SUPERIOR COURT OF DECATUR COUNTY
STATE OF GEORGIA

JAMES BRYAN WALDEN and LINDSAY WALDEN, Individually and on Behalf of the Estate of Their Deceased Son, REMINGTON COLE WALDEN,	*	
Plaintiffs,	*	CIVIL ACTION
vs.	*	
	*	FILE NO. 12-CV-472
CHRYSLER GROUP, L.L.C., and BRYAN L. HARRELL,	*	
Defendants.	*	

PLAINTIFFS' RULE 702 MOTION CHALLENGING CHRYSLER EXPERT M. LAURENTIUS MARAIS'S "EXPERT" TESTIMONY ABOUT STATISTICS

Chrysler Group LLC (hereinafter "Chrysler") has designated two men to testify about "statistics" – Paul M. Taylor and M. Laurentius Marais. Through both proffered witnesses, Chrysler attempts an unbridled offloading of clearly inadmissible testimony and exhibits.

Both of those supposed "experts" make their living primarily by helping automakers defend cases such as this. Taylor has zero qualifications to offer testimony about statistical analysis. Marais works for a man, William Wecker, whom United States District Judge Ashley Royal disqualified from testifying in 2002 – after Judge Royal hired the Court's own statistician to evaluate Wecker's work. *Howard v. Ford Motor Co.,* Case No. 5:00-CV-448-3 (M.D. Ga. Dec. 27, 2002) (order attached as Ex. 1).

Chrysler proposes to have M. Laurentius Marais offer statistical testimony involving other wrecks. The black-letter rule in Georgia is that statistical evidence regarding other wrecks is not admissible unless the other wrecks are "substantially similar" to the wreck at issue. *Cooper Tire & Rubber Co. v. Crosby*, 273 Ga. 454, 455 (2001). Here, the other wrecks upon

which Marais's statistical arguments are based are indisputably *not* substantially similar to this wreck. Marais Dep., 120:14-123:06 (witness professing no knowledge of concept "substantial similarity" and refusing to say whether wrecks were substantially similar) (Ex. 2). Therefore, Marais's testimony is not admissible. Because it is Chrysler's burden to demonstrate that the wrecks involved in Marais's statistical arguments are substantially similar, and Chrysler cannot meet that burden, Marais's testimony must be excluded. *Crosby*, 273 Ga. at 455 (statistics based on wrecks that are not substantially similar are inadmissible); *see Butler v. Union Carbide Corp.*, 310 Ga. App. 21, 25-26 (2011) (Chrysler bears burden on this Rule 702 motion).

Marais's testimony should also be excluded for two additional reasons. First, the sample size of the databases he analyzed – which are not intended to be nationally representative of the crash experience of individual vehicles – are too small to have any modicum of reliability. Second, the methodology Marais utilized for making predictions about the crash experience of individual vehicles yields such a high standard error that his analysis is unreliable and meaningless.

I. THE LAW: ADMISSIBILITY OF EXPERT TESTIMONY UNDER O.C.G.A. § 24-7-702(b).

The pertinent statute, O.C.G.A. § 24-7-702(b), provides:

> ***If*** scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, [then] a witness [who is] qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise, ***if***:
>
> (1) The testimony is based upon sufficient facts or data; [***and***]
> (2) The testimony is the product of reliable principles and methods; ***and***
> (3) The witness has applied the principles and methods reliably to the facts of the case which have been or will be admitted into evidence before the trier of fact.

(emphasis added.)

Georgia's statute provides that Georgia courts may rely on *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786 (1993), and its federal court progeny. O.C.G.A. § 24-7-702(f).

"Expert testimony may be admitted into evidence if: (1) the expert is qualified to testify competently regarding the matters he intends to address; (2) the methodology by which the expert reaches his conclusions is sufficiently reliable as determined by the sort of inquiry mandated in *Daubert*; ***and*** (3) the testimony assists the trier of fact, through the application of scientific, technical, or specialized expertise, to understand the evidence or to determine a fact in issue." *City of Tuscaloosa v. Harcros Chems., Inc.*, 158 F.3d 548, 562 (11th Cir. 1998) (emphasis added).

To assess reliability, courts in Georgia apply the four *Daubert* factors: "(1) whether the theory or technique can be tested; (2) whether it has been subjected to peer review; (3) whether the technique has a high known or potential rate of error; and (4) whether the theory has attained general acceptance within the scientific community." *Webster v. Desai*, 305 Ga. App. 234, 235 (2010) (quoting *Allison v. McGhan Med. Corp.*, 184 F.3d 1300, 1312 (11th Cir. 1999)). *Daubert's* "reliability requirement is designed to exclude so-called 'junk science.'" *Woodley v. PFG-Lester Broadline, Inc.*, 556 F. Supp. 2d 1300, 1307 (M.D. Ala. 2008).

The party seeking to introduce the expert – here, Chrysler – bears the burden of satisfying these criteria, and the court's decision to exclude an expert's opinion cannot be reversed absent a "manifest" abuse of discretion. *See Butler v. Union Carbide Corp.*, 310 Ga. App. 21, 25-26 (2011); *Webster*, 305 Ga. App. at 235. An expert's opinion that is neither relevant nor reliable *must be* excluded by the trial judge. *Daubert*, 509 U.S. at 591, 593, 113 S. Ct. at 2796-97.

