SUPREME COURT OF THE UNITED STATES

ANTHONY RAY HINTON *v.* ALABAMA

ON PETITION FOR WRIT OF CERTIORARI TO THE COURT OF CRIMINAL APPEALS OF ALABAMA

No. 13–6440 Decided February 24, 2014

PER CURIAM.

In *Strickland* v. *Washington*, 466 U. S. 668 (1984), we held that a criminal defendant's Sixth Amendment right to counsel is violated if his trial attorney's performance falls below an objective standard of reasonableness and if there is a reasonable probability that the result of the trial would have been different absent the deficient act or omission. *Id.*, at 687–688, 694. Anthony Ray Hinton, an inmate on Alabama's death row, asks us to decide whether the Alabama courts correctly applied *Strickland* to his case. We conclude that they did not and hold that Hinton's trial attorney rendered constitutionally deficient performance. We vacate the lower court's judgment and remand the case for reconsideration of whether the attorney's deficient performance was prejudicial.

I

A

In February 1985, a restaurant manager in Birmingham was shot to death in the course of an after-hours robbery of his restaurant. A second manager was murdered during a very similar robbery of another restaurant in July. Then, later in July, a restaurant manager named Smotherman survived another similar robbery-shooting. During each crime, the robber fired two .38 caliber bullets; all six bullets were recovered by police investigators. Smotherman described his assailant to the police, and when the police showed him a photographic array, he picked out Hinton's picture.

Per Curiam

The police arrested Hinton and recovered from his house a .38 caliber revolver belonging to his mother, who shared the house with him. After analyzing the six bullets fired during the three crimes and test-firing the revolver, examiners at the State's Department of Forensic Sciences concluded that the six bullets had all been fired from the same gun: the revolver found at Hinton's house. Hinton was charged with two counts of capital murder for the killings during the first two robberies. He was not charged in connection with the third robbery (that is, the Smotherman robbery).

At trial, the State's strategy was to link Hinton to the Smotherman robbery through eyewitness testimony and forensic evidence about the bullets fired at Smotherman and then to persuade the jury that, in light of the similarity of the three crimes and forensic analysis of the bullets and the Hinton revolver, Hinton must also have committed the two murders. Smotherman identified Hinton as the man who robbed his restaurant and tried to kill him, and two other witnesses provided testimony that tended to link Hinton to the Smotherman robbery. Hinton maintained that he was innocent and that Smotherman had misidentified him. In support of that defense, Hinton presented witnesses who testified in support of his alibi that he was at work at a warehouse at the time of the Smotherman robbery. See 548 So. 2d 562, 568–569 (Ala. 1989) (summarizing the evidence on each side of the case).

The six bullets and the revolver were the only physical evidence. Besides those items, the police found no evidence at the crime scenes that could be used to identify the perpetrator (such as fingerprints) and no incriminating evidence at Hinton's home or in his car. The State's case turned on whether its expert witnesses could convince the jury that the six recovered bullets had indeed been fired from the Hinton revolver. According to the Alabama Supreme Court, "the only evidence linking Hin-

ton to the two murders were forensic comparisons of the bullets recovered from those crime scenes to the Hinton revolver." 2008 WL 4603723, *2 (Oct. 17, 2008).

The category of forensic evidence at issue in this case is "firearms and toolmark" evidence. Toolmark examiners attempt to determine whether a bullet recovered from a crime scene was fired from a particular gun by comparing microscopic markings (toolmarks) on the recovered bullet to the markings on a bullet known to have been fired from that gun. The theory is that minor differences even between guns of the same model will leave discernible traces on bullets that are unique enough for an examiner to conclude that the recovered bullet was or was not fired from a given weapon. See generally National Research Council, Strengthening Forensic Science in the United States: A Path Forward 150–155 (2009).

Recognizing that Hinton's defense called for an effective rebuttal of the State's expert witnesses, Hinton's attorney filed a motion for funding to hire an expert witness of his own. In response, the trial judge granted $1,000 with this statement:

> "'I don't know as to what my limitations are as for how much I can grant, but I can grant up to $500.00 in each case [that is, for each of the two murder charges, which were tried together] as far as I know right now and I'm granting up to $500.00 in each of these two cases for this. So if you need additional experts I would go ahead and file on a separate form and I'll have to see if I can grant additional experts, but I am granting up to $500.00, which is the statutory maximum as far as I know on this and if it's necessary that we go beyond that then I may check to see if we can, but this one's granted.'" 2006 WL 1125605, *59 (Ala. Crim. App., Apr. 28, 2006) (Cobb, J., dissenting) (quoting Tr. 10).

Hinton's attorney did not take the judge up on his invitation to file a request for more funding.

In fact, $500 per case ($1,000 total) was *not* the statutory maximum at the time of Hinton's trial. An earlier version of the statute had limited state reimbursement of expenses to one half of the $1,000 statutory cap on attorney's fees, which explains why the judge believed that Hinton was entitled to up to $500 for each of the two murder charges. See *Smelley* v. *State*, 564 So. 2d 74, 88 (Ala. Crim. App. 1990). But the relevant statute had been amended to provide: "'Counsel shall also be entitled to be reimbursed for any expenses reasonably incurred in such defense to be approved in advance by the trial court.'" See *Dubose* v. *State*, 662 So. 2d 1156, 1177, n. 5 (Ala. Crim. App. 1993) (quoting Ala. Code §15–12–21(d) (1984)), aff'd 662 So. 2d 1189 (Ala. 1995). That amendment went into effect on June 13, 1984, *Dubose*, *supra*, at 1177, n. 5, which was over a year before Hinton was arrested, so Hinton's trial attorney could have corrected the trial judge's mistaken belief that a $1,000 limit applied and accepted his invitation to file a motion for additional funds.

The attorney failed to do so because he was himself unaware that Alabama law no longer imposed a specific limit and instead allowed reimbursement for "any expenses reasonably incurred." At an evidentiary hearing held on Hinton's postconviction petition, the following conversation occurred between a state attorney and Hinton's trial attorney:

> "Q. You did an awful lot of work to try and find what you believed to be a qualified expert in this case, didn't you?
>
> "A. Yes, sir, I did.
>
> "Q. Would you characterize it that you did everything that you knew to do?

"A. Yes, sir, I think so.
"Q. And this case, did it come down to an unwillingness of experts to work for the price that you were able to pay?
"A. Yes, sir, I think it did.
"Q. So your failure to get an expert that you would have been let's say a hundred percent satisfied with was not a failure on your part to go out and do some act, it was a failure of the court to approve what you believed would have been sufficient funds?
"A. Well, putting it a little differently, yes, sir, it was a failure—*it was my failure, my inability under the statute to obtain any more funding for the purpose of hiring qualified experts*." Reporter's Official Tr. 206–207 (emphasis added).

