractor's engine was equipped with a DDEC-IV module at the time of and prior to this crash. There is only type of data that a DDEC-IV module can record at issue here: the information contained in these Engine Usage Reports (indicating whether the truck's engine was in driving, idling or off).

The DDEC-IV engine usage data is direct evidence of Howell's activities and whereabouts prior to the crash and is clearly material to and probative of the claims of negligence and recklessness against him. The engine usage evidence is also relevant

¹ A DDEC-IV module also provides a record of truck over speeding, excessive idle time, hard braking maneuvers and other parameters that assist in increasing productivity, reducing engine abuse, decreasing fuel consumption, and investigating accidents. Plaintiffs are not offering any DDEC-IV data other than the Daily Engine Usage Reports.

to Howell's credibility on that same issue (certainly not a collateral matter, i.e. income tax evasion, as to which extrinsic impeachment evidence might be barred).

Plaintiffs plan to introduce the Engine Usage Reports for Jan. 7th and 8th—raw computer data from the DDEC-IV engine control module on Howell's truck's engine that indicates whether the engine was idling, driving, or off.² The Defendants' own expert, Steven Rickard, downloaded this data with his computer, and these print-outs were subsequently provided to Plaintiffs in discovery. There is information in the DDEC engine usage data that is highly relevant to at least two critical issues in this trial—how far and how long Lawford Howell had driven prior to the crash and his credibility on that matter.

The DDEC data is also a portion of the overwhelming evidence demonstrating that Howell's logs were fabricated to hide his hours of service violations from the authorities (in addition to the bills of lading with time references at pick-up and delivery, fuel receipts, cell phone records, and OmniTRACS positioning and messaging information). The engine usage information is thus direct evidence of his carelessness and recklessness.

At the same time, the DDEC data is impeachment evidence on that same (*noncollateral*) matter. As this Court is aware, Howell's credibility is a key issue in this case because (a) he claims that he had the green arrow prior to his left-turn that resulted in the crash and there are no other witnesses to the color of his light (and also because he continues to deny being on the cell phone at the time of the crash even in the face of evidence that clearly shows he was, and because he continues to deny that he falsified his

² Additional DDEC Engine Usage Reports (or the absence of such a report for a given date) will be used only to establish the reliability and accuracy of the DDEC engine usage data (including its dates / times).

logs and was fatigued at the time of the crash) (as demonstrated by his depositions in this case, pleadings, and responses to Plaintiffs' request for admissions); and (b) Howell has alleged a special defense claiming that Renay Emmanuele ran a red light.

The Defendants sought to preclude this DDEC-IV data by way of motion in limine a few weeks ago (**dckt. #292**). This Court denied the motion (see dckt. sheet ruling at #292; see also Plaintiffs' Omnibus Objection to Motions in Limine to Preclude Evidence ... from the DDEC-IV Module (**dckt. #303**).

In seeking to preclude this evidence, the Defendants erroneously claimed that the DDEC-IV data "are hearsay, there is no foundation and any potentially relevant information has not been shown to be accurate and reliable." Defs.' MIL, p. 1 (dckt. #292). None of those assertions is true. Defendants' objections with respect to DDEC-IV data were properly overruled—any ostensible concerns about reliability go to the proper weight to be given this evidence, not its admissibility.

ATS Inc.'s Expert Witness's Testimony Regarding the DDEC-IV Data

The DDEC-IV module at issue here is a type of electronic control module (ECM) with an event data recorder (EDR) function. Steven Rickard, the defense expert who downloaded the data from the DDEC-IV module in Howell's truck-tractor testified that the information he downloaded from the DDEC-IV module is nothing more than a presentation of raw data taken from the recorder, that the information is stored in a file on his computer, which can then be printed out, as here. [Depo. Tr. of Steven Rickard, pp.

9-10- **Exhibit B**]³ Here, he used the same methodology in downloading the data that he had used during other ECM-downloads. [See *id.* at pp. 42-43]

Plaintiffs' experts intend only to make use of the time (the calendar day, time of day, and length of time that the engine was driving, idling or off) and engine usage elements of the data recorded by the DDEC-IV module. Mr. Rickard testified that he would expect the time and date to be relatively accurate and that one could adjust for any minor "clock drift" based on information disseminated by Detroit Diesel. Plaintiffs' DDEC expert, Tim Reust, has examined the DDEC-IV Engine Usage Reports and has stated in no uncertain terms that the data are reliable and accurate (see e.g. report of Tim Reust, **Exhibit C**).

The Accuracy and Reliability of the DDEC-IV Data Is Also Corroborated by Other Evidence

The DDEC-IV data is also corroborated by other evidence. For example, we know that Lawford Howell had the day off on January 6th. The DDEC Engine Usage Reports indicate likewise that the truck's engine was not started on that day (*i.e.* no report for that day was generated). See **Ex. A**. The Engine Usage Reports indicate that the engine remained off through approximately 8:00 a.m EST, after which it was variably idling or driving for most of the rest of the day. This is consistent with the OmniTRACS positioning data and messages (as well as the bills of lading and fuel receipts).