II. MARAIS'S PROPOSED TESTIMONY DOES NOT PASS MUSTER UNDER RULE 702.

A. MARAIS HAS DONE NO WORK FOR THIS CASE AT ALL.

Marais admits he did not perform any work specific to this case. Marais Dep., 58:09-14 (Ex. 2). Marais did work for Chrysler to submit to the National Highway Transportation Safety Administration ("NHTSA") when its Office of Defects Investigation ("ODI") mounted an investigation into Chrysler's Jeeps with rear gas tanks. Chrysler attempts to proffer that work by *without* any updates or changes. *Id.* at 91:22-24. Nothing Marais did is or was in any way tailored to the Walden wreck. Marais did not even review the entry in the FARS database for Remi Walden's fatal wreck. *Id.* at 234:19-21. Marais's supposed statistical analysis has nothing to do with this case or the issues in this case. Marais's work defending Chrysler in the ODI investigation focused on the supposed "overall safety" of Chrysler's Jeeps with rear gas tanks, which is not at issue in this case. Overall safety is simply not a "fact in issue" in this case: it cannot be – Plaintiffs' allegations are not based on any question about the "overall safety" of the subject vehicle. *See City of Tuscaloosa v. Harcros Chems., Inc.*, 158 F.3d 548, 562 (11th Cir. 1998) (emphasis added).

This case is about the question whether the fuel system on the subject vehicle is defective, and more specifically, whether the rear-mounted location of the gas tank is a defect. The evidence about that question is clear: Chrysler's own engineer Judson Estes admitted under oath that gas tank, located 11" from the rear of the car and hanging down 6" below the bottom of the car, was "vulnerable to rear impact." Estes Dep., 67:02-11 (Ex. 3). Estes further admitted that the rear 24" of the car were in the "crush zone." *Id.* at 47:16-21. *That means Chrysler deliberately put the gas tank in the crush zone.*

Marais's statistical analysis was categorically rejected by NHTSA's ODI. *See* NHTSA Office of Defects Investigation ("ODI") Recall Request Letter (Ex. 4). Marais was an exceedingly slippery witness in his deposition (which, as a result, went on for 244 pages), but he could not deny that rejection.[1]

B. MARAIS'S PROPOSED TESTIMONY SHOULD BE EXCLUDED BECAUSE IT IS BASED ON OTHER WRECKS THAT ARE NOT SUBSTANTIALLY SIMILAR TO THE WRECK IN THIS CASE.

The facts underlying Marais's testimony are wholly insufficient and cannot serve as the basis for his purported expert testimony. Marais is attempting to introduce inadmissible evidence of other car wrecks that are not substantially similar to the subject wreck; to give testimony based on rank hearsay; and to give testimony that is wholly irrelevant to the actual issues in this case. Marais's proposed testimony has no probative value and would be misleading and confusing to the jury.

1. Chrysler cannot offer evidence of other accidents *without first proving* substantial similarity.

In Georgia, other incident evidence is admissible *only* when the other incidents have been shown to be "substantially similar" to the incident in the present case.[2] *Stovall v. DaimlerChrysler Motors Corp.*, 270 Ga. App. 791, 792 (2004); *Ray v. Ford Motor Co.*, 237 Ga. App. 316, 317 (1999); *Uniroyal Goodrich Tire Co. v. Ford*, 218 Ga. App. 248, 258 (1995); *Ford Motor Co. v. Stubblefield*, 171 Ga. App. 331, 339 (1984); *Gunthorpe v. Daniels*, 150 Ga. App. 113, 113-14 (1979). "In products liability cases, the 'rule of substantial similarity' prohibits the admission into evidence of other transactions, occurrences, or claims unless the proponent first

[1] *See* Marais Dep., 182:02-184:09; 188:09-190:17 (Ex 2).

[2] As the substantial similarity rule was not displaced by the 2011 Georgia Rules of Evidence legislation, this standard still applies. *See* 2011 Ga. Laws 52, § 1 ("Unless displaced by the particular provisions of this Act, the General Assembly intends that the substantive law of evidence in Georgia as it existed on December 31, 2012, be retained.").

shows that there is a 'substantial similarity' between the other transactions, occurrences and the claim at issue in the litigation." *Colp v. Ford Motor Co.*, 279 Ga. App. 280, 281 (2006).

In *Cooper Tire & Rubber Co. v. Crosby, the Georgia Supreme Court* held the substantial similarity rule specifically *applies to statistical compilations*. 273 Ga. 454, 455 (2001) (addressing "statistics" and holding "[i]n products liability cases, the 'rule of substantial similarity' prohibits the admission into evidence of other transactions, occurrences, or claims unless the proponent first shows there is a 'substantial similarity' between the other transactions, occurrences, or claims and the claim at issue in the litigation.").

Chrysler, as the profferor of the "statistical analyses" it wants to submit through Marais, must prove that each wreck used for its "statistical analyses" was substantially similar to the subject wreck. As will be shown, Chrysler not only cannot do that; Chrysler has made no attempt to do that. Chrysler's proffer of Marais's testimony is indisputably infirm, and the testimony is inadmissible.