Operating under the mistaken belief that he could pay no more than $1,000, Hinton's attorney went looking for an expert witness. According to his postconviction testimony, he made an extensive search for a well-regarded expert, but found only one person who was willing to take the case for the pay he could offer: Andrew Payne. Hinton's attorney "testified that Payne did not have the expertise he thought he needed and that he did not consider Payne's testimony to be effective." 2006 WL 1125605, *27. As he told the trial judge during a pretrial hearing:

"I made an effort to get somebody that I thought would be useable. And I'll have to tell you what I did [about] Payne. I called a couple of other lawyers in town . . . to ask if they knew of anybody. One of them knew him; one of them knew him. The reason I didn't contact him was because he wasn't recommended by the lawyer. So now I'm stuck that he's the only guy I could possibly produce." *Id.*, at *30 (internal quotation marks omitted).

At trial, Payne testified that the toolmarks in the barrel

of the Hinton revolver had been corroded away so that it would be impossible to say with certainty whether a particular bullet had been fired from that gun. He also testified that the bullets from the three crime scenes did not match one another. The State's two experts, by contrast, maintained that all six bullets had indeed been fired from the Hinton revolver.

On cross-examination, the prosecutor badly discredited Payne. Payne admitted that he'd testified as an expert on firearms and toolmark identification just twice in the preceding eight years and that one of the two cases involved a shotgun rather than a handgun. Payne also conceded that he had had difficulty operating the microscope at the state forensic laboratory and had asked for help from one of the state experts. The prosecutor ended the cross-examination with this colloquy:

> "Q. Mr. Payne, do you have some problem with your vision?
> "A. Why, yes.
> "Q. How many eyes do you have?
> "A. One." Tr. 1667.

The prosecutor's closing argument highlighted the fact that Payne's expertise was in military ordnance, not firearms and toolmark identification, and that Payne had graduated in 1933 (more than half a century before the trial) with a degree in civil engineering, whereas the State's experts had years of training and experience in the field of firearms and toolmark examination. The prosecutor said:

> "'I ask you to reject [Payne's] testimony and you have that option because you are the judges of the facts and whose testimony, Mr. Yates' or Mr. Payne's, you will give credence to, and I submit to you that as between these two men there is no match between them. There is no comparison. One man just doesn't have it

> and the other does it day in and day out, month in and month out, year in and year out, and is recognized across the state as an expert.'" 2006 WL 1125605, *64 (Cobb, J., dissenting) (quoting Tr. 1733–1734).

The jury convicted Hinton and recommended by a 10-to-2 vote that he be sentenced to death. The trial judge accepted that recommendation and imposed a death sentence.

B

In his state postconviction petition, Hinton contended that his trial attorney was "'ineffective to not seek additional funds when it became obvious that the individual willing to examine the evidence in the case for the $1,000 allotted by the court was incompetent and unqualified. Indeed, this failure to seek additional, sufficient funds is rendered all the more inexplicable by the trial court's express invitation to counsel to seek more funds if such funds were necessary.'" 2006 WL 1125605, *28.

To show that he had been prejudiced by Payne's ineffective testimony, Hinton produced three new experts on toolmark evidence. One of the three, a forensic consultant named John Dillon, had worked on toolmark identification at the Federal Bureau of Investigation's forensics laboratory and, from 1988 until he retired in 1994, had served as chief of the firearms and toolmark unit at the FBI's headquarters. The other two postconviction experts had worked for many years as firearms and toolmark examiners at the Dallas County Crime Laboratory and had each testified as toolmark experts in several hundred cases.

All three experts examined the physical evidence and testified that they could not conclude that any of the six bullets had been fired from the Hinton revolver. The State did not submit rebuttal evidence during the postconviction hearing, and one of Hinton's experts testified that, pursuant to the ethics code of his trade organization, the Associ-

ation of Firearm and Tool Mark Examiners, he had asked the State's expert, Yates, to show him how he had determined that the recovered bullets had been fired from the Hinton revolver. Yates refused to cooperate.

C

The circuit court denied Hinton's postconviction petition on the ground that Hinton had not been prejudiced by Payne's allegedly poor performance because Payne's testimony did not depart from what Hinton's postconviction experts had said: The bullets could not be affirmatively matched either to one another or to the Hinton revolver.

The Alabama Court of Criminal Appeals affirmed by a 3-to-2 vote. 2006 WL 1125605. The court agreed with the circuit court that Hinton had not been prejudiced because Payne's testimony, if believed by the jury, strongly supported the inference that Hinton was innocent. *Id.*, at *31. Then-Judge Cobb (who later became chief justice of the Alabama Supreme Court) dissented. In her view, Hinton's attorney had been ineffective in failing to seek additional funds to hire a better expert and Hinton had been prejudiced by that failure, meaning that he was entitled to a new trial. Then-Judge Shaw (who is now a justice of the Alabama Supreme Court) also dissented. He would have remanded the case to the circuit court to make a finding as to whether or not Payne was qualified to act as an expert on toolmark evidence. He stated that "[i]t goes without saying that, with knowledge that sufficient funds were available to have a qualified firearms and toolmarks expert, no reasonable criminal defense lawyer would seek out and hire an unqualified firearms witness." *Id.*, at *73.

The Supreme Court of Alabama reversed and remanded. 2008 WL 4603723. After quoting at length from Judge Shaw's dissent, the Court stated, "We agree with Judge Shaw that 'the dispositive issue is whether Payne was a qualified firearms and toolmarks expert' and that in deny-

ing Hinton's [postconviction] petition the trial court did not directly rule on 'the issue whether Payne was qualified to be testifying in the first place.'" *Id.*, at *4 (quoting 2006 WL 1125605, *70, *72 (Shaw, J., dissenting)). The Supreme Court was thus focused on Payne's own qualifications, rather than on whether a better expert—one who could have been hired had the attorney learned that there was no funding cap and requested additional funds—would have made a more compelling case for Hinton.

On remand, the circuit court held that Payne was indeed qualified to testify as a firearms and toolmark expert witness under the Alabama evidentiary standard in place at the time of the trial, which required only that Payne have had "knowledge of firearms and toolmarks examination beyond that of an average layperson." 2008 WL 5517591, *5 (Ala. Crim. App., Dec. 19, 2008); see also *Charles* v. *State*, 350 So. 2d 730, 733 (Ala. Crim. App. 1977) ("An 'expert witness' is one who can enlighten a jury more than the average man in the street. . . . An expert witness, by definition, is any person whose opportunity or means of knowledge in a specialized art or science is to some degree better than that found in the average juror or witness"). The appellate court affirmed the circuit court's ruling that Payne was qualified under the applicable standard. 2013 WL 598122 (Ala. Crim. App., Feb. 15, 2013). The Alabama Supreme Court denied review by a 4-to-3 vote, with two justices recused. Hinton then filed this petition for a writ of certiorari.