³ He was trained by the manufacturer of this particular module, Detroit Diesel, in Detroit in 2003, and produced a copy of a manual by the DDEC-IV manufacturer entitled "Extracting and Analyzing Data from Electronic Control Modules and ProDrivers," which he said was applicable to the particular module at issue here. The download process was so simple and well known to him however that he did not even need to consult the manual when he did the download in this case. [See Rickard Depo. Tr. at pp. 10-13, 31-32-**Exhibit B**] In his capacity as an expert in other cases, Mr. Rickard has analyzed a driver's logs using information obtained from an electronic control module such as the DDEC-IV. [See *id.* at pp. 18-19]

Similarly, on January 7th, we know from the OmniTRACS positioning reports and messages, and the T-chek fuel receipts that Howell began driving between 10:30 and 11:00 a.m EST, was at a Milldale gas station at 12:46 p.m. EST, and arrived in Monroe, Connecticut close to 3:00 p.m. EST. This is consistent with the Engine Usage Reports which from about 10:00 a.m. to 4:00 p.m. EST reflect 2.5 hours of driving time, 2 hours and 7 minutes of idling, and 1 hour and 23 minutes off. *See Ex. A.*

By the same token, we *know* that Howell's tractor-trailer was involved in this crash in Bloomfield at 8:20 p.m. on January 8, 2008 and that it remained in that vicinity for a significant amount of time thereafter, and after police inspection, it was placed out of service for a significant amount of time. The Engine Usage Reports show precisely that—over 24 hours on January 9th the engine was off the entire day except for 3 minutes of drive time and 67 minutes of idle (between midnight on the 8th and 2:00 a.m. on the 9th -- the police inspection extended into early morning on the 9th); the day after that, on the 10th, the engine idled for 7 minutes between approximately 9:00 a.m. and 11:00 a.m. EST, and for 5 minutes between 3:00 p.m. and 5:00 p.m EST and was otherwise off the entire day. *Id.*

There are several other examples of extrinsic evidence corroborating the DDEC data, which will be the subject of Plaintiffs' experts' testimony. The point is that Defendants' vague and unsubstantiated criticisms of the reliability and accuracy of the DDEC engine usage data have been responded to by both the uncontroverted testimony of Plaintiffs' and Defendants' DDEC experts and by other computer data (i.e. OmniTRACS positioning data) and documentary evidence. Even if there *were* any

validity to the Defendant's claims about the DDEC-IV engine usage data, they go to weight, not admissibility.

II. The DDEC-IV Engine Usage Data Is Relevant to Critical Liability Issues that the Jury Must Determine—Howell's Whereabouts and Activities in the 48-hours Prior to the Crash, and His Credibility on That Same (and Other) Issues.

Relevant evidence contains two components: materiality and probative value.

State v. Jeffrey, 220 Conn. 704, 709 (1991). "Any testimony in a case that tends of itself, or in connection with other testimony, to influence the result on a direct or a collateral issue, is material. *State v. Greenberg*, 92 Conn. 657, 662 (1918) (quotation omitted).

Here, Howell and ATS, Inc. both deny that Howell caused the crash by failing to keep a proper lookout and act reasonably and prudently under the circumstances. *See* Defendants Answer to Plaintiffs' Fourth Amended Trial Complaint dated February 11, 2001 (dckt. #323). Throughout discovery they have also continued to deny that Howell's carelessness resulted from having driven more than 19 hours (and having been on duty for over 34 hours) in the 48-hour period preceding the crash, and that Howell's driver's logs for January 7th and 8th are inaccurate. *See e.g.* Responses to Requests for Admissions dated March 2, 2011 (dckt. ## 327 and 328). The DDEC-IV engine usage data show all of these denials to be without merit. Accordingly, the Defendants' purported foundational concerns are absurd. The DDEC-IV records are probative of and material to two of the critical liability issues that the jury must determine—Howell's credibility (as to whether he had the green arrow, was on his cell phone, and was fatigued), and what he was doing prior to the crash (i.e. was he was in violation of the Federal Motor Carrier Safety Regulations designed to prevent injuries from tired truckers).

III. The DDEC-IV Engine Usage Data Is Computer-Generated Data—There Is No Statement In The Data and There Is No Declarant. The Data Is the Result of a Satellite-Aided Computer *Process*. It Is Non-Hearsay.

The DDEC-IV data is non-hearsay, computer-generated data. This data does not constitute statements (there is no declarant as that term is defined in 8-1 of the Code).⁴

They are the result of a *process*. Accordingly, the Defendants' hearsay objections to the DDEC-IV are misplaced and should be overruled.⁵

The data was downloaded by Steven Rickard at the request of defense counsel. Mr. Rickard testified that the DDEC documents are true and accurate copies of the information he downloaded from the tractor's DDEC-IV module, and that he followed his typical methodology when he did the download. The data are not statements and thus could never be considered hearsay. Hearsay statements are limited to assertive statements, i.e. those communications that the declarant intended to be heard, read or seen by another person.⁶

Courts across the country have held that computer-generated data (as opposed to computer-*stored* data) is not hearsay because it does not involve "statements" or "declarants." See *United States v. Washington*, 498 F.3d 225, 230-31 (4th Cir. 2007) (printed result of computer-based test was not the statement of a person and thus would

⁴ A declarant is a person. These printouts were merely the download of raw data from an engine control module.

⁵ Further a Porter/Daubert hearing is not necessary as the download of computer data is not the type of novel science that calls for such a hearing. Downloading raw data from a computer is old hat, as simple as plugging a computer to the DDEC-IV module. The defense attacks on this data go to weight, not admissibility.