Chrysler may attempt to argue that the standard for admissibility is different for plaintiffs and defendants in products liability cases. Other automakers have trotted out such arguments in the past – unsuccessfully. There is no basis for such an argument. The burden is the same for both sides. Defendants are not entitled to a separate and more lenient standard for the admissibility of other incident evidence. *See* Order, *Hatfield v. Ford Motor Co.*, Civ. A. No. 77339 (Bibb State Ct. Aug. 20, 2013) (holding the substantial similarity rule "applies to the proponent of the evidence in question, whether it be the Plaintiffs or Defendant Ford.") (citing *Ray*, 237 Ga. App. at 317; *Crosby*, 273 Ga. at 455; *Volkswagen of Am., Inc. v. Gentry*, 254 Ga. App. 888, 895 (2002); *Stovall*, 270 Ga. App. at 792-793) (order attached as Ex. 5). Whether it's

the plaintiff or the defendant, substantial similarity must be proved before the party can talk to the jury about other wrecks.

2. Marais has admitted that he knows nothing about substantial similarity.

Chrysler cannot meet the substantial similarity burden – and has not even tried to do so. When asked about "substantial similarity" at his deposition, Marais professed to have *no familiarity* with the concept, and said Chrysler's lawyers had not taught him what it meant. Marais Dep., 120:14-123:06 (Ex. 2). In short, Marais would not, and could not testify the wrecks upon which his statistics were based were substantially similar to this wreck. Because Chrysler must meet this burden in order for Marais's statistics to be admissible, and Chrysler cannot do so, *Crosby* forbids the introduction of Marais's statistics. 273 Ga. at 455.

3. Marais's statistical compilations include dissimilar incidents.

Marais's testimony also confirms his studies are based on dissimilar wrecks. Beyond supposedly limiting the studies he did to defend Chrysler against the ODI investigation to "rear impacts," Marais did nothing to assure the underlying wrecks were substantially similar to the Walden crash. "[T]he degrees of similarity that I applied were *the limitation to rear impacts*. I did not farther partition data depending on other metrics or attributes or dimensions of accident circumstances." Marais Dep., 120:20-25 (Ex. 2) (emphasis added).

That claim, under oath, was false: Marais's own file and statements disprove it. *See, e.g.*, *id.* at 72:11-15 (stating his work was not limited to rear impacts); 147:20-25 (Marais admitted the wrecks he considered included a wide array of different clock points of impact); Graph – NASS GES Tow Away Collisions with Fire, Fig 3, Ex. 1, Tab 4G to Marias Dep at 40 (analyzing tow-away wrecks with post-collision fire without regard to whether a fatality occurred or the point of impact) (Ex. 6). Furthermore, Marais's testimony also reveals the other incidents he reviewed

are dissimilar. *See id.* at 72:04-14 (stating he did not limit his analysis to fatal rear end impacts where fire was the most harmful event); 72:24-73:01 (same); 145:06-09 (same); 72:16-21 (stating he did not limit his analysis to wrecks involving rear impacts followed by a fuel tank rupture or puncture followed by fire; it "encompasses that and more."); 144:12-14 (stating he did not limit his analysis to wrecks where the occupants were belted); 144:19-21 (stating he did not limit his analysis to wrecks where there was a fatality); 148:02-07 (conceding it is possible his analysis included wrecks where the post-collision fuel fed fire did not result from fuel tank rupture following rear impact); 145:11-14 (stating he did not consider speeds of vehicles in his analysis); 144:25-145:03 (stating he did not limit his analysis to wrecks where the person killed was in the vehicle that caught fire); 65:24-66:01 (stating he included ***cars*** in his analysis).

Even if Marais's claim to have included only rear-impact collisions were true, that would not make all of the rear impact wrecks included in his analysis "substantially similar." In order to be substantially similar, the 'target vehicles' (*i.e.*, the vehicles being struck) in each of his wrecks would have to be substantially similar to the subject Jeep. Even Chrysler's own engineering expert has admitted wrecks are not substantially similar unless the target vehicles are substantially similar. Fenton Dep., 184:22-25 (Ex. 7). Chrysler has made no showing that the 'target' vehicles used by Marais in his statistical studies were substantially similar – and Chrysler simply cannot do so, because they indisputably are not. Where the target vehicles are not substantially similar to the subject Jeep, the wrecks are not substantially similar to the subject wreck. Therefore, the wrecks are inadmissible – as is any statistical work based on them. *Crosby*, 273 Ga. at 455.

The dissimilarity of the other wrecks Marais considered is self-evident. All of Marais's studies *compare* the "subject vehicles" – which include the WJ and ZJ Jeep Grand Cherokee

platforms and the KJ Jeep Liberty platform – to *other vehicles*, including passenger cars, in *various accident modes* without regard to whether a *fatality* occurred both *with and without fire*. *See* NASS/GES and NASS/CDS, Ex. 15 to Marais Dep. (Ex. 8) and NASS/GES and NASS/CDS, Ex. 16 to Marias Dep. (Ex. 9); *see also* Hubele Aff., ¶ 9 (Ex. 10). This means Marais's studies compare the statistical probability of a Jeep Grand Cherokee post-collision fuel fire to the statistical probability that a Ford passenger car, for example, will experience an engine compartment fire in a side impact. That tells the jury *nothing* about whether the Waldens' Jeep Grand Cherokee was defectively designed.

