No. 13-30281

IN THE UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

CRAIG MOORE, Individually and on behalf of minor child A.D.M.; TOMI JEANNE LABAT MOORE, Individually and on behalf of minor child, A.D.M.

Appellants

v.

INTERNATIONAL PAINT, L.L.C.

Appellee

On Appeal from the United States District Court
For the Eastern District of Louisiana, New Orleans, No. 2:11-CV-1001

MOTION FOR LEAVE TO FILE *AMICI CURIAE* BRIEF IN SUPPORT OF APPELLEE

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MOTION FOR LEAVE TO FILE *AMICI CURIAE* BRIEF

Pursuant to Rule 29(b) of the Federal Rules of Appellate Procedure, American Coatings Association, American Chemistry Council, and the Chamber of Commerce for the United States hereby moves for leave to file an *amici curiae* brief in support of the Appellee, International Paint, LLC. Appellee consents to the filing of the proposed brief. Appellants do not consent.

The proposed *amici curiae* brief is being filed herewith.

I. INTEREST OF AMICI

The American Coatings Association ("ACA") is a voluntary, nonprofit trade association representing some 300 manufacturers of paints, coatings, adhesives, sealants and caulks, raw materials suppliers to the industry, and product distributors. Collectively, ACA represents companies with greater than 95% of the country's annual production of paints and coatings, which are an essential component to virtually every product manufactured in the United States. ACA is actively involved in supporting its members' interests though *amicus curiae* briefing in courts across the country. *See* ACA's website, http://www.paint.org.

The American Chemistry Council ("ACC") represents the leading companies engaged in the business of chemistry. ACC members apply the science of chemistry to make innovative products and services that make people's lives better, healthier and safer. The business of chemistry is a $760 billion enterprise

and a key element of the nation's economy. ACC frequently submits *amicus curiae* briefs on issues of importance to its membership. *See* ACC's website, http://www.americanchemistry.com.

The Chamber of Commerce of the United States of America ("Chamber") is the world's largest business federation. It represents 300,000 direct members and indirectly represents the interests of more than 3 million companies and professional organizations of every size, in every industry sector, and from every region of the country. An important function of the Chamber is to represent the interests of its members in matters before Congress, the Executive Branch, and the courts. To that end, the Chamber regularly files amicus curiae briefs in cases that raise issues of concern to the nation's business community. *See* Chamber's website, http://www.uschamber.com.

II. THE PROPOSED AMICI CURIAE BRIEF IS DESIRABLE AND RELEVANT AND ADDRESSES ISSUES THAT GO BEYOND THE SPECIFIC FACTS RAISED IN THE PARTIES' MERITS BRIEFS

ACA, ACC, and the Chamber respectfully move for leave to file the attached *amici curiae* brief because the present appeal raises a fundamental legal issue that is increasingly arising in toxic tort litigation: How should a district court exercise its gatekeeping responsibility under *Daubert* in the face of expert testimony that assumes the predicate facts of historical exposures necessary to opine to a plaintiff's total dose and duration of exposure to an alleged toxin.

This and other courts around the country have explained that "[s]cientific knowledge of the harmful level of exposure to a chemical, plus knowledge that the plaintiff was exposed to such quantities, are minimal facts necessary to sustain the plaintiffs' burden in a toxic tort case." *Allen v. Pa. Eng'g Corp.*, 102 F.3d 194, 199 (5th Cir. 1996).[1] In response to this required evidentiary burden, Plaintiffs in toxic tort cases are now relying on experts in the "relatively new field of exposure science," who seek to proffer opinions on the dose and duration of historical exposures. *See* Paul J. Lioy, *Exposure Science: A View of the Past and Milestones for the Future*, 118(8) Environmental Health Perspectives 1081, at 1081 (Aug. 2010).

The emergence of this new type of litigation expert raises important challenges for courts to faithfully execute their *Daubert* mandate to screen out unreliable and irrelevant expert testimony. As noted in the most recent edition of the Federal Judicial Center's REFERENCE MANUAL ON SCIENTIFIC EVIDENCE (3rd ed. 2011) – which added a chapter specifically devoted to this new type of expert witness – "[e]xposure science is not yet a true academic discipline." *Id.* at 539. Accordingly, courts may be faced with dose reconstruction opinions from

[1] *See also Pluck v. BP Oil Pipeline Co.*, 640 F.3d 671, 677 (6th Cir. 2011) (same); *Buzzerd v. Flagship Carwash of Port St. Lucie, Inc.*, 397 F. App'x 797, 800 (3d Cir. 2010) (same); *McClain v. Metabolife Int'l, Inc.*, 401 F.3d 1233, 1241 (11th Cir. 2005) (same); *Mitchell v. Gencorp, Inc.*, 165 F.3d 778, 781 (10th Cir. 1999) (same); *Wright v. Willamette Indus., Inc.*, 91 F.3d 1105, 1107-08 (8th Cir. 1996).

witnesses with a wide range of potentially tangential experience, including "industrial hygiene, environmental and analytical chemistry, chemical engineering, hydrogeology, and even behavioral sciences." *Id.* at 540.