⁶ "The key to the definition is the subjective intent of the declarant. If the declarant intended to communicate with someone, there exists the possibility that the declarant intended to mislead the hearer or reader. If the declarant did not know that anyone could hear or read his or her statement, the statement is not an assertion and therefore not hearsay because the person did not intend to communicate to anyone..." *Tait's Handbook of Connecticut Evidence, Third Edition, Section 8.1.3; also see Connecticut Code of Evidence 8-1 and the Commentary which makes it clear that if a statement is not an assertion then it is not hearsay.*

not be excluded as hearsay);⁷ *United States v. Khorozian*, 333 F.3d 498, 506 (3d. Cir. 2003) (“nothing ‘said’ by a machine . . . is hearsay”) (quoting 4 Mueller & Kirkpatrick, Federal Evidence § 380, at 65 (2d ed. 1994)).

In *United States v. Hamilton*, 413 F.3d 1138, 1142-43 (10th Cir. 2005), for instance, the Tenth Circuit held and concluded that computer-generated “header” information (including the screen name, subject of the posting, the date the images were posted, and the individuals’ IP address) was not hearsay (agreeing with the trial court):

Of primary importance to this ruling is the uncontroverted fact that the header information was **automatically generated** by the computer hosting the newsgroup each time [the defendant] uploaded a pornographic image to the newsgroup. In other words, the header **information was generated instantaneously by the computer without the assistance or input of a person**. As concluded by the district court, this uncontroverted fact places the header information outside of Rule 801(c)’s definition of ‘hearsay.’ In particular, **there was neither a ‘statement’ nor a ‘declarant’ involved here within the meaning of Rule 801.**

This Court should likewise recognize that the DDEC-IV engine usage data are automatically generated by computer process without the assistance of a human (similar to the OmniTRACS positioning and date / time data, telephone toll records, cell tower information, e-mail header information, electronic banking records, and Global Positioning System (GPS) data).

The United States District Court for Connecticut, in *Brill-Edwards v. Ryder Truck Rental, Inc.*, Nos. Civ. 3:01CV915 (PCD), 3:01CV1768 (PCD), 2003 WL 23511733 (D. Conn., Jan. 24, 2003), held that the event data recorder (EDR) data from an automobile

⁷ In *United States v. Washington* lab technicians ran a blood sample taken from the defendant through a gas chromatograph connected to a computer. The test results, signed by the lab director, indicated that the defendant had been driving under the influence of both alcohol and PCP. The Fourth Circuit rejected a hearsay objection to this evidence, noting that the computer-generated test result was “data generated by” a machine and observed that hearsay must be a “statement” made by a “declarant.” *Id.* at 231. Further, “[o]nly a *person* may be a declarant and make a statement.” *Id.*

involved in an auto accident constituted simple computer data that did not require expert analysis, and, therefore, was not a basis for mandating the pre-trial deposition of the person who downloaded and printed out the EDR data, upon which the defendant's trial expert based his accident reconstruction report:

The materials produced by Goebelbecker do not appear to involve expert opinion or analysis. As an initial matter, the 'report' is referred to as 'data' in the[defendant's expert's] report. There is no apparent interpretation of the recorder data, and the document appears to indicate by its heading, 'Vetronic' and 'CrashData Retrieval System (CDR),' that it is the product of some proprietary software. It is not apparent that the graphs and values provided therein are any more than a form of presenting data extracted from the recorder. The only text appears to be a generic statement describing terms and details relevant to the information displayed. It thus does not appear that the document is more than the presentation of raw data taken from the recorder.

2003 WL 23511733 at *1 (emphasis added). That is precisely the case here with respect to the Engine Usage Reports—they comprise raw data from the DDEC-IV module.

In *Matos v.State*, 899 So. 2d 403 (Fla. Ct. App. 2005) *which* involved a criminal proceeding, the defendant was convicted of manslaughter for driving at an excessive speed when his car crashed into a car backing out of a driveway and killed two teenage girls. On appeal, the defendant claimed that the data from the sensing diagnostic module (SDM) (a type of event data recorder; the *Matos* court actually referred to the data at issue as EDR data) which established his speed at impact as 114 mph was inadmissible hearsay. The court held that the data was admissible because it was reliable and generally accepted in its scientific field, based on the following foundation:

The state called two experts to testify at the *Frye* hearing. Donald Felicella, an accident reconstructionist with training in the EDR technology, testified that the

EDR is part of the airbag system. In fact, it is the brains of the system which tells the airbag whether to deploy or not. All vehicles with airbags have an EDR. EDRs were first used in automobiles in the 1970s, when airbags first came out. Automobile manufacturers have been using the data ever since to collect real world crash data, which they used, for example, in modifying airbag designs. The data is also being used in the medical field to compare injury forces acting on the body and by insurance companies with regard to claims. Felicella testified that information from the SDM is generally accepted in the accident crash investigation community, in the insurance field, and in medical research and biomechanics. It is also being used by the National Highway Traffic Safety Administration (NHTSA).

Dr. Robert McElroy was the state's other expert witness at the *Frye* hearing. Dr. McElroy has a doctorate in industrial engineering and industrial education. He worked for General Motors for over three years, where he was responsible for engine and computer control systems. He is also chairman of the Society of Automotive Engineers (SAE) EDR committee. The SAE sets standards in the auto industry for design criteria and crash testing, and it prepares research papers in the fields of accident reconstruction, biomechanics, and crashworthiness. Dr. McElroy also works with Georgia Tech on an EDR project sponsored by the NHTSA.