Marais's analyses also include wrecks which did not have a "common design and manufacturing process" because the vehicles were manufactured and designed by different manufacturers. *Id.* The studies also include passenger cars, accidents without fatalities, accidents without fires, and all accident modes. *Id.* That, too, is contrary to Georgia law: "In order to show substantial similarity, the [proponent of the evidence] must come forward with evidence (1) that the products involved in the other incidents and the present incident shared a common design and manufacturing process; (2) that the products suffered from a common defect; and (3) that any common defects shared the same causation." *Ford Motor Co. v. Reese*, 300 Ga. App. 82, 89-90 (2009). Because Marais's statistics are merely a compilation of other dissimilar incidents, Marais's testimony should be excluded.

4. Other courts have excluded other accident statistics for failure to meet the substantial similarity standard.

Other courts have recognized statistical analyses must satisfy the substantial similarity rule and have excluded statistical analyses that do not satisfy that requirement. *See Hockensmith v. Ford Motor Co.*, No. 03-13729, at *9-11 (11th Cir. Aug. 5, 2004) (finding statistical evidence similar to that offered in this case inadmissible without a showing of substantial similarity and

applying requirements of "substantial similarity" equally to both sides); *Hatfield v. Ford Motor Co.*, Civ. A. No. 77339, at *2 (Bibb State Ct. Aug. 20, 2013) (finding same); *Bishop v. General Motors Corp.*, No. CIV-94-286-B (E.D. Okla. Aug. 30, 1995) (finding same); *Dimaso v. Ford Motor Co.*, No. 99A-6172-6, at *5-7 (Ga. State Ct. July 1, 2003) (finding same); *Stewart v. Pevey*, No. 1B01CV229 (Bulloch County Sup. Ct. April 7, 2003) (finding same); *Lajeunesse v. Ford Motor Credit Co.*, SC GIC 755577 (Cal. Sup. Ct. Jan. 7, 2002) (finding same); *Wagner v. General Motors Corp.*, No. 60-06-02 (Cal. Sup. Ct. May 24, 1994) (finding same); *Flax v. DaimlerChrysler Corp.*, No. Civ. A. 02C-1288 (Tenn. Cir. Ct., Davidson County, Nov. 2, 2004) (finding same) (all orders are collectively attached as Ex. 11). These courts have analyzed statistical compilations of other accident data and have concluded such data should be excluded for failure to prove substantial similarity.

C. MARAIS'S PROPOSED TESTIMONY IS IRRELEVANT AND IS AN ATTEMPT TO MISLEAD AND CONFUSE THE JURY.

1. *Marais's analysis is irrelevant.*

Marais's analysis is not relevant to the determination of whether the Walden vehicle's fuel tank location and fuel system design are unreasonably dangerous. This case is not about "overall safety," or comparing the subject Grand Cherokee to various other vehicles in different kinds of impacts, including cases where no fuel tank was punctured and no post collision fuel fed fires resulted. This case is about the question whether the fuel system on the subject vehicle is defective, and more specifically, whether the rear-mounted location of the gas tank is a defect. As to that question, the evidence is clear – from the sworn testimony of Chrysler engineer Estes on December 10, 2014.[3] "Evidence which is not relevant shall not be admissible." O.C.G.A. §

[3] Chrysler's own engineer Estes admitted under oath that gas tank, located 11" from the rear of the car and hanging down 6" below the bottom of the car, was "vulnerable to rear impact." Estes Dep., 67:02-11 (Ex. 3). Estes further

24-4-402. The *Daubert* court described this relevance requirement as one of "fit" – an expert's opinion must be scientifically related to the issues to be considered helpful to the jury. *Daubert*, 509 U.S. at 591, 113 S. Ct. at 2796. Because Marais's statistics do not address the issues in this case, they do not "fit" the issues in this case and should be excluded.

It is not disputed, and will not be disputed, that *nobody* ever considered statistical analysis, much less that analysis Chrysler attempts to offer through witness Marais, when making the decision to locate the gas tank at the rear in a known crush zone, or when moving the Grand Cherokee gas tank *away from the rear* to the midships location for the 2005 model year car. Chrysler's engineers did not ask Marais to conduct any statistical analyses when the Jeep Grand Cherokee's fuel system was designed. Marais Dep., 10:10-13 (Marais was not involved in the decision to move the fuel tank in Chrysler's Jeep Grand Cherokee from the rear location to a midship location) (Ex. 2); 55:12-16 (same); 56:07-14 (same); 56:15-21 (same). Chrysler only retained Marais after the Waldens' Jeep Grand Cherokee was designed and manufactured and after NHTSA's ODI began its investigation into Chrysler's defective design. *Id.* at 56:16-57:03. Just as statistical analysis was irrelevant to Chrysler's design decisions, it is irrelevant to the question whether the subject vehicle's fuel system design was defective. The statistical analysis Chrysler is attempting to proffer through Marais cannot be relevant to the defect question when Chrysler *did not even know* about that statistical analysis when it made the design decisions (for the obvious reason the statistics did not yet exist).