Moreover, plaintiff's experts who seek to opine on historical exposure levels frequently rely on methods developed for fundamentally different purposes. These experts "have responded to this [litigation] need by adapting the methods of [regulatory] exposure assessment to reconstruct the past – that is, to produce a profile of individuals' past exposures." *Id.* at 512, 539. But as The REFERENCE MANUAL correctly cautions, methods used for regulatory exposure assessment – which are based on a "precautionary principle" approach designed to overstate likely exposures – "become[] problematic, however, if applied to assessments of exposures that may have been incurred in the past by individuals claiming to have been harmed by them." *Id.* at 534. In such cases, the REFERENCE MANUAL continues, "an approach based on attempts *to accurately describe the individual's exposure* would seem to be necessary" and "the exposure scientist must be careful *to ensure accurate description of the exposure concentration* (and resulting dose) ...." *Id.* (emphasis added); *see also id.* at 539 ("experts presenting testimony regarding exposure reconstruction must be queried heavily on the sources of data used in their application of exposure methods").

The issues raised in this case go beyond the specific facts of the parties' dispute. As set forth in the proposed *amici curiae* brief, the appellants' arguments seeking reversal of the district court *Daubert* ruling below are based upon a fundamental misreading of Federal Rules of Evidence Rules 702 and 703 and governing *Daubert* authority which, if accepted, would significantly insulate this emerging category of "dose reconstruction" experts from meaningful *Daubert* review in a wide variety of other "toxic tort" cases across the country. American Coatings Association, American Chemistry Council and the Chamber of Commerce of the United States respectfully seek leave to participate as *amici curiae* to assist the Court in its analysis of the proper role of trial judges as *Daubert* gatekeepers when presented with such expert opinions.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on June 17, 2013, I electronically filed the above and foregoing Motion for Leave to File *Amici Curiae* Brief in support of Apellee with the Clerk of the Court using the CM/ECF system, which sent notification of such filing to all counsel of record in this matter.

SO CERTIFIED, this the 17th day of June, 2013.

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AMICUS BRIEF FOR AMERICAN COATINGS ASSOCIATION, AMERICAN CHEMISTRY COUNCIL, AND CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA IN SUPPORT OF APPELLEE URGING AFFIRMANCE

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CERTIFICATE OF INTERESTED PARTIES

The undersigned counsel of record certifies that, to our knowledge, all respective interested parties have been named in the Certificates of Interested Parties filed previously by Appellants and Appellee. There are no additional parties to include in a supplemental statement of interested parties pursuant to Fifth Circuit Rule 29.2.

SO CERTIFIED, this the 17th day of June, 2013.

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CORPORATE DISCLOSURE STATEMENT

Amici curiae American Coatings Association, Inc. ("ACA"), American Chemistry Council ("ACC"), and Chamber of Commerce of the United States of America ("Chamber") do not have any parent corporations and are not publicly traded entities. ACA, ACC and the Chamber are represented in this matter by Eric Lasker, a partner in the law firm Hollingsworth LLP. In addition, ACA is represented in this matter by its General Counsel, Thomas J. Graves; ACC is represented in this matter by its Deputy General Counsel, Donald D. Evans.; and the Chamber is represented by Kate Comerford Todd and Sheldon Gilbert of the National Chamber Litigation Center, Inc.

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INTEREST OF AMICI

The American Coatings Association ("ACA") is a voluntary, nonprofit trade association representing some 300 manufacturers of paints, coatings, adhesives, sealants and caulks, raw materials suppliers to the industry, and product distributors. Collectively, ACA represents companies with greater than 95% of the country's annual production of paints and coatings, which are an essential component to virtually every product manufactured in the United States. ACA is actively involved in supporting its members' interests though *amicus curiae* briefing in courts across the country. *See* ACA's website, http://www.paint.org.

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ACA, ACC, and the Chamber respectfully submit this *amici curiae* brief in support of the Appellee, on behalf of themselves and their membership, because the present appeal raises a fundamental legal issue that is increasingly arising in toxic tort litigation: How should a district court exercise its gatekeeping responsibility under *Daubert* in the face of expert testimony that assumes the predicate facts of historical exposures necessary to opine to a plaintiff's total dose and duration of exposure to an alleged toxin.[1]

This and other courts around the country have explained that "[s]cientific knowledge of the harmful level of exposure to a chemical, plus knowledge that the plaintiff was exposed to such quantities, are minimal facts necessary to sustain the plaintiffs' burden in a toxic tort case." *Allen v. Pa. Eng'g Corp.*, 102 F.3d 194,

[1] Pursuant to FRAP Rule 29(c)(5), *amici curiae* state that no counsel for any party authored this brief in whole or in part and no entity or person, aside from amicus curiae, its members, and its counsel, made any monetary contribution intended to fund the preparation or submission of this brief.