Dr. McElroy testified that the NHTSA is using SDMs in their studies and that the NTSB has used and examined them. He testified that data collected by SDMs are generally accepted within the fields of automobile safety, accident reconstruction, and automotive design. He testified that even though the public has only had the data available for three or four years, the NHTSA has had their crash teams using the data since around 1995. Dr. McElroy further testified that the SDM is extremely accurate because it is a digital system. The data derived from the SDM reflects the electronic system of the car. Dr. McElroy acknowledged, however, that he utilizes other crash information to verify the accuracy of the data because the SDM is just a tool.

The state introduced an SAE paper entitled 'Accuracy of Pre-Crash Speed Captured by Event Data Recorders,' authored by employees of McGinnis Engineering. That study concluded that the EDR data overestimated vehicle speeds by a mere 1 mph at low speeds and by 2.5 mph at high speeds.

Another paper presented to the court, 'Recording Automotive Crash Event Data,' authored by staff of the NHTSA and General Motors engineers, discussed the accuracy of EDR vehicle speed data. It included a case study the NHTSA did on real life crashes, which calculated an accuracy of +/- 4% for the vehicle speed component.

899 So.2d at 405-06.

The *Matos* court cited *Bachman* and similarly concluded that “[t]he process of recording and downloading [sensing diagnostic module] data is not a novel technique or method. In any event, the state demonstrated that when used as a tool of automotive accident reconstruction, the SDM data is generally accepted in the relevant scientific field, warranting its introduction.” *Id.* at 407 (emphasis added); see also *Chessey ex rel. Chessey v. Bonneville*, No. TTDCV075001733S, 2007 WL 3087966 (Conn. Super. Ct., Oct. 10, 2007) (holding that information downloaded from a vehicle’s sensing diagnostic manual was admissible in a motor vehicle accident case),⁸ *Brown v. State*, 163 S.W.3d818 (Tex. Ct. App. 2005) (Truck GPS data was held admissible into evidence in the murder trial of a truck driver defendant to show the truck driver’s location at the time of the murder).

The Massachusetts Court of Appeals upheld the reliability and admissibility of SDM data in a criminal prosecution for motor vehicle homicide, where the SDM data demonstrated that the defendant was speeding at the time of the crash. The defendant filed a motion in limine arguing that the SDM information and the expert’s opinion testimony based on it concerning the defendant’s speed were inadmissible because the Commonwealth could not establish the reliability and accuracy of the device. The trial court held admitted the evidence as reliable. Upon the defendant’s appeal from her conviction, the Massachusetts Court of Appeals affirmed the trial court’s ruling and

⁸ In *Chessey*, the police obtained SDM data from the defendant’s automobile after the car had hit the plaintiff pedestrian, and the police had concluded from the data that the defendant was exceeding the speed limit and had not deployed his brakes prior to impact. 2007 WL 3087966 at*2. The Connecticut trial court treated the SDM data as admissible since the court considered it in determining whether there was probable cause that a judgment would be rendered for the plaintiff (entering a prejudgment remedy). *Id.*

summarized the expert's testimony and the basis for the reliability and admissibility of the SDM data:

Haight's testimony, in sum, indicated that he was amply qualified as an expert, had conducted 200 tests on EDRs, had taught and published on the subject, and had testified as an expert on EDRs in other States; that the technology behind the EDR had been known for many years; that he and others had tested the speed of motor vehicles by other methods to compare information provided by the EDRs and had found the EDRs to be reliable; that EDRs need no maintenance and calibration for ten years; and that his calculations based on the physical and other evidence in this case were consistent with the EDR data from the defendant's vehicle. Based on Haight's testimony--the defendant presented no expert at the motion hearing--the judge ruled that evidence from the EDR met the standard set forth in *Commonwealth v. Lanigan*, 419 Mass. at 26, 641 N.E.2d 1342, for reliability. Although the judge did not refer to the alternate prongs set forth in *Lanigan* and its progeny (reliability shown by general acceptance or reliability shown by other means), implicit in his decision is that Haight's testimony indicated its validity.

The judge also concluded that the alternative *Lanigan* ground--general acceptance of data from motor vehicle crash recorders in the relevant scientific community--applied in this case. In determining 'whether a scientific theory or procedure has been accorded general scientific recognition, a court may rely on evidence of witnesses called to testify, articles written by experts in the field, and the conclusions of other courts that have considered the particular issue.' Liacos, *Massachusetts Evidence* § 7.8 at 384 (6th ed.1994).

873 N.E.2d at 1220.

Three different trial courts in New York have held that since SDM data has proven reliable in recording automobile performance metrics and is of such general acceptance, a *Daubert* or *Frye* hearing is not necessary, and such evidence is admissible even without laying a foundation by expert testimony. *People v. Christmann*, 776 N.Y.S. 2d 437 (N.Y. Justice Ct. 2004); *People v. Hopkins*, 800 N.Y.S. 2d 353 (N.Y. County Ct. 2004); *People v. Muscanera*, 842 N.Y.S. 2d 241 (N.Y. Dist. Ct. 2007).

In *Christmann*, a New York court in a criminal trial held that the SDM data from the defendant's car was admissible without a *Frye* hearing because the case law and scientific literature made it clear that the SDM system was reliable and accurate:

Since *People v. Magri*, 3 N.Y.2d 562, 170 N.Y.S.2d 335, 147 N.E.2d 728, New York has allowed the introduction of evidence of proven, reliable scientific principles such as radar, photography, X-rays, clocks and ballistics, among others. When the data obtained from such systems is deemed reliable, such evidence is admissible without the need to lay a foundation by the introduction of expert testimony describing and endorsing the science involved. Thus, the reading of a speedometer would be admissible, without more, as a recording devise.

