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# METHODOLOGY IS THE KEY TO EXCLUSION OF EXPERT TESTIMONY: *ALLGOOD V. GENERAL MOTORS*

by

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In a September 18, 2006 decision, the United States District Court for the Southern District of Indiana issued a lengthy opinion which sends an important message to litigation attorneys: A trial court can, and will, delve deeply into even the most complex scientific subject matter in order to scrutinize the methodology of a proffered expert witness. In an 84-page opinion, the court in *Allgood v. General Motors*, No. 02-01077, 2006 WL 2669337 (S.D. Ind. Sept. 18, 2006) sent a strong message that sound and reliable methodology is the key to whether expert testimony will be admitted or excluded, which ultimately can determine whether a party will prevail on the claims in a lawsuit. In this environmental contamination case, the court took the opportunity to carefully evaluate the proffered testimony of three key plaintiffs' experts under Rule 702 of the Federal Rules of Evidence and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579; 113 S. Ct. 2786 (1993). The court excluded most of the experts' opinions because of concerns regarding the reliability of the experts' methodologies, which resulted in an award of summary judgment to the defendant on the plaintiffs' most significant claims.

***The Applicability of Federal Rule of Evidence 702 After Daubert.*** In 1993, the United States Supreme Court declared in *Daubert* that the trial judge must act as a "gatekeeper" to ensure "that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." The *Daubert* decision was followed in 1999 by *Kumho Tire Co. v. Carmichael*, 526 U.S. 137; 119 S.Ct. 1167 (1999), in which the Supreme Court clarified that a *Daubert* analysis was applicable to all expert testimony, not just scientific testimony. In 2000, in light of these decisions, Federal Rule of Evidence 702 was amended to allow a qualified expert witness to testify, "if (1) the testimony is based upon sufficient facts or data, (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."

The *Daubert* Court laid out a number of factors that a trial judge may consider when determining the reliability of expert testimony. However, the Court made it clear that the list was illustrative only and not exhaustive. In short, trial court judges are given wide latitude to determine the reliability and admissibility of expert testimony.

***Factual Background of Allgood v. General Motors.*** The claims arose from the release of

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polychlorinated biphenyls (“PCBs”) by General Motors (GM) in the operation of its die casting plant in Bedford, Indiana. GM entered into an agreement with the Environmental Protection Agency (EPA) for a voluntary clean-up of the Bedford plant property and residential properties in the floodplain area near the plant. This lawsuit then was brought by owners of both floodplain and non-floodplain properties near the Bedford plant, who sought to recover damages comprised primarily of three elements: (1) the estimated \$78 million cost of a more extensive clean-up of plaintiffs’ property; (2) the estimated \$4 million cost of a medical monitoring program; and (3) an undetermined amount of damages for lost property values from alleged residual stigma associated with the contamination. Of note, and of concern to the court, was the fact that both the clean-up of plaintiffs’ property and the medical monitoring program were merely hypothetical, because the plaintiffs would not be required to clean up their property or undergo medical monitoring if awarded the damages they sought. Prior to trial, General Motors filed motions seeking to exclude the opinion testimony of plaintiffs’ experts Dr. Bruce Molholt, Dr. Kostas Dovantzis, and Dr. David O. Carpenter.

***Dr. Bruce Molholt’s Risk Assessment Testimony.*** Dr. Molholt, who holds a Ph.D. in microbiology, is a professor of Environmental Studies at the University of Pennsylvania. Although the evidence established that the plaintiffs were exposed to levels of PCBs lower than both the EPA’s statistical clean-up criteria and the level of clean-up to which GM agreed, Dr. Molholt nonetheless opined that the plaintiffs were at a significant risk of suffering ill effects from the exposure. Therefore, Dr. Molholt concluded, GM should have to pay for a more extensive clean-up of plaintiffs’ properties. In developing his opinions, Dr. Molholt significantly departed from the current EPA risk assessment methodology.

Dr. Molholt’s first departure from the EPA’s current methodology was his rejection of the use of a “total PCB approach” to calculate the level of increased risk of harm to the plaintiffs. Instead of calculating the total PCB concentration to which the plaintiffs were exposed, Dr. Molholt opted to focus on the plaintiffs’ exposure to “PCB 126,” a particular “congener,” or molecule, that was “detected with frequency” on the plaintiffs’ property, and which plaintiffs claimed was “universally regarded as the most toxic of PCB congeners.” This approach was described as a “toxicity equivalency factor” or “TEF” approach. Dr. Molholt described the TEF approach as a more “avant garde” approach to risk assessment than the traditional total PCB approach. There were no studies comparing the two approaches; Dr. Molholt testified that such studies would be “almost impossible” to perform. Dr. Molholt could identify no sites where the TEF approach had been applied, and he knew of no peer review literature in which the TEF approach was used to determine the level of clean-up. No human studies, only animal and *in vitro* studies, existed regarding the TEF approach. Nevertheless, the court held that use of the TEF approach did not render Dr. Molholt’s methodology unreliable.