199 (5th Cir. 1996).[2] In response to this required evidentiary burden, Plaintiffs in toxic tort cases are now relying on experts in the "relatively new field of exposure science," who seek to proffer opinions on the dose and duration of historical exposures. *See* Paul J. Lioy, *Exposure Science: A View of the Past and Milestones for the Future*, 118(8) Environmental Health Perspectives 1081, at 1081 (Aug. 2010).

The emergence of this new type of litigation expert raises important challenges for courts to faithfully execute their *Daubert* mandate to screen out unreliable and irrelevant expert testimony. As noted in the most recent edition of the Federal Judicial Center's REFERENCE MANUAL ON SCIENTIFIC EVIDENCE (3rd ed. 2011) – which added a chapter specifically devoted to this new type of expert witness – "[e]xposure science is not yet a true academic discipline." *Id.*, *Reference Guide on Exposure Science*, at 539. Accordingly, courts may be faced with dose reconstruction opinions from witnesses with a wide range of potentially tangential experience, including "industrial hygiene, environmental and analytical chemistry, chemical engineering, hydrogeology, and even behavioral sciences." *Id.* at 540.

[2] *See also Pluck v. BP Oil Pipeline Co.*, 640 F.3d 671, 677 (6th Cir. 2011) (same); *Buzzerd v. Flagship Carwash of Port St. Lucie, Inc.*, 397 F. App'x 797, 800 (3d Cir. 2010) (same); *McClain v. Metabolife Int'l, Inc.*, 401 F.3d 1233, 1241 (11th Cir. 2005) (same); *Mitchell v. Gencorp, Inc.*, 165 F.3d 778, 781 (10th Cir. 1999) (same); *Wright v. Willamette Indus., Inc.*, 91 F.3d 1105, 1107-08 (8th Cir. 1996).

Moreover, plaintiff's experts who seek to opine on historical exposure levels frequently rely on methods developed for fundamentally different purposes. These experts "have responded to this [litigation] need by adapting the methods of [regulatory] exposure assessment to reconstruct the past – that is, to produce a profile of individuals' past exposures." *Id.* at 512, 539. But as The REFERENCE MANUAL correctly cautions, methods used for regulatory exposure assessment – which are based on a "precautionary principle" approach designed to overstate likely exposures – "become[] problematic, however, if applied to assessments of exposures that may have been incurred in the past by individuals claiming to have been harmed by them." *Id.* at 534. In such cases, the REFERENCE MANUAL continues, "an approach based on attempts *to accurately describe the individual's exposure* would seem to be necessary" and "the exposure scientist must be careful *to ensure accurate description of the exposure concentration* (and resulting dose) ...." *Id.* (emphasis added); *see also id.* at 539 ("experts presenting testimony regarding exposure reconstruction must be queried heavily on the sources of data used in their application of exposure methods").

Amici curiae urge this Court to affirm the district court's proper exclusion of the plaintiffs' dose reconstruction expert in this case because of that expert's failure to "ensure accurate description of the exposure concentration" and use reliable "sources of data" in reaching his opinions. *Amici curiae* further urge the

Court to confirm that a district court's gatekeeping responsibility under *Daubert* and Federal Rules of Evidence 702 and 703 requires the court to assure itself that the opinions proffered by such dose reconstruction experts rest upon a reliable factual foundation.

SUMMARY OF ARGUMENT

The Appellants' contention that the district court abused its discretion in excluding the opinions of their dose reconstruction expert is based upon a fundamental misunderstanding of Federal Rules of Evidence and the standard for admissibility of expert testimony set forth in *Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993) and its progeny.

In their appellate brief, the Appellants repeatedly contend that the district court "erred by focusing on the underlying and disputed facts considered" by their expert "rather than his methodology." 5/6/2013 Appellant's Brief ("App. Br.") at 22-23.[3] But as both the Federal Rules and United States Supreme Court precedent make abundantly clear, an expert witnesses' decisions in selecting the facts upon which he will rely is an integral part of his methodology, and an expert who

[3] *See id.* at 24 (asserting that district court "disagreed with the factual bases for Dr. Kura's assumptions, rather than his methodology"); *id.* at 32 (arguing that expert's incorrect estimate of benzene levels in product at issue "may or may not be a valid ground for cross-examining Dr. Kura at trial, but it is not a basis for excluding his testimony in its entirety"); *id.* at 36 (asserting that the district court "did not find Dr. Kura's *methodology* unreliable, it disagreed with the *factual basis* for his opinions").