The admissibility of evidence of the data recorded on a SDM has been received into evidence as ‘generally accepted as reliable and accurate by the automobile industry and the National Highway and Traffic Safety Administration.’ See *Bachman et al v. General Motors Corporation et al*, Case No. 4-01-0237, Appellate Court of Illinois, Fourth District, which held that such evidence was admissible under the standards of *Frye v. United States*, 293 F. 1013.

The Court thus concludes that such evidence is admissible in this case.

776 N.Y.S.2d at 442 (emphasis added).

Furthermore, Plaintiffs’ DDEC expert alone has testified about precisely the same type of electronic control module data in at least 6 trials in the past 5 years. [See Tim Reust List of Trial Testimony from 2006-2011, **Ex. D**]

Moreover these printouts are not hearsay because they are not offered for their truth but rather to demonstrate that the data is inconsistent with Howell’s driver’s logs. Howell’s driver’s logs are statements made by him under penalties of perjury. These logs conflict with the DDEC data and the printouts of the DDEC data will be offered to impeach his credibility. It is for the jury to decide whether this inconsistency affects Howell’s credibility.

Nevertheless, if this Court were to view these records as hearsay they should be considered sufficiently trustworthy and reliable to be admissible under the residual exception to the hearsay rule. Code section 8-9. The records are necessary to demonstrate that Howell’s logs are inconsistent with the DDEC data and go to the critical issue of

Howell's credibility in this case. Howell's statement that he had the green arrow and whether this statement is true is the crux of the case. And the DDEC records are otherwise trustworthy and reliable as they were downloaded at the request of the defendants by the defense expert using his established methodology; and, further, plaintiffs' disclosed expert will testify that the DDEC data is reliable; and, moreover, the DDEC data is of the type customarily relied upon by truck accident experts.

III. The DDEC-IV Data Is Also Admissible As Expert Reliance Material.

Finally, even if this Court were inclined to exclude the DDEC records, the data are still admissible for the limited purpose of showing the basis for Plaintiffs' disclosed expert opinions. It is admissible on the separate and independent basis that it was relied upon in the formation of expert opinion here. *See i.e.* Plaintiffs' Disclosures of Experts David Stopper, Steven Batterman, Ph.D., and Tim Reust; Connecticut Code of Evidence § 7-4 (b) ("bases of opinion testimony by experts").⁹

Plaintiffs have disclosed three experts who will testify that DDEC data is typically relied on by accident investigators and accident reconstructionists; one of them, Tim Reust will testify that the relevant data (*i.e.* date/time and engine use) is accurate and reliable. See the expert reports of David Stopper, Steven Batterman, Ph.D., and Tim Reust previously referenced.

This type of data is typically relied on by trucking experts (such as Plaintiffs' expert David Stopper) to audit logs in investigating accidents to determine whether

⁹ The general rule is that a witness who has sufficient expertise to co-ordinate and evaluate information derived from trustworthy sources may be permitted to state his conclusions even though the sources of his knowledge would in and of themselves be inadmissible as hearsay. *Dressel v. Gregory*, 114 Conn. 718, 720 (1931); *Vigliotti v. Campano*, 104 Conn. 464, 466 (1926).

drivers have falsified their logs. Thus, even if the Court *were* to conclude that the DDEC data were inadmissible for some reason, Plaintiffs experts will testify that this DDEC data is of the type typically relied upon by trucking, accident reconstruction and human factors experts, that they relied on it themselves (or relied on other expert opinion which relied on it) and is therefore admissible, if not without restriction, then for the limited purpose of showing the basis for the expert opinion.

Experts may base their opinions on otherwise inadmissible hearsay provided (1) the sources are fairly reliable; (2) they are of the type relied on by experts in that field; and (3) the witness has sufficient experience to evaluate the information. *George v. Ericson*, 250 Conn. 312, 325 (1999).

In *Perez Librado v. M.S. Carriers, Inc.*, No. Civ. A.3:02-CV-2095-D, 2004 WL 1490304 (N. D. Tex., June 30, 2004), for example, a truck driver drove his truck through a stop sign at more than 50 miles per hour while looking at a road map, and his truck collided with the decedent's car. Considering the admissibility of DDEC data, the court held that the expert's testimony based on the DDEC information downloaded from the truck showing the driver had falsified his log was admissible due to the information's reliability:

Defendants assert that Stopper's opinions stemming from that computer, specifically the Hard Brake 1 Report ('Repoer') are unreliable, but their own expert confirmed that the speed recorded in the Report is accurate. Moreover, there is evidence that **measurements from the Report are often used in accident reconstruction.**

Because Stopper's testimony is reliable, the court denies defendants' motion to exclude and/or limit the trial testimony in question.

2004 WL 1490304 at *8-9. (emphasis added).

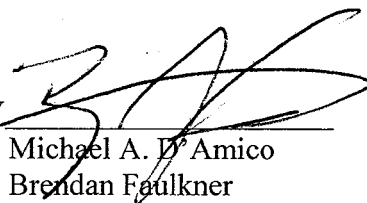
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The DDEC data is highly reliable, the type of evidence relied on by experts in the fields of trucking safety and accident investigation / reconstruction, and Mr. Reust and Mr. Stopper have extensive knowledge and experience with which to evaluate this information. Moreover, the defense's expert, Steven Rickard (whose criticisms are directed towards and speed / distance measurement and calibration as opposed to date / time and engine use) does not materially disagree.