II

This case calls for a straightforward application of our ineffective-assistance-of-counsel precedents, beginning with *Strickland* v. *Washington*, 466 U. S. 668. *Strickland* recognized that the Sixth Amendment's guarantee that "[i]n all criminal prosecutions, the accused shall enjoy the right . . . to have the Assistance of Counsel for his defence"

entails that defendants are entitled to be represented by an attorney who meets at least a minimal standard of competence. *Id.*, at 685–687. "Under *Strickland*, we first determine whether counsel's representation 'fell below an objective standard of reasonableness.' Then we ask whether 'there is a reasonable probability that, but for counsel's unprofessional errors, the result of the proceeding would have been different.'" *Padilla* v. *Kentucky*, 559 U. S. 356, 366 (2010) (quoting *Strickland*, *supra*, at 688, 694).

A

"The first prong—constitutional deficiency—is necessarily linked to the practice and expectations of the legal community: 'The proper measure of attorney performance remains simply reasonableness under prevailing professional norms.'" *Padilla*, *supra*, at 366 (quoting *Strickland*, *supra*, at 688). "In any case presenting an ineffectiveness claim, the performance inquiry must be whether counsel's assistance was reasonable considering all the circumstances." *Strickland*, *supra*, at 688. Under that standard, it was unreasonable for Hinton's lawyer to fail to seek additional funds to hire an expert where that failure was based not on any strategic choice but on a mistaken belief that available funding was capped at $1,000.

"Criminal cases will arise where the only reasonable and available defense strategy requires consultation with experts or introduction of expert evidence." *Harrington* v. *Richter*, 562 U. S. ___, ___ (2011) (slip op., at 16). This was such a case. As Hinton's trial attorney recognized, the core of the prosecution's case was the state experts' conclusion that the six bullets had been fired from the Hinton revolver, and effectively rebutting that case required a competent expert on the defense side. Hinton's attorney also recognized that Payne was not a good expert, at least with respect to toolmark evidence. Nonetheless,

he felt he was "stuck" with Payne because he could not find a better expert willing to work for $1,000 and he believed that he was unable to obtain more than $1,000 to cover expert fees.

As discussed above, that belief was wrong: Alabama law in effect beginning more than a year before Hinton was arrested provided for state reimbursement of "any expenses reasonably incurred in such defense to be approved in advance by the trial court." Ala. Code §15–12–21(d). And the trial judge expressly invited Hinton's attorney to file a request for further funds if he felt that more funding was necessary. Yet the attorney did not seek further funding.

The trial attorney's failure to request additional funding in order to replace an expert he knew to be inadequate because he mistakenly believed that he had received all he could get under Alabama law constituted deficient performance. Under *Strickland*, "strategic choices made after thorough investigation of law and facts relevant to plausible options are virtually unchallengeable; and strategic choices made after less than complete investigation are reasonable precisely to the extent that reasonable professional judgments support the limitations on investigation. In other words, counsel has a duty to make reasonable investigations or to make a reasonable decision that makes particular investigations unnecessary." 466 U. S., at 690–691. Hinton's attorney knew that he needed more funding to present an effective defense, yet he failed to make even the cursory investigation of the state statute providing for defense funding for indigent defendants that would have revealed to him that he could receive reimbursement not just for $1,000 but for "any expenses reasonably incurred." An attorney's ignorance of a point of law that is fundamental to his case combined with his failure to perform basic research on that point is a quintessential example of unreasonable performance under *Strickland*. See, *e.g.*, *Williams* v. *Taylor*, 529 U. S. 362,

395 (2000) (finding deficient performance where counsel "failed to conduct an investigation that would have uncovered extensive records [that could be used for death penalty mitigation purposes], not because of any strategic calculation but because they incorrectly thought that state law barred access to such records"); *Kimmelman* v. *Morrison*, 477 U. S. 365, 385 (1986) (finding deficient performance where counsel failed to conduct pretrial discovery and that failure "was not based on 'strategy,' but on counsel's mistaken belie[f] that the State was obliged to take the initiative and turn over all of its inculpatory evidence to the defense").

We wish to be clear that the inadequate assistance of counsel we find in this case does not consist of the hiring of an expert who, though qualified, was not qualified enough. The selection of an expert witness is a paradigmatic example of the type of "strategic choic[e]" that, when made "after thorough investigation of [the] law and facts," is "virtually unchallengeable." *Strickland*, 466 U. S., at 690. We do not today launch federal courts into examination of the relative qualifications of experts hired and experts that might have been hired. The only inadequate assistance of counsel here was the inexcusable mistake of law—the unreasonable failure to understand the resources that state law made available to him—that caused counsel to employ an expert that *he himself* deemed inadequate.

B

Having established deficient performance, Hinton must also "show that there is a reasonable probability that, but for counsel's unprofessional errors, the result of the proceeding would have been different. A reasonable probability is a probability sufficient to undermine confidence in the outcome." *Id.*, at 694. "When a defendant challenges a conviction, the question is whether there is a reasonable probability that, absent the errors, the factfinder would

have had a reasonable doubt respecting guilt." *Id.*, at 695.

The Court of Criminal Appeals held, and the State contends in its brief in opposition to certiorari, that Hinton could not have been prejudiced by his attorney's use of Payne rather than a more qualified expert because Payne said all that Hinton could have hoped for from a toolmark expert: that the bullets used in the crimes could not have been fired from the Hinton revolver. See 2006 WL 1125605, *31 ("[E]ven assuming that counsel's apparent ignorance that the cap on expert expenses had been lifted constituted deficient performance . . . , the appellant has not shown that he was prejudiced by that deficient performance"). It is true that Payne's testimony would have done Hinton a lot of good *if the jury had believed it*. But the jury did not believe Payne. And if there is a reasonable probability that Hinton's attorney would have hired an expert who would have instilled in the jury a reasonable doubt as to Hinton's guilt had the attorney known that the statutory funding limit had been lifted, then Hinton was prejudiced by his lawyer's deficient performance and is entitled to a new trial.

That the State presented testimony from two experienced expert witnesses that tended to inculpate Hinton does not, taken alone, demonstrate that Hinton is guilty. Prosecution experts, of course, can sometimes make mistakes. Indeed, we have recognized the threat to fair criminal trials posed by the potential for incompetent or fraudulent prosecution forensics experts, noting that "[s]erious deficiencies have been found in the forensic evidence used in criminal trials. . . . One study of cases in which exonerating evidence resulted in the overturning of criminal convictions concluded that invalid forensic testimony contributed to the convictions in 60% of the cases." *Melendez-Diaz* v. *Massachusetts*, 557 U. S. 305, 319 (2009) (citing Garrett & Neufeld, Invalid Forensic Science Testimony and Wrongful Convictions, 95 Va. L. Rev. 1, 14

(2009)). This threat is minimized when the defense retains a competent expert to counter the testimony of the prosecution's expert witnesses; it is maximized when the defense instead fails to understand the resources available to it by law.