predicates his opinion upon an unreliable factual basis should not be allowed to present his opinions to a jury. *See* Fed. R. Evid. 702(b) (expert testimony must be "based on sufficient facts or data"); Fed. R. Evid. 703 (testimony must be based upon "those kinds of facts or data in forming an opinion" as to which "experts in the particular field would reasonably rely"); *Kumho Tire Co. Ltd. v. Carmichael*, 526 U.S. 137, 149 (1999) (where expert "testimony's *factual basis*, *data*, principles, methods, *or* their application are called sufficiently into question … the trial judge must determine whether the testimony has 'a reliable basis in the knowledge and experience of [the relevant] discipline") (emphasis added) (quoting *Daubert*, 509 U.S. at 592). Thus, as set forth herein, federal courts commonly and properly exclude expert testimony predicated on unreliable factual assumptions.

As this Court has recognized, a district court's obligation to exclude expert testimony predicated on unreliable facts is particularly important in the field of exposure science. *See Christophersen v. Allied-Signal Corp.*, 939 F.2d 1106 (5th Cir. 1991) (affirming exclusion of dose reconstruction expert based on expert's reliance on unsupported factual assumption regarding historical exposures). Dr. Kura's exposure modeling exercise in this case relies entirely on a series of unsubstantiated assumptions regarding the levels of benzene in the Appellee's products and the purported duration and circumstances of Mr. Moore's exposures. Appellants' claim that the district court could not consider the reliability of these

assumptions under *Daubert* is not only wrong as a matter of law, but would allow a dose reconstruction expert free reign to opine on any level of past exposures simply by manipulating the assumed historical factors that drive such an analysis. *See Castellow v. Chevron USA*, 97 F. Supp. 2d 780, 790 (S.D. Tex. 2000) (excluding dose reconstruction expert opinions based on speculative exposure assumptions, noting that the expert's methodology "is intensely sensitive to a wide range of error depending on the exposure facts used in the modeling assumptions").

Appellants cannot avoid this foundational gap in Dr. Kura's analysis by arguing that his assumptions were fed into mathematical equations used by other experts. Dr. Kura's methodology in calculating historical doses is driven by the decisions he makes in selecting the data points used in those calculations; if those inputs are unreliable, his calculations and methodology are unreliable. Because "the dosage of the harmful substance and the duration of exposure to it are the types of information upon which experts reasonably rely when forming opinions on the subject, … the district court was justified in excluding [expert's] opinion that is based upon critically incomplete or grossly inaccurate dosage or duration data." *Christophersen*, 939 F.2d at 1114.

ARGUMENT

I. Federal Courts Must Ensure That Expert Opinions Are Based Upon A Reliable Factual Foundation.

A. The Federal Rules Of Evidence And Governing Supreme Court And Fifth Circuit Authority Require Trial Courts To Consider The Factual Predicate For Expert Opinions As Part Of Their Gatekeeping Responsibility.

Rules 702 and 703 of the Federal Rules of Evidence expressly provide that expert testimony must be based upon a reliable factual foundation. Pursuant to Rule 702, the assessment of the factual foundation of an expert's testimony is a key step in the admissibility determination. After first determining that the expert is qualified and that his opinion could help the trier of fact, the court must make a reliability determination that the expert's testimony is: (1) "*based on sufficient facts or data*," (2) "the product of reliable principles and methods," and (3) that "the expert has reliably applied the principles and methods *to the facts of the case*." Fed. R. Evid. Rule 702 (emphasis added). Rule 703 provides further guidance to the court in assessing the sufficiency of the facts and data at issue, explaining that the expert's testimony must be based upon "those kinds of facts or data" upon which "experts in the particular field would reasonably rely." Fed. R. Evid. Rule 703.

Notwithstanding this unambiguous language, the Appellants argue that the district court abused its discretion in excluding their expert's dose reconstruction opinion because the court assessed "the factual bases for Dr. Kura's assumptions,

rather than his methodology." App. Br. at 24. In support of this blatant disregard of Rules 702 and 703, the Appellants excerpt language from the Supreme Court's opinion in *Daubert* that a court's focus "must be solely on principles and methodology, not on the conclusions they generate." *Id.* at 22 (quoting *Daubert*, 509 U.S. at 595). But the Appellants simply ignore the Supreme Court's repeated rejection of the gloss that Appellants seek to place on this language.

In *General Electric v. Joiner*, 522 U.S. 136, 146 (1997), the Court explained that "conclusions and methodology are not entirely distinct from one another." The Court confirmed that "nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered." *Id*. And contrary to the Appellants' additional assertion here that the district court erred in rejecting Dr. Kura's reliance on studies of benzene levels in products that did not connect to the products to which Mr. Moore was allegedly exposed, *see* App. Br. at 30, the Supreme Court in *Joiner* held that it was within the district court's discretion to conclude "that the studies upon which the experts relied were not sufficient, whether individually or in combination, to support their conclusions …." *Joiner*, 522 U.S. at 146-47.