IV. Conclusion

For all of these reasons, the DDEC-IV data should be admitted.

THE PLAINTIFFS,

BY 
Michael A. D'Amico
Brendan Faulkner
Their Attorneys

ORDER

The foregoing having been heard by this Court it is hereby ordered:

GRANTED/DENIED

BY THE COURT

Judge Aurigemma

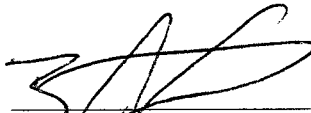
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CERTIFICATION

This will certify that a copy of the foregoing was hand delivered this 24th day of March, 2011 to:

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EXHIBIT A

DDEC® Reports - Daily Engine Usage

Print Date: Feb 11, 2008 09:37 PM (EST)

Steven W. Rickard & Associates
 1644 Whitley Drive
 Harrisburg, PA 17111
 717-540-3457

Date Range: 02/01/2008 to 12/16/2007 (EST)
 Vehicle ID: HARTFORD99
 Driver ID:

Date:	01/07/2008
Start Time:	07:21:32 (EST)
Odometer:	184548.1 mi
Distance:	350.8 mi
Fuel:	48.75 gal
Fuel Economy:	7.20 mpg
Average Speed:	49.2 mph

Total (hh:mm)	07:08	07:36	09:16
Hour (EST)	Drive (min)	Idle (min)	Off (min)
00:00-02:00	0	0	120
02:00-04:00	0	0	120
04:00-06:00	0	0	120
06:00-08:00	0	38	82
08:00-10:00	5	84	31
10:00-12:00	44	76	0
12:00-14:00	93	27	0
14:00-16:00	13	24	83
16:00-18:00	119	1	0
18:00-20:00	96	24	0
20:00-22:00	58	62	0
22:00-24:00	0	120	0

Date:	01/05/2008
Start Time:	00:00:00 (EST)
Odometer:	184121.7 mi
Distance:	426.3 mi
Fuel:	64.50 gal
Fuel Economy:	6.61 mpg
Average Speed:	59.2 mph

Total (hh:mm)	07:12	04:07	12:41
Hour (EST)	Drive (min)	Idle (min)	Off (min)
00:00-02:00	61	30	29
02:00-04:00	30	90	0
04:00-06:00	120	0	0
06:00-08:00	120	0	0
08:00-10:00	6	42	72
10:00-12:00	95	10	15
12:00-14:00	0	75	45
14:00-16:00	0	0	120
16:00-18:00	0	0	120
18:00-20:00	0	0	120
20:00-22:00	0	0	120
22:00-24:00	0	0	120

Date:	01/04/2008
Start Time:	00:00:00 (EST)
Odometer:	183629.3 mi
Distance:	492.4 mi
Fuel:	91.25 gal
Fuel Economy:	5.40 mpg
Average Speed:	61.9 mph

Total (hh:mm)	07:57	16:03	00:00
Hour (EST)	Drive (min)	Idle (min)	Off (min)
00:00-02:00	0	120	0
02:00-04:00	0	120	0
04:00-06:00	0	120	0
06:00-08:00	0	120	0
08:00-10:00	0	120	0
10:00-12:00	0	120	0
12:00-14:00	49	71	0
14:00-16:00	108	12	0
16:00-18:00	108	12	0
18:00-20:00	120	0	0
20:00-22:00	62	58	0
22:00-24:00	30	90	0

**PLAINTIFF'S
EXHIBIT LA**

11

9/9/2010 ES

DDEC® Reports - Daily Engine Usage

Print Date: Feb 11, 2008 09:37 PM (EST)

Steven W. Rickard & Associates
 1644 Whitley Drive
 Harrisburg, PA 17111
 717-540-3457

Date Range: 02/01/2008 to 12/16/2007 (EST)
 Vehicle ID: HARTFORD99
 Driver ID:

Date:	01/10/2008
Start Time:	08:32:38 (EST)
Odometer:	185562.0 mi
Distance:	0.0 mi
Fuel:	0.25 gal
Fuel Economy:	0.00 mpg
Average Speed:	0.0 mph

Total (hh:mm)	00:00	00:12	23:48
Hour (EST)	Drive (min)	Idle (min)	Off (min)
00:00-02:00	0	0	120
02:00-04:00	0	0	120
04:00-06:00	0	0	120
06:00-08:00	0	0	120
08:00-10:00	0	7	113
10:00-12:00	0	0	120
12:00-14:00	0	0	120
14:00-16:00	0	5	115
16:00-18:00	0	0	120
18:00-20:00	0	0	120
20:00-22:00	0	0	120
22:00-24:00	0	0	120

Date:	01/09/2008
Start Time:	00:00:00 (EST)
Odometer:	185561.5 mi
Distance:	0.5 mi
Fuel:	0.50 gal
Fuel Economy:	1.00 mpg
Average Speed:	10.0 mph

Total (hh:mm)	00:03	01:07	22:50
Hour (EST)	Drive (min)	Idle (min)	Off (min)
00:00-02:00	3	67	50
02:00-04:00	0	0	120
04:00-06:00	0	0	120
06:00-08:00	0	0	120
08:00-10:00	0	0	120
10:00-12:00	0	0	120
12:00-14:00	0	0	120
14:00-16:00	0	0	120
16:00-18:00	0	0	120
18:00-20:00	0	0	120
20:00-22:00	0	0	120
22:00-24:00	0	0	120