However, the court rejected Dr. Molholt’s second departure from the EPA’s risk assessment methodology. Instead of completing his analysis using the EPA’s established cancer slope factor<sup>1</sup> for PCB 126 (15,600 mg/kg day<sup>-1</sup>), Dr. Molholt utilized a much higher dioxin slope factor (1.4 million mg/kg day<sup>-1</sup>) which had been proposed by the EPA in a draft document in 2000. In rejecting Dr. Molholt’s use of the revised figure, the court noted that the draft EPA document had undergone peer review, but had not yet been adopted by the EPA as an accepted approach. In fact, e-mails revealed that EPA personnel advised plaintiffs’ expert not to utilize the 1.4 million figure, and the court found that there was no evidence that a scientist in the field would use the figure.

The court also took issue with Dr. Molholt’s sampling techniques. Dr. Molholt selected only the samples with the highest concentrations of PCBs, and the court reasoned that the chosen samples were not representative of the “target population” and therefore lacked the requisite predictive capacity and reliability required by *Daubert*. The court rejected plaintiff’s argument that Dr. Molholt’s choice of samples amounted to “conclusions” that should be evaluated by the jury, and held that “[q]uestions as to Dr. Molholt’s choice in data sampling go to the heart of his methodology.”

Finally, the court rejected a ratio analysis proffered by Dr. Molholt as a method of identifying GM as the

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<sup>1</sup>A cancer “slope factor” represents the increased cancer risk associated with exposure to a given dose of a contaminant. It is usually presented in risk per units of milligrams of material ingested/body weight in kilograms per day, written as mg/kg day.

source of PCB contamination on plaintiffs' land.<sup>2</sup> Given its findings regarding the unreliability of his various methodologies, the court excluded *all* of Dr. Molholt's proffered opinions.

***Testimony of Dr. Kostas Dovantzis Regarding Cost of Clean-up.*** Dr. Dovantzis, who holds a Ph.D. in Environmental Engineering, issued reports which included calculations of the costs of clean-up. Although GM criticized the reliability of Dr. Dovantzis' calculation of the clean-up costs because he changed that figure over time from \$225 million to \$78 million, the court disagreed, stating that the revision of such calculations due to ongoing and additional data analysis essentially was a testing of a working hypothesis, and the issue of the expert changing his mind was an issue of credibility. The court also found Dr. Dovantzis' sample collection method to be sufficiently reliable.

However, the court ultimately rejected as unreliable Dr. Dovantzis' delineation of the floodplain, which was much larger than the floodplain delineated by GM. The unreliability stemmed from the expert's reliance upon an assistant's untrained and unrecorded selection and observation of alleged indicators of a previous flood event, including debris, previous water lines, tree line marks, and wetness. The assistant had no training in floodplain delineation, did not consult any agency guidance documents, and testified that he selected the indicators by "using common sense and in looking information up on the internet."

The court also rejected Dr. Dovantzis' opinion, developed jointly with plaintiff's counsel, that all non-floodplain properties should be excavated to a one-foot depth. The court referenced an e-mail in which Dr. Dovantzis stated that "this approach would maximize the amount of the claim." Dr. Dovantzis provided no other explanation as to why the one-foot depth should be used. The court found such a rationale to be arbitrary and unreliable, and found the lack of a link between the facts and the expert's conclusion to reflect too great an analytical gap to allow the opinion to be admitted. Because of these (and other) flaws in Dr. Dovantzis' methodology, the court excluded all of his opinions regarding the estimated clean-up cost.

***Dr. David Carpenter's Testimony Regarding Necessity, Components and Cost of a Medical Monitoring Program.*** David Carpenter, M.D. is Director of the Institute for Health and Environment and Professor of Environmental Health Sciences and Biomedical Sciences at the University of Albany, where he was the founding Dean of the School of Public Health. He is not, and never has been, a licensed physician. Dr. Carpenter was engaged by plaintiffs to assess the need for medical monitoring, and to testify regarding the components and cost of a proper medical monitoring program.