In *Kumho Tire*, the Supreme Court cited Rule 702 in explaining that "where [an expert's] testimony's *factual basis*, *data*, principles, methods, or their application are called sufficiently into question … the trial judge *must determine whether the testimony has* '*a reliable basis* in the knowledge and experience of [the relevant] discipline.'" *Kumho Tire*, 523 U.S. at 149 (quoting *Daubert*, 526 U.S. at 149) (emphasis added). The Supreme Court stated that "the trial judge must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable." *Kumho Tire*, 526 U.S. at 152. And the Supreme Court affirmed the district court's exclusion of expert testimony based, in part, upon the Court's assessment of the faulty factual assumptions that informed the expert's opinions. *See id.* at 154 (noting that an expert opinion as to an alleged defect in the defendant's tire was predicated on the fact that the tire was not abused "despite some evidence of the presence of the very signs [of abuse] for which he looked (and two punctures)"); *id.* at 155 (pointing to expert's statement that the remaining tread depth on the tire "was 3/32 inch, … though the opposing expert's (apparently undisputed) measurements indicate that the tread depth taken at various positions around the tire actually ranged from .5/32 of an inch to 4/32 of an inch)."

This Court, as well, could not have been clearer in rejecting the Appellants' plea to "pay no attention to the facts behind the curtain." For example, in *Guillory*

v. Domtar Industries Inc., 95 F.3d 1320 (5th Cir. 1996), the Court affirmed a trial court's exclusion of expert testimony when it became clear that the expert's opinions were "based upon … altered facts and speculation designed to bolster [his client's] position." *Id.* at 1331. In so holding, the Court made clear that trial court's have an obligation to exclude expert testimony that is predicated on unreliable facts:

> Though the district judge serves as a gatekeeper for expert evidence, it is an important role designed to extract evidence tainted by farce or fiction. Expert evidence based on a fictitious set of facts is just as unreliable as evidence based upon no research at all. Both analyses result in pure speculation. We find the testimony properly excluded on this ground.

Id.; *see also Paz v. Brush Engineered Materials, Inc.*, 555 F.3d 383, 389 (5th Cir. 2009) (affirming exclusion of expert testimony that was "based on insufficient, erroneous information"); *Hathaway v. Bazany*, 507 F.3d 312, 318 (5th Cir. 2007) (affirming the exclusion of expert that relied "on a host of unsupported conjectures," noting that "the existence of sufficient facts and a reliable methodology is in all instances mandatory"); *Irvine v. Murad Skin Research Labs., Inc.*, 194 F.3d 313, 321 (5th Cir. 1999) ("[a]bsent adequate factual data to support the expert's conclusions his testimony was unreliable"); *Allen*, 102 F.3d at 198 ("[a]n additional ground for excluding the opinions lies in Federal Rule of

Evidence 703, which requires that the facts on which the expert relies must be reasonably relied on by other experts in the field").

Indeed, even before *Daubert* was decided, this Court had held expert testimony based upon unreliable facts could not withstand scrutiny under Rules 702 and 703. In *Cristophersen*, the Court first explained why such expert testimony was inadmissible under Rule 703:

> The argument that Rule 703 addresses only generic facts and data and is unconcerned with the sufficiency and accuracy of underlying facts as they relate to the case at hand, will lead to the irrational result that Rule 703 requires the court to admit an expert's opinion even if those facts and data upon which the opinion are based are crucially different from the undisputed record. Such an interpretation often will render Rule 703 impotent as a tool for testing the trustworthiness of the facts and data underlying the expert's opinion in a given trial. Certainly nothing in Rule 703 requires a court to admit an opinion based on facts that are indisputably wrong.

939 F.2d at 1114. The Court then explained why such testimony should be excluded under Rule 702:

> Even if Rule 703 will not require the exclusion of such an unfounded opinion, general principles of relevance will. In other words, an opinion based totally on incorrect facts will not speak to the case at hand and hence will be irrelevant. In any event such an opinion will not advance the express goal of "assisting the trier of fact" under Rule 702.

Id. at 1114-15.

B. Fifth Circuit Courts Routinely Exclude Expert Testimony That Is Based On Unreliable Factual Assumptions.

This Court and district courts within this Circuit have excluded the testimony of a wide variety of experts whose opinions rested on unreliable factual predicates. As discussed more fully in the next section, courts repeatedly have excluded other dose reconstruction experts whose testimony demonstrated the same flaws as Dr. Kura's in this case. *See Allen*, 102 F.3d at 198-99; *Christophersen*, 939 F.2d at 1113-15; *Castellow*, 97 F. Supp. 2d at 787-93. Fifth Circuit courts likewise have excluded factually unfounded expert testimony in a wide variety of other fields, such as accident reconstruction, future earnings, medical diagnoses, law enforcement, earth science, and industrial engineering, to name a few. Illustrative cases are discussed below.