Date:	01/08/2008
Start Time:	00:00:00 (EST)
Odometer:	184898.8 mi
Distance:	662.7 mi
Fuel:	81.00 gal
Fuel Economy:	8.18 mpg
Average Speed:	54.6 mph

Total (hh:mm)	12:08	06:51	05:01
Hour (EST)	Drive (min)	Idle (min)	Off (min)
00:00-02:00	42	78	0
02:00-04:00	76	36	8
04:00-06:00	29	88	3
06:00-08:00	38	82	0
08:00-10:00	60	35	25
10:00-12:00	89	19	12
12:00-14:00	78	20	22
14:00-16:00	109	10	1
16:00-18:00	120	0	0
18:00-20:00	86	6	28
20:00-22:00	0	1	119
22:00-24:00	1	36	83

EXHIBIT B

1/5/2011

Emmanuele v. Howell

Steven Rickard

SUPERIOR COURT
J.D. OF HARTFORD
AT HARTFORD

COPY

RENAY S. EMMANUELE, ET AL., :
PLAINTIFFS :
VS : NO. HHD CV 08
LAWFORD ANTHONY HOWELL, ET : 6002967S
AL., :
DEFENDANTS :

VIDEO
DEPOSITION OF: STEVEN W. RICKARD

TAKEN BY: PLAINTIFFS

BEFORE: DAWN YOUNG DIETRICH, REPORTER
NOTARY PUBLIC

MICHAEL C. KIENZLE, LEGAL

VIDEO SPECIALIST

DATE: JANUARY 5, 2011, 10:09 AM

PLACE: GEIGER & LORIA REPORTING
SERVICE
2408 PARK DRIVE, SUITE B
HARRISBURG, PENNSYLVANIA

860-549-1850

Brandon Smith Reporting & Video
production@brandonreporting.com 249 Pearl Street

1 just tell it to download all -- select all I believe is
2 the answer, select all and do the download. That gives
3 me --

4 BY MR. FAULKNER:

5 Q And did you take --

6 A I just wanted to --

7 Q Sorry.

8 A I beg your pardon. That gives me the hard
9 brake one and two and the last stop record and that's
10 all I was interested in.

11 Q Were you able to determine the speed at
12 impact based on your download?

13 A I was in that there was no speeds listed
14 for an impact speed.

15 Q So you were unable to answer the question
16 presented; is that correct?

17 A I answered the question in that there was
18 no speed at impact based on the ECM download.

19 Q Okay. Would you agree that the
20 information that you downloaded from the DDEC IV module
21 is nothing more than a presentation of the raw data
22 taken from the recorder?

23 A Sure.

24 Q And what form does the information take
25 when you perform a download such as the one that you

1 did on February 11, 2008?

2 A I'm not sure if I understand the question,
3 sir.

4 Q Does the information become a file on your
5 computer when you do such a download?

6 A It does. It's saved to two file
7 extensions, I believe an XTR file which is a data file
8 and a CDR file which is the configuration file.

9 Q And then you're able to print out the
10 information from those files; is that correct?

11 A Yes, sir, that is correct.

12 Q Okay. Did you have to consult or did you
13 rather -- withdrawn.

14 Did you consult a DDEC IV manual when you
15 performed your download in this case?

16 A No, sir.

17 Q I wanted to ask you a couple of questions
18 about your CV.

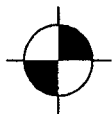
19 A Certainly.

20 Q I believe that has been marked as Exhibit
21 2 to your deposition here today; is that right?

22 A That is correct, sir.

23 Q And the CV I'm looking at is entitled
24 Steven W. Rickard Resume and it's dated January 1st,
25 2010. Is that the one that you're looking at?

EXHIBIT C



ACCIDENT SCIENCE, Inc.

Accident Reconstruction

24421 Chestnut Street, Suite 100, Newhall, CA 91321 • Tel 661-254-8084 • Fax 661-254-4235

October 7, 2010

Michael D'Amico, Esq.
D'Amico, Griffin and Pettinicchi
465 Straits Turnpike
Watertown, CT 06795

RE: Emmanuele vs. Howell
Date of Loss: 1-8-08
Our File No.: 2655-R

Dear Mr. D'Amico

As requested, I have reviewed the following materials

- Connecticut Uniform Police Accident Report
- Driver's Daily Logs
- Detroit Diesel Electronic Control (DDEC IV) download
- "DDEC Data", "Extracting and Analyzing Data from Electronic Control Modules and ProDrivers", #7SE793 0201, copyright 2002 Detroit Diesel Corporation
- "DDEC System", "Engine Management Technology", #6SA342 0202, copyright 2002 Detroit Diesel Corporation
- "Application and Installation", "Detroit Diesel DDEC IV", #7SA742 9907, copyright 1999 Detroit Diesel Corporation
- Deposition of Lawford Howell, Vol 1 & 2
- Deposition of Officer Matthew, Vol 1 & 2
- Deposition of Officer Gerald Thomas
- Deposition of Officer James Salvatore
- Deposition of Officer Suzanne Laiuppa
- Deposition of Officer Jeremiah Dowd

The subject 1999 Freightliner is equipped with a Detroit Diesel engine that has a DDEC IV (Detroit Diesel Electronic Control series 4) ECM (Electronic Control Module). The ECM controls the functions of the engine and functions as a data recorder.