The statistical analysis Chrysler attempts to proffer through Marais do not "assist the trier of fact" because it does not inform the jury about whether the Jeep Grand Cherokee was defective. Whether other dissimilar vehicles perform better or worse in the same or in other

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admitted that the rear 24" of the car were in the "crush zone." *Id.* at 47:16-21. *That means Chrysler deliberately put the gas tank in the crush zone.*

wreck modalities does not tell the jury how *this* vehicle performed or whether *this* vehicle's design was defective.

What Chrysler is trying to do here is to dodge the question whether this fuel system was defective, by having a mini-trial on a separate and irrelevant 'question' – was the vehicle safe *overall*? Overall safety is simply not a "fact in issue" in this case: it cannot be – Plaintiffs' allegations are not based on any question about the "overall safety" of the subject vehicle. *See City of Tuscaloosa v. Harcros Chems., Inc.*, 158 F.3d 548, 562 (11th Cir. 1998) (emphasis added).

The statistical analysis Chrysler is attempting to proffer through Marais has not been accepted by any court, and *was specifically rejected* by the government entity to which they were submitted, NHTSA's ODI. *See* NHTSA Office of Defects Investigation ("ODI") Recall Request Letter (Ex. 4). Chrysler retained Marais and Taylor to conduct statistical analyses because Chrysler's fuel tank location and fuel system design is so obviously defective – as is apparent from the days of the Ford Pinto – that Chrysler knew it could not employ real statistics experts to assist it. Chrysler knew a *scientific* statistical study would have established its design was defective. *See id.* at 2 (noting since the Ford Pinto, automakers "began to adopt designs in which fuel tanks were located in less vulnerable locations than behind the rear axle. Chrysler was certainly aware of the safety benefits of placing the tank in front of the rear axle."); *see also id.* at 3 (Ex. 4).[4]

[4] "A 1993 study of fire related deaths in rear crashes occurring from 1977 to 1989 concluded that the increasing relocation of tanks ahead of the rear axle had substantial effect on the reduction of these deaths in rear impacts. A survey of 74 vehicles produced during the 2002 and 2003 model years, including 41 passenger cars, 15 SUVs, 8 pickup trucks, 7 mini-vans and 3 full size vans found that 65 vehicles had fuel tanks located ahead of the rear axle, 6 vehicles had fuel tanks over the rear axle and 4 vehicles (Ford Mustang, Ford Grand Marquis/Crown Victoria, Jeep Liberty and Jeep Grand Cherokee) had tanks located aft of the rear axle."

According to ODI's analysis, "there have been at least 32 fatal rear impact fire crashes involving Grand Cherokees resulting in 44 deaths" as of June 2013,[5] and "peer vehicle performance for post-rear impact fires and fuel tank leaks improved over time while Grand Cherokee and Liberty performance actually declined." *Id.* at 5-6 (Ex. 4). Following its study, ODI concluded: the "1993-2004 Jeep Grand Cherokee (ZJ and WJ) . . . ***contain[s] defects related to motor vehicle safety[;] . . . there is a performance defect and a design defect.*** The performance defect is that the fuel tanks installed on these vehicles are subject to failure when the vehicles are struck from the rear. . . . The design defect is the placement of the fuel tanks in the position behind the axel and how they were positions, including their height above the roadway. ***The defects present an unreasonable risk to motor vehicles . . . .***" *Id.* at 12 (emphasis added).

All of Marais's studies plainly do not "fit" to answer the question at issue – did Chrysler knowingly manufacture a defective fuel tank system in the Walden's vehicle? Chrysler did not consider these studies when it manufactured the vehicle, and these studies do nothing to inform the jury about what happened *in this case*. Marais's studies involve other vehicles, other types of injuries, other types of accidents, and were rejected by NHTSA's ODI. These statistical analyses are irrelevant and should be excluded.

2. Marais's *statistical* analyses would confuse and mislead the jury and would be therefore be unduly prejudicial.

Georgia law allows for the exclusion of even relevant evidence when the probative value of evidence is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury. O.C.G.A. § 24-4-403 ("Relevant evidence may be excluded if its

[5] There have been 19 known fatalities in Chrysler's Jeeps with rear gas tanks *since Remington Walden died by fire on March 6, 2012.*

probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence."). Because it relies on dissimilar vehicles and dissimilar incidents, the Marais statistical analysis is inherently confusing and misleading. To allow introduction of such evidence will permit Chrysler to prejudice and confuse the jury with supposed "statistics" focused not on the defect question in this this case but on Chrysler's dodge – the question of "overall safety." Statistical evidence concerning other dissimilar wrecks in dissimilar vehicles will simply serve to confuse and mislead the jury as to what is truly at issue.

3. *Other Courts have excluded other accident statistical evidence as irrelevant and misleading.*

Other courts have excluded other accident statistical compilations as irrelevant and/or unduly prejudicial. In *Howard v. Ford Motor Co.*, District Judge C. Ashley Royal excluded statistics from Ford expert, William Wecker – *the owner of Marais's firm*. No. 5:00-CV-448-3 (M.D. Ga. Dec. 27, 2002) (attached as Ex. 1). After hiring an independent statistician, the court excluded the statistics because Wecker's failure to use the appropriate error rates made the statistics unreliable, and because the statistics "pose[d] the danger of confusion of the issues and misleading the jury in this case that would substantially outweigh their probative value." *Id.* at 10; *see* FED. R. EVID. 403.