Because no court has yet evaluated the prejudice question by applying the proper inquiry to the facts of this case, we remand the case for reconsideration of whether Hinton's attorney's deficient performance was prejudicial under *Strickland*.

* * *

The petition for certiorari and Hinton's motion for leave to proceed *in forma pauperis* are granted, the judgment of the Court of Criminal Appeals of Alabama is vacated, and the case is remanded for further proceedings not inconsistent with this opinion.

It is so ordered.

STATE OF NEW HAMPSHIRE
SUPERIOR COURT

MERRIMACK, SS.

03-C-0550

STATE OF NEW HAMPSHIRE

v.

HESS CORPORATION,
et al.

ORDER

The State has moved to exclude expert testimony it anticipates Defendants' witness Barbara Mickelson may offer. The State argues certain testimony is inappropriate because Mickelson was disclosed as a fact witness only, and the testimony the State now expects her to offer is expert in nature. Defendants object and allege the State's delay in filing this motion is prejudicial and constitutes an unfair trial tactic. On February 21, 2013, this Court orally granted the State's motion, and as stated on the record at that time, this order embodies a further written explanation of the Court's ruling.

Exxon employed Mickelson as an environmental engineer from 1980 to 1987. During that time, she authored three memoranda detailing the risks posed by MTBE. The State now expects Mickelson to refute her prior memoranda based on subsequent professional experience gained outside Exxon's employ. The State has presented an exhibit of trial testimony Mickelson attempted to offer in City of New York v. ExxonMobil Corp., No. 4-cv-3417, Trial Tr. 3556:7–21, Sept. 4, 2009, and Defendants submitted a trial transcript of testimony actually admitted in City of Merced v. Chevron, No. CU148451, Trial Tr. 305:4–6, 21–306:18, Oct. 19, 2001.

Defendants assert the testimony they seek to establish through Mickelson is no different than testimony the State established through its witnesses. Defendants argue "the testimony is based on Ms. Mickelson's *factual* experience over the course of her career performing environmental cleanup after her employment with Exxon." Defs.' Obj. Pl.'s Mot. 2. "Ms. Mickelson's testimony about her personal observations of MTBE's behavior in soil and groundwater and actual clean-up costs is no different than the nature of the testimony the State DES fact witnesses Fred McGarry and Gary Lynn offered during the State's case-in-chief." Id. The Court disagrees. Mickelson's purported testimony is substantially different from the State's DES witnesses because the DES witnesses testified regarding their personal observations related to the State, which is a party to this case. Mickelson, on the other hand, purports to testify about her observations and experience developed long after she was employed by a party to this case, at a time when her observations had no bearing on Exxon's knowledge or decision making.

Additionally, Mickelson's purported testimony is not substantially factual in nature. Defendants submitted a trial transcript from the City of Merced case, in which Mickelson was permitted to testify regarding her disagreement with her 1984 Exxon memoranda following subsequent professional experience. In the City of Merced case, the following exchange took place:

> Q. Mrs. Mickelson, since 1984 have you learned that your assumptions about attenuation and biodegradation are not correct?
>
> . . .
>
> Q. Mrs. Mickelson, in the course of your work experience since 1984, including all of the work that you've done in California up to today, has there been anything that you have experienced or seen that has led you to believe that your opinion from 1984 about biodegradation of MTBE is incorrect?

A. Yes, I have.
Q. and what is that?
A. Both site-specific work that I've been involved with to evaluate the attenuation . . . studies were done, data collected. This was a specific site that I was involved with that demonstrated that MTBE was biodegrading. There are also published literature by the U.S. EPA and others that document that there's . . . that MTBE does have a process for biodegrading with bacteria that become accustom to MTBE and eating MTBE.
Q. And that's information that you relied on in the course of working in the fieldwork that you've done; is that correct.
A. Right. That's – that's information that I've relied on in evaluating and remediating sites that have MTBE.

City of Merced, Trial Tr. 305:4–6, 21–306:18, Oct. 19, 2001. Defendants submitted this exchange for the purpose of demonstrating to the Court that Mickelson was permitted to testify in the City of Merced case. However, this exchange also clearly demonstrates that the subsequent knowledge that Mickelson developed, following her time at Exxon, is expert in nature. See e.g., State v. Fandozzi, 159 N.H. 773, 779 (2010) (noting that to determine whether a witness is qualified as an expert, courts consider whether the witness "by either study or experience, has knowledge on the subject-matter of his [or her] testimony so superior to that of people in general concerning it that the witness's views will probably assist the trier of fact"). Defendants never disclosed Mickelson as an expert witness.

If Defendants had properly disclosed Mickelson, she may well have been qualified as an expert under New Rules of Evidence 701 to offer expert testimony regarding the nature of MTBE. See N.H. Ev. R. 702. However, lacking the appropriate disclosures, her testimony will be limited to her time at Exxon. See Laramie v. Stone, 160 N.H. 419, 425 (2010) (quotation omitted) ("A party's failure to supply [expert witness] information should result in the exclusion of expert opinion testimony unless

good cause is shown to excuse the failure to disclose."); see, e.g., Estate of Sicotte, 157 N.H. at 675–76 (upholding the trial court's dismissal of the case because the plaintiff failed to disclose its expert); In the Matter of Letendre, 149 N.H. 31, 37–38 (2002) (explaining that a party's failure to provide the identity of its experts, the substance of the expert's testimony, and the basis of the expert's opinions "will result in the exclusion of expert testimony unless good cause is shown to excuse the failure to disclose"); Baker Valley Lumber v. Ingersoll-Rand, 148 N.H. 609, 617–18 (2002) (agreeing that an expert witness could not testify to opinions that were not properly disclosed); Bursey v. Bursey, 145 N.H. 283, 286 (2000) (holding "that the trial court did not abuse its discretion when it granted the divorce decree without hearing evidence concerning the defendant's financial situation where the defendant previously failed to answer interrogatories about that very subject"); Hubbard v. Panneton, 121 N.H. 526, 527 (1981) (explaining that "[b]y not providing the plaintiffs with information that bore directly on the defendant's only defense until the day of trial, the defendant prevented the plaintiffs from adequately preparing their case for trial).

Additionally, the testimony Mickelson offered in City of Merced was related to California remediation experience in a case situated in the California Superior Court. Thus, Mickelson's testimony in City of Merced was directly related to the substance of the case. Defendants have not demonstrated the same is true in this case. Defendants have not shown that Mickelson has any remediation experience in New Hampshire related to New Hampshire sites. Thus, she does not have factual testimony to offer in the same way the State's DES witnesses did.

The State's motion to preclude Mickelson from offering an expert opinion is GRANTED.