First, the court found unreliable Dr. Carpenter's opinion that the range of plaintiffs' blood serum PCB levels established that plaintiffs had been exposed to "higher than 'usual' levels of PCBs." Dr. Carpenter based his opinion upon a comparison of plaintiffs' blood serum PCB levels to mean blood serum PCB levels reported by the Agencies for Toxic Substances and Disease Registry ("ATSDR"). The court criticized Dr. Carpenter's reliance upon the ATSDR, because Dr. Carpenter admitted that he failed to carefully read the study upon which the ATSDR's mean blood serum level was based. An examination of that study revealed that the plaintiffs' blood serum PCB levels were well within the *range* of levels detected in the underlying study. Because Dr. Carpenter had relied solely on the *mean* blood serum level reported by the ATSDR, but ignored the *range* of such levels, the court found that he had misapplied the results of the underlying study. This resulted in a methodological flaw that rendered unreliable and inadmissible his opinion that medical monitoring was necessary.

Additionally, the court found that, while Dr. Carpenter had extensive research and academic experience, he was not eligible to diagnose or prescribe the testing or treatment he was recommending as the components of a medical monitoring program because he was not licensed to practice medicine. He had no experience in the design or implementation of such a program on his own, although he had offered advice regarding other medical

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<sup>2</sup>The "ratio analysis" involved a comparison of the ratio of the specific congener PCB 126 to the total PCBs found in samples from GM's site and plaintiffs' properties. Because the ratios were similar among the samples, Dr. Molholt opined that GM was the source of the contamination on plaintiffs' land. The court rejected this approach because it had never been used by any scientist to identify a source of contamination, and Dr. Molholt was unable to cite any published literature or EPA guidance supporting the approach. Also, Dr. Molholt was unable to explain discrepancies in the ratio calculations.

monitoring programs. Thus, the court found that he lacked sufficient expertise to testify to the design and cost of a medical monitoring program.

**Summary Judgment Granted on Plaintiffs' Most Significant Claims.** The court held that the need for the level of extensive clean-up that plaintiffs claimed was necessary was not within the understanding of lay persons, and therefore required evidence from expert witnesses with specialized knowledge. Because Drs. Molholt and Dovantzis were the only experts offered to testify regarding the need for the clean-up, and their testimony on this issue was excluded, plaintiffs could not make out their *prima facie* case and GM was granted summary judgment on almost all of plaintiffs' \$78 million remediation cost claims. Similarly, with the exclusion of Dr. Carpenter's testimony, the court found that there was no reliable expert testimony regarding plaintiffs' claims for the necessity and cost of medical monitoring, and GM was also granted summary judgment on that \$4 million claim.

The *Allgood* court clearly was troubled by the fact that the plaintiffs likely would not actually have carried out the clean-up if awarded the clean-up costs they sought. In its opinion, the court repeatedly referred to "windfall damages" and a "purely hypothetical" clean-up. The court concluded that plaintiffs could not recover "the full cost of restoration of injured land where (a) that cost is roughly twenty times the prior market value of the entire property, (b) there is no evidence that levels of contamination to be left after the government-ordered clean-up pose any risk to human health or otherwise limit the use of the property, and (c) there would be no requirement that the enormous costs of restoration would actually be used to restore the land." The court also noted that the "Plaintiffs have not offered any evidence of any intermediate value of damages, such as a less extensive clean-up."

**Lessons Learned.** Litigants cannot assume that courts will be "blinded by science." The *Allgood* opinion demonstrates that even the most complex and apparently authoritative scientific opinions rendered by well-qualified experts can fall like a house of cards when carefully examined by a conscientious judge, if the opinions are not the product of sound, supportable methodology.

However, the opinion also demonstrates that novel methodologies will not be rejected simply because they are novel, where they prove to be sufficiently reliable and have attained some level of acceptance (like Dr. Molholt's use of the "TEF" approach to risk assessment). Courts will, however, reject novel theories that contain analytical leaps or are otherwise unreliable or completely unaccepted (like Dr. Molholt's use of the highest proposed slope factor from an unapproved EPA draft document).

Also, counsel should be mindful of their discussions with their experts regarding "maximizing" claims. The expert's assignment, and the language used in communications with the expert, can be very important in the court's assessment of the potential bias, and therefore reliability, of the expert's methodology. Although it is known that experts are hired by the respective parties, the court should perceive those experts to be acting independently of counsel in designing their methodologies and formulating their opinions.

Finally, the *Allgood* opinion demonstrates the danger of offering expert opinions that lack an alternative analysis or "fall-back" position, especially where the expert is utilizing a novel methodology or taking an extreme position. In this case, if, for example, Dr. Molholt had considered alternative slope factors, it is less likely that his entire opinion would have been excluded. The same is true for Dr. Dovantzis' testimony regarding depth of excavation. An alternative, albeit less desirable, approach using a four-inch excavation depth or a lower slope factor may have "saved" these experts' testimony and plaintiffs' remediation claims. Although such alternative approaches may jeopardize a party's ability to maximize its claims, a smaller but successful claim is preferable to an extreme position that cannot stand up to careful scrutiny.