In *Brewster v. Hyundai Motor Co.*, the United States District Court for the Eastern District of Texas excluded the similar "statistical" analysis of an expert witness retained by Hyundai, Dr. Michelle Vogler. No. 2-03-CV-184 (E.D. Tex. July 12, 2004) (attached as Ex. 12). In excluding these statistics, the court determined these incidents used by the automaker's "expert" were not sufficiently similar to the subject incident but also determined these statistics were not relevant to the issues in the case. *Id.* at 3. The court also relied in part on *Yassin v.*

Certified Grocers of Illinois, Inc., 502 N.E. 2d 315 (Ill. App. Ct. 1st Dist. 1986), where the court excluded statistics as irrelevant to the defect question at issue.

In *Katz v. DaimlerChrysler Corp.*, the Fulton County Superior Court found Chrysler expert Jeya Padmanaban's other accident statistical compilations were inadmissible as they would "tell the jury nothing about the safety or the performance of the accident vehicle under the circumstances at issue here." No. 2007 CV 130355, at *1 (Fulton County Sup. Ct. Aug. 8, 2008) (attached as Ex. 13). The "statistical analysis [was] simply too broad to be relevant," and "the prejudice and likely confusion generated by such evidence far outweighs the probative value, if any." *Id.*

In *Carr v. Fuji Heavy Industries Co.*, the United States District Court for the District of Alaska excluded Padmanaban's other accident statistical compilations because the compilations were irrelevant to the disputed issues in the case. No. J96-0010-CV, at *7 (D. Alaska Sept. 20, 1999) (attached as Ex. 14). In *Carr*, Padmanaban attempted to offer statistics to show the overall safety performance of the subject vehicle was similar to peer vehicles. *Id. at* *7 In excluding Padmanaban's testimony, the court reasoned "evidence as to the *overall safety* performance of the accident vehicle and peer vehicles *will tell the jury absolutely nothing* about the safety performance of either the accident vehicle or the peer vehicles under the circumstances that are at issue here . . ." *Id.* at *5 (emphasis added). Accordingly, the court excluded Padmanaban's statistics.

Like the other statistical analyses referenced in the aforementioned cases, the statistics offered by Marais should be similarly excluded because they offer no assistance in answering the real defect questions and would unduly confuse and mislead the jury.

D. MARAIS'S STATISTICAL ANALYSIS IS AN IMPROPER ATTEMPT TO INJECT INADMISSABLE HEARSAY.

Hearsay is "a statement, other than one made by the declarant while testifying at the trial or hearing, offered in evidence to prove the truth of the matter asserted." O.C.G.A. § 24-8-801(c). Hearsay is not generally admissible. O.C.G.A. § 24-8-802. Marais's proposed testimony about statistical summaries of dissimilar wrecks relies upon ***multiple*** layers of inadmissible hearsay. The underlying wreck information Marais used (1) contains statements made by third parties; and (2) is offered for the truth of the matter asserted – *i.e.*, what actually occurred in the accident. In other words, the database entries themselves are hearsay. Further, to the extent the investigator included statements from witnesses or other third parties about what happened in the incident, Marais is relying on multiple layers of hearsay. Evidence of other dissimilar incidents and the investigators' opinions about them constitute unauthenticated hearsay containing opinions and conclusions of persons not before the Court.[6]

While O.C.G.A. § 24-7-703 will allow an expert to rely on hearsay, so long as the hearsay is the type reasonably relied upon by other experts in the field, an expert may not disclose that hearsay to the jury unless the Court determines the probative value substantially outweighs its prejudicial effect. *See Raines v. Maughan*, 312 Ga. App. 303, 307 (2011) ("inadmissible facts and data upon which an expert relies are not rendered admissible simply because an expert has relied upon them. To the contrary, such facts and data remain inadmissible unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect.") (internal quotations omitted).

[6] As stated above, information in the CDS database is derived trained investigators that, for example, conduct witness interviews and review medical records and information in the GES database is derived exclusively from information contained in police accident reports.

In sum, Marais's statistical analysis has no probative value. Marais's studies consider (1) other cars and SUVs, (2) in all accident modes, and (3) without regard to whether fire as the most harmful event and, as such, his studies no nothing to inform the jury what happened *in this case*. Since his studies lack any probative value and would unduly prejudice Plaintiffs, Marais's testimony should be excluded.

E. MARAIS'S TESTIMONY SHOULD BE EXCLUDED BECAUSE HIS SAMPLE SIZES ARE TOO SMALL, YIELDING AN EXCEEDINGLY HIGH STANDARD ERROR.

Marais's testimony should be also excluded because it is not "the product of reliable principles and methods," because the sample size of the databases he analyzed – which are not intended to be nationally representative of the crash experience of individual vehicles – are too small to yield reliable results. O.C.G.A. § 24-7-702(b)(2). Marais's testimony should also be excluded because he did not "apply the principles and methods reliably to the facts of the case," because the methodology he utilized for making predictions about the crash experience of individual vehicles yields an exceedingly high standard error. O.C.G.A. § 24-7-702(b)(3).