So ordered.

3-1-13
Date

Peter H. Fauver
Presiding Justice

STATE OF NEW HAMPSHIRE
SUPERIOR COURT

MERRIMACK, SS.

03-C-0550

STATE OF NEW HAMPSHIRE

v.

HESS CORPORATION,
et al.

ORDER ON THE DEFENDANTS' MOTION TO EXCLUDE STATEWIDE OPINIONS OF STATE EXPERTS FOGG, BECKETT, AND HUTCHISON UNDER NEW HAMPSHIRE RULE OF EVIDENCE 702 AND RSA 516:29-a

The Plaintiff, State of New Hampshire ("State"), brought suit against several gasoline manufacturers and refiners (collectively "Defendants") in order to protect its citizens and remedy alleged contamination and future contamination of State waters containing methyl tertiary butyl ether ("MTBE"), a chemical additive previously used in gasoline. Given the extensive history of this case, familiarity with the court's previous orders and with the factual background is assumed. Several Defendants[1] now move to exclude the testimony of three of the State's expert witnesses: (1) Dr. Graham E. Fogg ("Fogg"); (2) Gerry Beckett ("Beckett"); and (3) Dr. Ian Hutchison ("Hutchison").[2] The State objects. After reviewing the parties' pleadings, affidavits, and exhibits in conjunction with the applicable law, the court finds and rules as follows.

This motion represents the Defendants' second attempt to exclude the testimony of Dr. Fogg, Beckett, and Dr. Hutchison. The Defendants' first motion to exclude argued that the State's experts' opinions were irrelevant because their aggregation and extrapolation methods,

[1] A list of the Defendants moving to exclude can be found in footnote 1 of the Defendants' memorandum.
[2] The court will refer to Dr. Fogg, Beckett, and Dr. Hutchison collectively as "the State's experts."

assuming their reliability, did not make the existence of the State's injury more or less likely. Specifically, the Defendants maintained that such aggregation methods were unlawful and improper on such a large-scale, statewide model. The court disagreed and held,

> [A]ssuming the reliability of the State's expert witnesses, their testimony is relevant to demonstrate injury-in-fact and damages in this case. The [c]ourt accepts the [State's] argument that using statistical methods is appropriate and, as a result[,] the statewide proof model is acceptable and relevant. In other words, the use of statistical methods, assuming their reliability, makes the existence of the [State's] injury more probable than it would be without such evidence; likewise, it will assist the trier of fact to understand and determine both the existence and extent of the [State's] injury.

State v. Hess, Merrimack Super. Ct., No. 03-C-550, at 16 (June 24, 2011) (Order, Fauver, J.). As the court's holding demonstrates, it did not address whether the State's experts' opinions are reliable. The Defendants' present motion now places that question squarely before the court.

As a preliminary matter, the court did not hold an evidentiary hearing on the Defendants' motion because the court found that "an evidentiary hearing w[ould] not further assist it in making a determination. . . ." State v. Hess, Merrimack Super. Ct., No. 03-C-550, at 2 (May 6, 2011) (Order, Fauver, J.). A hearing would not have further assisted this court in making its determination because the parties submitted hundreds of pages of pleadings, affidavits, and exhibits. See id. The vast majority of the arguments and opinions provided within the documents were comprehensive and self-explanatory. Moreover, both parties conducted further expert discovery and submitted reply briefs in support of their original memoranda. Under such circumstances, the court remains confident that the information before it was sufficient, without a hearing, to determine reliability. See Baker Valley Lumber, Inc. v. Ingersoll-Rand Co., 148 N.H. 609, 617 (2002).

Facts

Based upon the parties' pleadings, affidavits, and exhibits, the court finds the following relevant facts. In order to support its statewide proof argument, the State will be relying, to a large degree, upon the testimony of Dr. Fogg, Beckett, and Dr. Hutchison. In order to understand and analyze the parties' arguments in the present case, it is necessary to summarize the State's experts' qualifications and opinions.

Dr. Fogg

Dr. Fogg is a hydrogeologist and holds a Ph.D. in geology and a mater's degree in hydrology. He has thirty-five years of experience in these fields and in the field of geostatistics. For the past twenty-one years, Dr. Fogg has taught numerous undergraduate and graduate courses in geostatistics, hydrologic science and soil science, and has published over ninety-three peer-reviewed papers.

Dr. Fogg has reached several conclusions in this case that the State seeks to proffer during trial: (1) that an estimated 31,500 private wells in New Hampshire are currently contaminated with detectable levels of MTBE, 79 percent (24,750) of which are located in one of the four "RFG counties"; (2) that between 435 and 1,424 additional wells in New Hampshire will likely be impacted by MTBE in the future, and between 146 to 773 wells will experience contamination in excess of the State's 13 ppb "MCL"; (3) that there are an estimated 2,717 known and potential sites throughout the State where MTBE has been released (this conclusion excludes thousands of unregulated sites that are not tabulated by the State, such as home heating oil tanks); and (4) that there is a need for long-term statewide monitoring of MTBE in private drinking water wells.

Dr. Fogg's First Conclusion

In order to arrive at his conclusion that an estimated 31,500 private wells in New Hampshire are currently contaminated with detected levels of MTBE, Dr. Fogg used "well-accepted statistical methodologies applied in the field of hydrogeology." Dr. Fogg derived his estimates using MTBE detection frequencies in private wells estimated by a team of United State's Geological Survey ("USGS") scientists (Ayotte et al., 2008), who determined that MTBE was present in 9.1% of private wells statewide and 17% of private wells in RFG counties. The USGS study was published in a peer-reviewed article in the Environmental Science and Technology Journal. Dr. Fogg also used data on the number and known location (by county) of private wells in New Hampshire from the State's "Water Well Inventory Database" ("WWINV"). Finally, Dr. Fogg used data related to the 1990 U.S. Census.

In order to arrive at his present conclusion, Dr. Fogg used the following method: he developed his estimates using (a) the known location, by county, for all identified private wells in New Hampshire and (b) the exact MTBE detection frequencies estimated by the team of USGS scientists. His calculations were based on common and accepted methodologies applied in the field of hydrogeology, and he reached his estimates with a 95% confidence level. Furthermore, in order to verify his conclusions, Dr. Fogg has compared two other methodologies to his own. First, he developed an approximation using (a) the known location by county for all known private wells in New Hampshire (as with the first estimate) and (b) the MTBE detection frequencies reported by the team of USGS scientists, which were rounded by the scientists to the nearest percent. Second, he used (a) 45,904 geolocated wells, versus the known locations for all wells, to determine the faction of wells in the RFG and non-RFG

counties, and (b) the exact MTBE detection frequencies estimated by the USGS scientists.[3] Employing the second and third methods helped to confirm his first method because all of the methods yielded similar conclusions.