1. Exclusion of factually unfounded testimony of accident reconstruction experts.

In *McAfee v. Murray Ohio Manufacturing, Inc.*, 66 F. App'x. 523 (5th Cir. 2003), this Court excluded the testimony of an accident reconstruction expert under *Daubert*, noting that the testimony was based upon (1) incorrect factual assumptions that the motor at issue had leaks and could move about in its compartment and (2) the expert's counter-factual model in which he allowed fuel to accumulate before igniting a fire and manually lit the fire because he could not get it to start with a spark. *See id.* at *4.

In *Guillory*, 95 F.3d at 1330-31, this Court affirmed the exclusion of an accident reconstruction model involving the defendant's forklift because the expert had assumed a number of facts that were either contradicted by or not supported in the record, including the slope of the forklift, whether the forklift had a painted surface (which would lower the coefficient of friction), the upward or downward movement of the fork, the positioning of the fork on the forklift, and certain measurements on the forklift. *Id.* at 1330 n.10. This Court rejected the argument – also pressed by the Appellants here – that these problematic assumptions could be addressed through vigorous cross-examination. The Court cautioned that "where technical information is involved, it is easier for the jury to get lost in the labyrinth of concepts." *Id.* at 1331 ("We are convinced that cross-examination of [plaintiffs' expert] could not salvage the truth").

2. Exclusion of factually unfounded testimony of future earnings experts.

In *In re Air Crash Disaster at New Orleans, Louisiana*, 795 F.2d 1230 (5th Cir. 1986), the Court reversed a jury verdict for the plaintiffs, holding that the district court erred in allowing testimony of an economist whose opinion as to the decedent's future earnings was based on a series of unfounded factual assumptions. The Court focused particularly on the expert's improper reliance on historical facts in assuming an annual 8% growth in income, a 5% tax rate, and a 20% savings rate. *Id.* at 1234-35. The Court found "the assumptions of plaintiffs' economist so

abusive of the known facts, and so removed from any area of demonstrated expertise, as to provide no reasonable basis" for the expert's opinion. *Id.* at 1235. The Court cautioned district courts to resist "the temptation to answer objections to receipt of expert testimony with the shorthand remark that the jury will give it 'the weight that it deserves.'" *Id.* at 1233. "This nigh reflexive explanation may be sound in some case, but in others it can mask a failure by the trial judge to come to grips with an important trial decision." *Id.*; *see also id.* at 1234 ("Our message to our able trial colleagues: it is time to take hold of expert testimony in federal trials").

In *Hernandez v. M/V Rajaan*, 841 F.2d 582, 587-88 (5th Cir. 1988), the Court likewise held that the district court had erred in admitting expert testimony of future earnings premised on the factual assumption that a part-time longshoreman would achieve full-time status. *See also Barclay v. Cameron Charter Boats, Inc.*, No. 2:09CV462, 2011 WL 3468380, at *3-4 (E.D. La. Aug. 8, 2011) (excluding future earnings opinion based upon unsupported factual assumption that plaintiff would only be able to earn the federal minimum wage for the remainder of his work life).

3. Exclusion of factually unfounded testimony of experts in other fields.

In *Paz*, this Court affirmed the exclusion of a medical expert who diagnosed the plaintiff with chronic beryllium disease because the diagnosis was based upon

the expert's factual assumptions about pathology testing by another doctor that were not substantiated in the record. *Paz*, 555 F.3d at 388-89. In *Hathaway*, 507 F.3d at 318-319 & n.3, this Court affirmed the opinion of a law enforcement expert, whose opinion that the police used unlawful force in a fatal shooting was based on unfounded factual assumptions about the location of the police officer at the time of the shooting.

In *T&D Kohlleppel Farms, Inc. v. Bexar, Medina Atascosa Counties Water Control & Improvement District No. One*, No. SA-10-cv-0368, 2011 WL 5282700 (W.D. Tex. Nov. 2, 2011), the federal district court excluded the expert opinion of an earth scientist as to the plaintiff's alleged illegal diversion of public water for irrigation because the expert relied on rainfall data covering a 24-mile range that did not necessarily correlate with rainfall on the plaintiff's farm. And in *Beauregard Parish School Board v. Honeywell Inc.*, No. 2:05 CV 1388, 2008 WL 821053 (W.D. La. Mar. 24, 2008), the federal district court excluded an expert "energy savings" analysis that was based on a series of unreliable factual assumptions regarding, *e.g.*, the size of the windows in the retrofitted buildings, airflow within the building, usage patterns for air conditioning units, the condition and structure of the roofs, the use of printers, copiers, and vending machines in the buildings, weekend and after-hours activities, and changes in building usage over time. *See id.* at *2-4, n.26.