1. Background on the NASS CDS and GES.

Unlike Chrysler's other expert Taylor, who relied on FARS census data, Marais relied on the National Automotive Sampling System Crashworthiness Data System ("CDS") and General Estimates System ("GES") databases. Marais did not use FARS; that work was left to Chrysler expert Paul Taylor.[7]

[7] While Marais did not do any calculations from the FARS database, Marais did create a presentation which purports to explain how confidence intervals should be calculated with the FARS database. Because those confidence intervals were only applied to Taylor's FARS work, the unreliability of FARS confidence intervals is addressed in Plaintiffs' Rule 702 Motion Challenging Chrysler Expert Paul M. Taylor's "Expert" Testimony about Statistics and is incorporated by reference here.

The CDS contains "detailed data on a representative, *random sample* of thousands of minor, serious, and fatal crashes."[8] Of the approximately 5.5 million crashes annually, the CDS "samples only about 5,000, *i.e.*, less than 0.1% annually." Hubele Aff., ¶ 14 (Ex. 10). Samples for the CDS database include crashes "involving passenger cars, light trucks, vans, and utility vehicles."[9] Data for the GES is derived "from a nationally representative sample of police reported[10] motor vehicles crashes of all types, from minor to fatal."[11] "Of the approximately 5.5 million crashes annually, the GES samples about 50,000, *i.e.*, less than 1.0% annually." Hubele Aff., ¶ 14 (Ex. 10). The CDS and GES databases are *stratified samples* that do "not include every single crash in the [United States]." Taylor Dep., 48:22-49:05 (Ex. 15). Standard error tables must be applied to any calculations relating to CDS and GES data and confidence intervals have to be calculated. *See, e.g.*, Hubele Dep., 134:23-24 ("If you use the NASS CDS, you would have to use confidence intervals.") (Ex. 16).

2. <u>Marais's samples sizes are too small to be reliable.</u>

Since the CDS and GES are samples represent 0.1% and 1.0% of the 5.5 million annual wrecks in the United States respectively, "these databases are not intended to be nationally representative of the crash experience of individual vehicles. In essence, the sample sizes . . . are just too small to generate reliable estimates for individual vehicles." Hubele Aff., ¶ 15 (Ex. 10). *Chrysler's other "expert" – Paul Taylor – agrees.* According to Taylor, the CDS database does "not have a lot of power because there are not that many crashes for a very specific type - - a

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[8]http://www.nhtsa.gov/Data/National+Automotive+Sampling+System+%28NASS%29/NASS+Crashworthiness+Data+System (emphasis added). Last visited November 24, 2014.

[9] *Id.*

[10] Unlike the CDS, NHTSA does not assign investigators to conduct independent investigations on the GES wreck entries, Taylor Dep. 47:10-12 ("The GES is based upon police reports without a vehicles inspection, and has less detail but more volume [than the CDS].") (Ex. 15);[10] the information within that database is only as good as whatever was written in the police reports.

[11] http://www.nhtsa.gov/NASS. Last visited November 24, 2014.

very specific make/model of a vehicle." Taylor Dep., 48:07-9l (Ex. 15); *see also id.* at 49:17-22 ("Q. Isn't it true, that therefore, it is difficult to extrapolate any conclusions about a specific vehicle from the NASS CDS database? A. That would be fair. As I discussed earlier, it's not good on a very specific model level."); Hubele Dep., 133:20-23 (NASS CDS or GES are too small to make predictions about the performance of specific vehicles) (Ex. 16); 134:01-05 ("In the past I have attempted to reproduce opposing statisticians' individual vehicle counts from the NASS CDS, and the counts are so small that the results are meaningless. The NASS CDS was not designed for individual record or vehicle analysis.") (Ex. 16).

The shortcomings of the sample size of Marais's CDS analyses are readily apparent based on the dataset he utilized. In her affidavit, Dr. Hubele produced a table showing the sample sizes of specific types of crashes from the CDS and GES database Marais utilized to construct the CDS graphs found in Exs. 7, 15, 16 to his deposition. Hubele Aff., ¶ 18 (Ex. 10). In order to make predictions about the performance of specific vehicles, Marais analyzed the CDS data, consisting of 5,000 (0.1% of all) wrecks, to determine, for example, how many post collision fires the subject vehicles experienced. *Id.* Since the CDS is not designed for individual record or vehicle analysis, Marais was forced to narrow his sample size from 5,000 wrecks into the single digits. Marais's analysis revealed the following sample sizes: post collision fire in rear impacts – GES:3, CDS:2; rear impact where most harmful event is fire – GES: 1, CDS: *not coded*; post collision fire with origin in fuel tank area – GES: *not coded*, CDS: 3; post collision fire with origin in fuel tank in a rear impact – GES: *not coded*, CDS: 2; post collision fuel system leakage – GES: *not coded*,[12] CDS: 6; and post collision fuel system leakage in rear impact –

[12] "'Not coded' indicates that the database does not contain this information and therefore was not used." Hubele Aff., ¶ 18, Table 1 (Ex. 10).