Dr. Fogg's Second Conclusion

Dr. Fogg's second opinion concludes that between 435 and 1,424 drinking water wells will be impacted by MTBE in the future from known and potential sources of MTBE contamination inventoried and tabulated by the New Hampshire Department of Environmental Services ("NHDES"); and that between 146 and 773 drinking water wells will be impacted in the future at concentrations above the MCL. To arrive at his conclusions, Dr. Fogg used data from tens of thousands of wells and more than one thousand MTBE sites throughout New Hampshire.

The method used by Dr. Fogg included a "groundwater transport model" that simulates MTBE plume migration over a certain period of time. The modeling engines used in the analysis come from the United States Environmental Protection Agency ("USEPA") and from the established peer-reviewed scientific literature. Furthermore, they are widely used and accepted in the field of hydrogeology. In fact, nearly identical models were used by the USGS to model groundwater in New Hampshire.

The modeling method considers thousands of combinations of transport factors (referred to as a Monte Carlo analysis) to generate plume estimates that conform to the historical statistical distribution of observed MTBE concentrations at sites. Dr. Fogg refers to this method as the "best available" in the field of hydrogeology. Dr. Fogg also proffers several studies where similar methods were used to identify plume migration over a certain period of time.

[3] It should be noted that this final methodology was the basis for his original 2010 conclusion.

The model was calibrated to observed concentrations in ground water from more than 200 MTBE contaminated sites to estimate trends in MTBE plumes and MTBE impacted wells, accounting for the three-dimensional spreading of MTBE as affected by statistical distributions of transport factors characterizing groundwater flow, time dispersion, source concentration and size, biodegradation, and the proximity of wells to contaminated sites.

Dr. Fogg's Third Conclusion

Dr. Fogg's third opinion concludes that there are an estimated 2,717 known and potential sites throughout the State where MTBE has been released, excluding thousands of unregulated sites that are not tabulated by the State, such as home heating oil tanks. Dr. Fogg has arrived at this conclusion with a 95% confidence level. In order to reach his conclusion, Dr. Fogg relied on the NHDES Environmental Monitoring Database ("EMD"), which contains historical MTBE concentration data and other information from contamination sites throughout the State, including 256 release MTBE sites. His conclusion is also based on the NHDES complete ORC Source Remediation Database, which contains information concerning 24,000 sites in New Hampshire.

The method used by Dr. Fogg to analyze the data consisted of the following. Dr. Fogg first developed a list of all registered above and underground storage tanks and their corresponding stored substance types, and then added any site that had a facility know to contain MTBE, an MTBE sample detect, and MTBE Y flag, or an MTBE MCL violation flag. All sites not known to contain MTBE were removed. More than 200 sites were omitted due to lack of data. Furthermore, the MTBE site lists do not account for the vast percentage of unregistered or unregulated above and underground storage tanks with substances known to contain

MTBE. Dr. Fogg then applied statistical methods commonly used in his field to arrive at conservative estimates of the number of known and potential MTBE release sites.

Dr. Fogg's Fourth Conclusion

Finally, Dr. Fogg opines that it is necessary to have frequent, long-term statewide monitoring for MTBE. Dr. Fogg's conclusion that there is a need for long-term, statewide monitoring is based on the known and anticipated widespread impacts of MTBE on groundwater and drinking water wells. Further, his opinion is also based upon the persistence and mobility of MTBE in the subsurface. The facts relied upon by Dr. Fogg in reaching this conclusion stem from his prior opinions.

Beckett

Beckett offers several conclusions related to past site clean up, site investigation, and site characterization, as well as the costs associated with such clean up, investigation, and characterization. Beckett has a master's degree in geology and is a registered geologist and certified hydrogeologist with twenty years of experience in the field of hydrogeology, with an emphasis in multiphase and contaminant hydrogeology. Beckett has authored more than thirty papers related to applied contaminant hydrogeology and has consulted for numerous oil companies (including several of the defendants in this case), governmental entities, and water owners/suppliers regarding site characterization and remediation.

Beckett's First Conclusion

Beckett first concludes that since 1986, the State has spent approximately $122,646,018.00 out of its various petroleum clean up funds to remediate MTBE contamination. In order to arrive at this conclusion, Beckett conducted an extensive review of State

spending records: first examining the total amount the State has spent through June 2010 at the 1,428 sites that required clean up by the State due to petroleum-related releases.

By developing a baseline for clean up costs and practices before MTBE was a contaminant concern based on expenditures at sites where MTBE was never detected or tested, and comparing that baseline to expenditure at sites where MTBE was a contaminant, Beckett determined that spending at MTBE sites was, on average, seven times great than non-MTBE sites. By applying a 7-1 ratio to the State's total expenditures, he arrived at his conclusion of $122,646,018.00

His method separated into GREE and ODD sites. GREE sites involved "ether-only" releases. Because GREE sites are ether-only, 100% of the clean-up costs are associated with MTBE and "related contamination." The ODD release sites are different. They consist of sites that are generally above ground or underground storage tanks that have contained gasoline, diesel, or oil. The State spent a total of $137,315,213.00 to clean up ODD sites where MTBE contamination was present. These ODD sites are represented as "MTBE-Yes" sites in Beckett's analysis. Where MTBE was tested as a potential concern but no MTBE contamination was detected (otherwise known as "MTBE-No" sites), the State spent a total of approximately $14.5 million to clean up those sites. Finally, the State has spent roughly $19.7 million on sites that have never had any MTBE concerns and where the presence of MTBE has not been noted.

Beckett's Second Conclusion

Beckett also concluded that screening investigations are needed to determine the presence or absence of MTBE at potential release sites and that the investigations will cost $33,729,303.00. Specifically, Beckett suggests that one time groundwater screening

investigations be done as a "cost-effective" method to test for the presence of MTBE at three types of facilities where MTBE releases are *most likely* to have occurred, but are presently uninvestigated. These sites are: (1) 235 either-sites where a spill is know to have occurred, but the cause and location of the spill are unknown; (2) 93 junkyard sites where groundwater investigations have not yet occurred; and (3) 3,710 registered above and underground tank sites that contained MTBE but have never had a groundwater investigation.

In reaching his second conclusion, Beckett again relied on past cost projections. He then used what is known as a triangular statistical PERT distribution in order to project future costs. The PERT distribution takes site-specific cost variances for particular tasks into account. The PERT distribution is similar to a conventional triangular statistical distribution but focuses more on the most likely outcomes in the center of the cost distribution estimate. Using this approach, Beckett concluded that a screening program would range from $33,239,496.00 to $33,729,303.00.