* * * *

As the foregoing case law demonstrates, the district court here acted well within its discretion in considering the reliability of the factual predicates for Dr. Kura's expert opinion. Indeed, the district court would have abused its discretion had it failed to do so.

II. Dose Reconstruction Opinions Based On Unreliable Factual Assumptions Regarding Historical Dose And Duration Of Exposure Are Inadmissible.

A district court's gatekeeping responsibility to consider the reliability of an expert's factual assumptions is particularly important in the assessment of dose reconstruction experts like Dr. Kura. That is because expert reconstruction of historical exposures levels necessarily depends on the accuracy of the predicate facts regarding the amount of an alleged toxin in the products to which the individual was exposed, the duration of the individual's exposure to the product, and the circumstances of those exposures. An expert's use of speculation or assumption in place of verifiable facts for these key variables renders his opinions scientifically worthless and inadmissible in court.

That is not to say that a toxic tort plaintiff cannot proffer reliable expert testimony on the issue of dose reconstruction. As explained in the *Reference Guide on Exposure Science* in the latest REFERENCE MANUAL ON SCIENTIFIC EVIDENCE, "[r]econstruction of occupational exposures has been a relatively

successful pursuit, because often historical industrial hygiene data are available involving the measurement of workplace air levels of chemicals." REFERENCE MANUAL, at 539. Lacking such evidence, "[i]f it is possible, through the examination of employment records, to reconstruct an individual's job history, it may be possible to ascertain that individual's exposure." *Id.* Dr. Kura did not use either of these data points in his calculations in this case, however. Dr. Kura did not rely on any industrial hygiene data from the Avondale shipyard where Mr. Moore alleges exposure, and, as the district court explained, Dr. Kura "did not view Mr. Moore's Avondale personnel file before calculating the total number of hours that Moore worked, which would have been more accurate." R. 16840.

In properly exercising its gatekeeping responsibility, the district court found that Dr. Kura not only "lack[ed] reliable sources" to make an estimate of Mr. Moore's historical exposures, "but he assumed the highest possible exposure for most variables, even when those assumptions contradicted the testimony given by Mr. Moore." R. 16846. Thus, Dr. Kura:

- Calculated benzene levels in the products allegedly used by Mr. Moore from 1988 to 1990 based upon material safety sheets and third party studies of different products sold in the 1960s and 1970s, notwithstanding Dr. Kura's acknowledgment that, because of new and more restrictive OSHA benzene guidelines in 1987, the level of benzene in the products used by Mr. Moore "would likely be substantially less" (R16833-34);

- Used an estimate of Mr. Moore's work hours that greatly exceeded the actual number of hours worked, as reflected in Mr. Moore's employment records (R16839-41);
- Assumed that Mr. Moore spent 90 percent of every workday painting or using paint thinners solely with the defendant's products (with the bulk of the time using paint thinners, to which he attributed a higher benzene content), an assumption that was not only unfounded but inconsistent with Mr. Moore's testimony that he completed non-painting tasks such as sandblasting and used products made by other manufacturers (R 16841-43);
- Assumed a complete absence of ventilation in the workplace despite Mr. Moore's testimony that some days there was good ventilation and that he also completed some tasks outdoors, assumed that Mr. Moore had only 1 hour of respirator protection per day despite Mr. Moore's testimony that he had access to additional respirators if the one he was using became saturated, and estimated that the respirator only provided a 70 percent reduction in exposure during the one hour of protection without providing any basis for that estimate (R 16843-44);
- Assumed exposure conditions that, if accurate, would have resulted in airborne concentrations of xylene that "would have been ten times the level deemed immediately dangerous to life or health and so high as to create an explosive atmosphere …" (R 16845).

Dr. Kura's proffered expert opinions closely resemble those of other dose reconstruction experts whose testimony this Court has found correctly excluded under Federal Rules 702 and 703. In *Christophersen*, for example, the plaintiff proffered expert opinion testimony that the plaintiff had a twenty year history of extensive exposure to nickel and cadmium fumes in the workplace. *Christophersen*, 939 F.2d at 1113. The district court "analyzed the underlying 'facts and data' of [the expert's] opinion to determine whether it was based on the types of facts reasonably relied upon by experts in the field" and concluded that it

was not. *Id.* As in this case, the district court found that the expert had "over-estimated the duration of [the plaintiff's] exposure …" Id. The district court found that the expert "over-estimated the number of times per week [the plaintiff] visited the manufacturing area, as well as the average time of each visit." *Id.* And, the district court found that the expert did not have reliable information about the physical facilities of the workplace, including "the ventilation available." *Id.*