I have reviewed the printout of the DDEC download conducted by Mr. Rickard on February 11, 2008. Based upon the review of the data, the ECM was functioning in a normal manner and recorded information in a normal manner.

The extraction file number found on the bottom of the DDEC Reports pages is 021181AC.XTR. The "0211" at the beginning of the file indicates the date, as the second month (02) and the eleventh day (11), this agrees with the date that Mr. Rickard conducted the download. The "AC" indicates that this was the second attempted extraction of this engine's ECM on that day, as the first extraction is given the letters "AA" and the second extraction is given the letters "AC".

It is noted from the "screen shot" taken during the download by Mr. Rickard that the "Current ECM time" differs by one second from the "Current PC time". This is usually an indication that the time was reset just prior to or during the download. The software used for the download can be set up to prevent the time clock reset.

During a download, an "Audit Trail" is available under the "Calibration" dropdown menu. The Audit Trail provides the date of changes to the clock/calendar, the number of hours and minutes of the change and the "Tool ID" to indicate who made the change. The Audit Trail has not been provided to this consultant at this time.

Based upon my review of the DDEC Reports data and the Police Accident Report the ECM time clock was slow by approximately 50 to 56 minutes at the time of the collision event. The DDEC time clock was set for the (EST) Eastern Standard Time.

Two references have been found that site the accuracy of the DDEC internal clock. The publication "DDEC Data", "Extracting and Analyzing Data from Electronic Control Modules and ProDrivers", #7SE793 0201, 2002 Detroit Diesel Corporation indicates "the clock drift specification is -4 to +1 hours per year". The publication "DDEC System", "Engine Management Technology", #6SA342 0202, 2002 Detroit Diesel Corporation indicates "the clock is accurate to ± 3 hours per year".

I have reviewed the "Driver's Daily Log" pages from Mr. Howell and have reviewed the "Daily Engine Usage" reports from the DDEC data. I do notice a disagreement between the hand-written logs by Mr. Howell and the electronically recorded information from the DDEC unit. The hand-written Driver's Daily Logs are inaccurate: as an example, on 1-7-08 the hand-written log has a total drive time of 4.25 hours and the electronic system recorded a total drive time of 7.13 hours (a difference of 2 hours and 52 minutes), on 1-8-08 the hand-written log has a total drive time of 10.5 hours and the electronic system recorded a total drive time of 12.1 hours (a difference of 1 hour and 36 minutes). With a clock accuracy of ± 3 hours per year, the DDEC data would be off by no more than 29.7 seconds per day.

With the DDEC data, the Daily Engine Usage reports indicate the number of minutes for “Drive”, “Idle” and “Off”. “Drive” time is recorded when the ignition is “ON”, there is input from the crank sensor and the vehicle speed sensor shows a stable speed of 1.5 miles per hour or greater. “Idle” time is recorded when the ignition is “ON”, there is input from the crank sensor and the vehicle speed sensor shows a speed of less than 1.5 miles per hour. “OFF” time is recorded when the ignition is “OFF” or “ON” with the engine not running. The “Drive”, “Idle” and “Off” time is reported in minutes and grouped into two hour segments. It is noted that the date for the accident is recorded correctly in that it shows a great amount of activity on that day and then very little or none until the date of the download. The “Start Time:” data for each day is shown correctly within the correct time periods and also shown correctly as 00:00:00 when “Drive” or “Idle” continues from the previous day. All two hour time periods add up to 120 minutes except on 12-28-07 between 14:00 – 16:00 where “Off” is – 1 (negative one), this is due to a rounding error when the minutes are rounded up or down.

Based upon my experience of research, testing, lecturing, publishing and training on the topic of the DDEC units, the downloaded data is accurate and reliable when the factors that can affect the data are understood. The reset of the time clock, the time of day difference of approximately 50 to 56 minutes and the negative one minute time count do not affect the reliability of the data for the subject analysis.

This report was prepared based upon the information available to date. The findings and conclusions are subject to review as additional material becomes available.

Sincerely,

Tim J. Reust
Event Data Recorder Consultant
Accident Science, Inc.

EXHIBIT D

TIMOTHY J. REUST - TRIALS with DDEC Testimony - 2006-2011

TRIAL DATE	OUR FILE #	ATTORNEY	CASE NAME	COURT CASE NUMBER	COURT	COUNTY	STATE
01.20.06	2016-R	Fred Ebey	Gonzalez de Rosa v. Smart Transportation, Inc., et al.	M 70540	Monterey	Monterey	CA
10.19.06 & 10.20.06	1998-R	Jack C. Helgesen	Furniss/Wollschlager v. Assoc. Food Stores / Tremayne	40904248	Salt Lake City	Salt Lake County	UT
11.01.07	2194-r	Christopher Copple	Steven v. Swift Transportation	2004-013847		Maricopa	AZ
10.07.08	2321-r	Peter Koenig	Escamilla v. Cox Petroleum Transport	07 CE CG 02 055	Fresno	Fresno	CA
02.02.09	2231-r	Robert S. Shtofman	Akopyan v. Bear Trucking; Trailmobile, et al	SKUVCVG 03-90370	Ukiah	Mendocino County	CA
8.9.10	2580-r	Sean Cahill	Nicholas Stone v. Hot Dogger Tours, Inc.	EC048419	Glendale	Los Angeles	CA