Beckett's Third Opinion

Beckett's final conclusion consists of his view that site characterization activities are needed at "known, high-priority MTBE sites," which will cost $393,851,243. High priority sites are those that both (1) have been identified as posing a high risk to the State's groundwater, as defined by the NHDES; and (2) have since 2008 reported MTBE levels that exceed the AGQS of 13 parts per billion. Beckett explains that site characterization is one of the first environmental response steps (after screening) and is designed to understand the nature of a contaminant spill or release, the parameters of the "plume," estimates of its movement and distribution over time, and who or what might be impacted in the future by the contaminant

plume. Because of the nature of MTBE plumes, both vertical and horizontal characterization is critical.

In order to reach his conclusion, Beckett relied upon existing NHDES data, which show that there are currently 335 sites with documented MTBE releases that are also classified by NHDES as "high-risk." To attain a 95% confidence level and a 5% confidence interval for the number of the 335 sites that have also had levels of above the 13 ppb since 2008, Beckett used a random number to select 179 of the 335 high-priority sites. He then manually reviewed sampling records for those 179 randomly selected sites. He determined that since 2008, 70.95% of the high-priority sites have MTBE detections greater than or equal to the 13 ppb. Then, using a basic statistical method, he concluded that 238 of the 335 sites (plus or minus 17) require future site characterization. Then, applying estimates of site characterization task costs from the "API MTBE Guide" and the "RBCA paradigm," as well as using statistical methods and PERT distribution, Beckett developed the range of costs.[4]

Dr. Hutchison

Dr. Hutchison holds a Ph.D. in hydrology, a master's degree in hydraulic and soils engineering, and has forty years experience in civil and environmental engineering and twenty-five years experience in the clean up of contaminated sites (including cost estimating) throughout the United States. Mr. Hutchison has been retained to testify to whether or not Beckett's methods and opinions were "reasonable," and he has also been asked to testify regarding the estimated clean-up costs (as opposed to site characterization) at the 238 known, high-priority MTBE sites identified by Beckett.

[4] Beckett also projected future mitigation costs for presently *unknown* MTBE release sites. However, the State has decided to manage MTBE releases that have likely occurred, but are presently *unknown*, by implementing testing and treatment strategies. That means only *known* high-priority MTBE release sites are the subject of Beckett's future mitigation cost projections.

Dr. Hutchison's First Opinion

Dr. Hutchison first concluded that Beckett's methodology and result related to past costs incurred by the State were reasonable. The Defendants do not necessarily contest Dr. Hutchison's methods except to the extent that he relies on Beckett's purportedly flawed methods and results. Thus, because the Court will address Beckett's methods separately, a detailed analysis of Dr. Hutchison's first opinion is unnecessary.

Dr. Hutchison's Second Opinion

Dr. Hutchison next concluded that the estimated clean up costs at the 238 known, high-priority MTBE sites will be $78.8 million. He determined this number at a 95% confidence level. Dr. Hutchison calculated the total clean up costs for the portfolio of 238 known, high-priority MTBE sites using the statistical approaches established by the ASTM's "Estimating Costs and Liabilities for Environmental Matters," which are extensively utilized by other practicing remediation engineers throughout the country and are generally accepted as the best available methods for estimating the likely costs of "cleaning up portfolios" of contaminated sites. The ASTM uses a decision tree method that accounts for the range of potential future outcomes at a specific site. It accounts for the fact that future site clean up measures may range from "no further action" to "significant clean up efforts" that included onsite and offsite groundwater clean up.

Furthermore, Dr. Hutchison incorporated the "Monte Carlo Method," which Dr. Fogg also utilized. Dr. Hutchison's precise method is as follows: (1) identified key issues contributing to the magnitude and timing of the event costs; (2) developed a decision tree of potential clean up scenarios; (3) estimated the cost for each potential cleanup scenario; and (4) determined the likelihood (expressed as a percentage) of each clean up measure and

calculated the distribution of potential costs and the expected value for a site, which is the probability-weighted cost calculated from (2) and (3) above. Again, he used the Monte Carlo Method to account for the uncertainties in specific future clean up activities or costs.

Dr. Hutchison also worked closely with Beckett to determine the number of sites requiring clean up. This included an analysis of 851 sites known to the State to contain MTBE. Of these, 335 are classified as high-risk. Of those, 238 contain AGQS above the 13 ppb. These 238 known, high-priority sites are considered the "candidate sites" for future clean up.

Parties' Arguments

Now that the court has provided an overview of the State's experts' opinions, the court moves on to briefly identify the parties' arguments. Given the large number of arguments levied by the Defendants against the State's experts' opinions,[5] the court will not list all of their arguments at this time, but instead will address them individually below. Nonetheless, the court can provide a broad overview of the Defendants' arguments at this time.

The Defendants do not appear to contest the State's experts' qualifications, *e.g.* education. Nor do the Defendants appear, with a few exceptions, to contest the facts or data utilized by the State's experts. Rather, the Defendants contend that: (1) the State's experts used improper methodologies; and (2) even where the State's experts used proper methodologies, they applied the methodologies incorrectly to the facts and data provided. Primarily, the Defendants argue that the State's experts, time and again, use ipse dixit[6] instead of following proper statistical methods. With this brief overview in mind, the court turns to the relevant legal standards governing the Defendants' motion.

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[5] The Defendants assert that virtually every aspect of every opinion reached by each of the State's experts is fundamentally flawed and that the opinions "create an impenetrable fog that is based on the illusion of substance without any basis in reality or science."

[6] The phrase "ipse dixit" comes from the latin for "he himself said it"; in law, it means "something asserted but not proved." BLACK'S LAW DICTIONARY 905 (9th ed. 2009).

Relevant Legal Standards

"[T]he trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but [also] reliable." Daubert v. Merrell Dow Pharm., 509 U.S. 579, 589 (1993). The reliability of expert testimony in New Hampshire is governed by Rule of Evidence 702 and RSA 516:29-a. Under Rule 702, "[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise." Additionally, RSA 516:29-a, I, provides that "[a] witness may not offer expert testimony unless the court finds: (a) [s]uch testimony is based upon sufficient facts or data; (b) [s]uch testimony is the product of reliable principles and methods; and (c) [t]he witness has applied the principles and methods reliably to the facts of the case."

The inquiry envisioned by the rules governing expert testimony is a flexible one. Daubert, 509 U.S. at 594. "The focus, of course, must be solely on principles and methodology, not on the conclusions that they generate." Id. at 595. In determining reliability, the court generally looks to the four "Daubert factors": "(1) whether a theory or technique can be (and has been) tested; (2) whether the theory or technique has been subjected to peer review; (3) the known or potential rate of error of a particular technique; and (4) the Frye general acceptance test." Baker Valley Lumber, Inc. v. Ingersoll-Rand Co., 148 N.H. 609, 614 (2002) (quotations and ellipsis omitted); see also RSA 516:29-a, II. However, the Daubert factors "are not a definitive checklist or test." Baker Valley Lumber, Inc., 148 N.H. at 615. In fact, "a methodology may be reliable even if it fails to meet one or more of these factors." Id.