The plaintiff appealed to this Court, making the same argument raised by the Appellants' here that "any deficiencies in the underlying facts and data go to the weight of [the expert's] opinion rather than its admissibility." *Id.* at 1114. This Court disagreed, explaining to the contrary that "this court requires [district] courts to examine the reliability of an expert's sources to determine whether they satisfy the threshold [for admissibility] established by [Rule 703]" *Id.* (quoting *Slaughter v. Southern Talc Co.*, 919 F.2d 304, 306-07 (5th Cir. 1990)). The Court instructed instead that "[d]istrict judges may reject opinions founded on critical facts that are plainly untrustworthy, principally because such an opinion cannot be helpful to a jury." *Christophersen*, 939 F.2d at 1114. That is because "an opinion based totally on incorrect facts will not speak to the case at hand and hence will be irrelevant." *Id.*

Five years later, this Court followed the same reasoning in affirming the exclusion of plaintiffs' experts in a personal injury case involving alleged

workplace exposures to ethylene oxide ("EtO"). *See Allen*, 102 F.3d at 198-99. In *Allen*, plaintiffs' experts had relied for their opinions about the level of the plaintiffs' exposures "principally on the affidavit of a coworker and on extrapolations concerning EtO handling at the hospital where [the plaintiff] worked based on conditions in other hospitals in the 1970's." *Id.* at 198. Citing to *Christophersen*, this Court concluded that "the experts' background information concerning [the plaintiff's] exposure to EtO is so sadly lacking as to be mere guesswork" and that "[t]he experts did not rely on data concerning [plaintiff's] exposure that suffices to sustain their opinions under Rule 703." *Id.* at 199.

The district court opinion in *Castellow* is also instructive. In that case, as here, plaintiffs proffered the opinions of a dose reconstruction expert about the level of the plaintiff's alleged past exposures to benzene in the workplace. During his deposition, the plaintiff's expert acknowledged the indisputable truth that likewise governs Dr. Kura's opinion: "if the 'data' from which his modeling assumptions arise is invalid, or non-existent, then there is no hope that his technique, much less his results, is going to be reliable." *Castellow*, 97 F. Supp. 2d at 792. As the district court noted, the one scientific article proffered by the expert on the issue of historical dose reconstruction made the same point: "Indeed, it is vital to the integrity of the process to sort out and identify each and every assumption used in modeling and estimation of exposure." *Id.* at 790 (quoting

Michael A. Jayjock, *Modeling Inhalation Exposure* in THE OCCUPATIONAL ENVIRONMENT – ITS EVALUATION AND CONTROL 313, 316 (Salvatore R. Dinardi ed. 1997)).

In excluding the expert's opinion, the district court explained that '[i]t is those very assumptions which [plaintiff's expert] incorporated into his modeling formula that are so troubling in this case." *Castellow*, 97 F. Supp. 2d at 790. The court noted that the expert had based his assumptions on information gleaned from interviews that he conducted with the plaintiff's former co-workers. *Id.* at 790. The court concluded, however "that some of the purported 'facts' which [the expert] used to develop his modeling calculations are not supported by the record," noting, for example, that there was "no record support for the assumed time and exposure levels [the expert] assigned" to the task of "cleaning parts with gasoline." *Id.* at 792, 793. The court further found that "at every opportunity [the expert] ascribed a high number to a potential exposure scenario, even when a lower number within a possible range, was more consistent with the facts, or even more credible." *Id.* at 791. Strikingly similar to this case, the district court in *Castelow* also noted that the expert's "modeling calculations resulted in … simultaneous gasoline exposure to an explosive, if not lethally toxic, level," a result which the court concluded "underscores the unreliability of his selected method." *Id.*

CONCLUSION

Amici curiae American Coatings Association, American Chemistry Council, and Chamber of Commerce of the United States of America urge the Court to take this opportunity to again confirm that Federal Rules of Evidence 702 and 703 and *Daubert* require district courts to serve as gatekeepers against expert testimony that is predicated on a scientifically unreliable factual foundation. The district court acted well within its discretion in excluding this type of speculative expert testimony here, and the resulting entry of summary judgment in favor of the Appellee should be affirmed.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on June 17, 2013, I electronically filed the above and foregoing Amicus Brief for American Coatings Association, American Chemistry Counsel, and Chamber of Commerce of the Unites States of America in Support of Appelle Urging Affirmance with the Clerk of the Court using the CM/ECF system, which sent notification of such filing to all counsel of record in this matter.

SO CERTIFIED, this the 17th day of June, 2013.

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CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION, TYPEFACE REQUIREMENTS AND TYPE STYLE REQUIREMENTS

1. This brief complies with the type-volume limitations of Fed. R. App. P. 32(a)(7)(B) because, excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii), it contains 5,423 words.

2. This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because it has been prepared in proportionally-spaced typeface, including serifs, using Word, in Times New Roman 14-point font.

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