GES: *not coded*, CDS: 3. *Id.* Marias's samples sizes are too small to yield any modicum of reliability and are meaningless. *Id.*

Several courts have agreed with the opinions of Dr. Hubele which are shared by Chrysler's own expert Taylor, and have consequently excluded statistical evidence based on sample sizes of automobile traffic crash databases where the samples size used was too small. *Heco v. Midstate Dodge, LLC*, 2013 WL 6978689, Case No. S08692010 at*2-3 (Vt. Super. June 4, 2013) (upholding trial court order excluding statistical evidence of an analysis of the CDS database because the same, only 5 cases, was "too small to generate meaningful information about the mechanism of injury . . . [and] have any degree of reliability."); *Grimshaw v. Ford Motor Co.*, 119 Cal. App. 3d 757, 792, 174 Cal. Rptr. 348, 371 (1981) (in a products liability suit arising out of an accident involving the 1972 Ford Pinto, the trial court did not abuse its discretion for excluding a statistical "study [that] encompassed only a small number of collisions which resulted in Pinto fires, thus rendering the sampling open to misleading inferences.").

Marais's study analysis of CDS data is no different than the analysis of CDS data in *Heco* and *Grimshaw*. Marias's statistical analyses are derived from a sample which is too small to have any degree of reliability. Marais's testimony should be excluded.

3. Marais's analyses yield exceedingly and unacceptably high standard errors.

Marais's use of the term "confidence interval" is suspect at best. That this term implies any degree of reliability is misleading since Marais's analyses of the CDS and GES databases result in an exceedingly high standard error.

Confidence intervals, based on *sampling theory*, Hubele Dep., 148:13-14 (Ex. 16), allow statisticians "to construct a way to make an *inference* on that data which is *unobserved*." Hubele Dep., 148:04-08, 16-18 (emphasis added) (Ex. 16); *see also* Hubele Aff., ¶ 7 ("[s]tatistical

inference techniques are methods used to *infer* information from a sample to the broader, *un-sampled population.*") (emphasis original) (Ex. 10). Confidence "intervals are useful tools for . . . providing reliability information about un-sampled data." Hubele Aff., ¶ 9 (Ex. 10). "A confidence interval gives a range of values within which the true unknown value is assumed to lie." *Id.* Marais's analysis purports to predict, for example, individual vehicle performance in rear impacts. *See, e.g., id.* at ¶ 18-20.

Dr. Hubele reviewed the graphs Marias produced that are attached as Exs. 7, 15, and 16 to his deposition. *Id.* at ¶ 20. "[I]n almost every instance the confidence interval . . . is nearly twice the length of the bar graph." *Id.* Such large confidence variables are a result of exceedingly small sample sizes and exceedingly large standard errors. *Id.*

Calculating what is known as the coefficient of variation reveals whether the sample size is adequate, *i.e.*, large enough, and whether there is a large standard error. *Id.* The coefficient of variation is calculated by comparing Marias's calculations of the estimated rate of occurrence to the standard error for each rate. *Id.* "If the coefficient of variation exceeds about 10%, then this signals that the standard error is too large and the sample size is inadequate for producing reliable statistics for rates." *Id.*

The coefficient of variation for all of Marais's CDS and GES estimates based on Table 1 "substantially exceed the 10% recommended cutoff. In fact, his coefficients of variation are in excess of 50%." *Id.* Figure D – another graph produced by Marias – is a reproduction of "Marais's graph for CDS-based rates of post-collision fuel system leakage in rear impacts." *Id.* The confidence interval in Figure D is between zero and 220. *Id.* The coefficient of variation in Figure D, *based on only 3 occurrences* of post-collision fuel system leakage in rear impacts, is 67% - more than 6 times the recommended cutoff. *Id.* Such a large confidence interval and

exceedingly large coefficient of variation reveal the standard error is too large. Marais's estimates of occurrence are entirely unreliable.

The lower value of the confidence interval in Figure D reveals also evidences the unreliability of Marais's estimates. *Id.* "With a lower value of [zero] for the confidence interval, Marais is saying that the true rate [of occurrence for post-collision fuel system leakage in rear impacts] could be [zero]." *Id.* That is false. The wreck in this case resulted in a post-collision fuel system leakage. The true rate is not and cannot be zero.

III. CONCLUSION.

Marais's statistical analyses are based on wrecks that are not substantially similar to the wreck in this case and data that relies on rank hearsay. His testimony will not only confuse and mislead the jury – that is its sole purpose. His analyses also reveal samples sizes that are too small and standard errors that are too high to yield any modicum of reliability. Excluding Marais's testimony ensures the courtroom door remains closed to junk science. Plaintiffs respectfully request this Court exclude any testimony from Marais which involves statistics, statistical analysis, and any related conclusions.

Signatures continued on next page

This 23 day of December, 2014.

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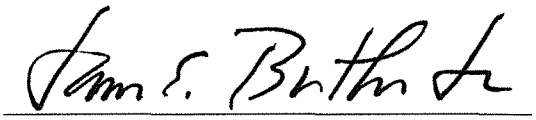
BY: 

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