Not only are the Daubert factors relevant in deciding whether an expert's reasoning or methodology is valid, but also they are relevant in determining whether the expert has applied the principles and methods reliably to the facts of the case. See State v. Langill, 157 N.H. 77, 85 (2008). As the Court in Langill instructed:

> After Daubert, we no longer think that the distinction between a methodology and its application is viable. To begin with, it is extremely elusive to attempt to ascertain which of an expert's steps constitute parts of a "basic" methodology and which constitute changes from that methodology. Moreover, any misapplication of a methodology that is significant enough to render it unreliable is likely to also be significant enough to skew the methodology.

Id. at 85-86 (quoting In re Paoli R.R. Yard PCB Litigation, 35 F.3d 717, 745-46 (3d Cir. 1994)) (brackets and ellipsis omitted). Thus, "when the application of a scientific methodology is challenged as unreliable under Daubert and the methodology itself is otherwise sufficiently reliable, outright exclusion of the evidence in question is warranted only if the methodology was so altered by a deficient application as to skew the methodology itself." Id. at 88. "[A]s long as an expert's scientific testimony rests upon good grounds, it should be tested by the adversary process—competing expert testimony and active cross-examination—rather than excluded from jurors' scrutiny for fear that they will not grasp its complexities or satisfactorily weigh its inadequacies." Id. (quoting United States v. Vargas, 471 F.3d 255, 265 (1st Cir. 2006)) (ellipsis omitted).

With the governing standards established, the court turns to the parties' arguments. For ease, the court will address the Defendants' objections in the following order: (1) objections to Dr. Fogg's opinions; (2) objections to Beckett's opinions; (3) objections to Dr. Hutchison's opinions; and (4) objections contained in Defendants' Reply to the State's Objection.

Dr. Fogg

The Defendants' first argument relates to a flaw in Dr. Fogg's statistical sampling analysis. Statistical sampling is the process of "selecting some part of a population to observe so that one may estimate something about the whole population." Laurens Walker & John Monahan, Sampling Evidence at the Crossroads, 80 S. Cal. L. Rev. 969, 970-71 (2007). "[T]he use of surveys involving sampling is commonplace and expected not only in trademark cases, but also in misleading advertising cases, change of venue motions, obscenity prosecution, racial and general discrimination cases, and many other areas of litigation." Id. at 976. As noted above, this court held that statistical sampling is relevant to prove injury in this case.

As the Defendants point out, classical statistical methods require several steps in order to be reliable. First, the surveyor must identify a specific "population." A "population" is the group that is the subject of the statistical study, such as a group of "likely voters" in an election. Second, the surveyor must frame the population. Framing the population requires that the surveyor gather a list of the population from which to select a sample for the study. Most frames include the entire population in which the surveyor is interested. Third, the surveyor must select a representative sample from the list. This can be done in any number of ways. Most often, however, the sample will be drawn randomly.[7] Finally, the surveyor must be able to measure how likely such unbiased estimates are to characterize the population accurately; this is called a "confidence interval." "The confidence interval describes how narrowly the researcher needs to zero in on the correct answer, that is, on the actual value that the

[7] The general acceptance of "random sampling," as opposed to "purposive sampling," is well-documented in Walker, supra, at 973.

researcher would find if the researcher conducted a census of the population rather than a sample." Id.

As an initial matter, however, the State's experts dispute that traditional notions of statistical method must always be followed in their calculations. They maintain that in the field of hydrogeology, sometimes data are missing and must, therefore, be overcome by using methods separate and distinct from classical statistics. They assert that, for the most part, because the Defendants' experts are not hydrogeologists, the Defendants' experts' objections are generally unhelpful.

The Defendants take issue, first, with Dr. Fogg's original decision in his 2010 report to use as his "population" only 45,904 wells that had established geographical coordinates. They maintain that in order to properly extrapolate information to all of the wells in New Hampshire, Dr. Fogg was required to use the all 250,591 wells in the State as his population. Without doing so, the Defendants argue, Dr. Fogg's analysis is flawed. The court, however, rejects the Defendants' argument. First, Dr. Fogg has since updated his assessment using nearly all of the 250,591 wells across the State and, as a result, the Defendants' argument is moot. Furthermore, as described above, Dr. Fogg's updated results are strikingly similar to his initial assessment. This lends substantial support not only to Dr. Fogg's initial determination using a population of 45,904 wells, but also to his newest determination using substantially all of the 250,591 wells.

The Defendants next attack Dr. Fogg's decision to combine data from two different USGS surveys, even though one of the samples does not measure "how commonly" MTBE is detected in wells; instead, it measures how commonly MTBE is detected across different geographic areas and, therefore, has a different "survey size." However, the State responds

that Dr. Fogg did not combine the surveys. Instead, the USGS scientists combined them. Moreover, Dr. Fogg concurs with the USGS scientists' decision to combine the two surveys, as did peer reviewers of the Environmental Science & Technology Journal. Finally, Dr. Fogg maintains that any difference in combining the surveys is statistically inconsequential. The court agrees with the State that based on the fact that the methodology was peer-reviewed, it is reliable. See Baker Valley, 148 N.H. at 616.

Next, the Defendants argue that Dr. Fogg erred in using the "Horizon survey" to update his database. The Defendants argue that the Horizon survey was not "representative," but rather a collection of water quality tests requested by residents and State agencies over the years. Furthermore, the Defendants note that the Horizon survey uses a higher "detection limit" than the USGS survey. Dr. Fogg, however, articulates in his rebuttal that although NHDES detection frequencies in 2010 are lower than in 2006, they are not statistically significant enough to change the analysis. Furthermore, Dr. Fogg maintains that because the differences in detection frequencies were not significant, there is no statistically justifiable reason to adjust the detection frequencies of a team of USGS scientists downward using the Horizon data. The court finds Dr. Fogg's analysis persuasive and, therefore, rejects the Defendants' arguments.

The Defendants next argue that Dr. Fogg's method for calculating "fractional plume growth" is illogical. They assert that Dr. Fogg's model only considers the length of the plume itself and does not consider the relative growth of the plume, which is an important factor. Dr. Fogg rebuts this argument by stating that his calculations are not as simple as merely measuring or extrapolating the "length of the plume." Instead, his assessment is a result of using what is known as a "Monte Carlo Method." A Monte Carlo Method considers thousands

of combinations of transport factors to generate plume estimates that conform to the historical statistical distribution of observed MTBE concentrations at sites. Dr. Fogg articulates that this method is considered by many to be the best available method for such analysis and is currently applied in similar analyses across the country. Specifically, the modeling engine Dr. Fogg used came specifically from the United States Environmental Protection Agency and has also been peer-reviewed. The court finds the Defendants' attempt to over simplify Dr. Fogg's method unpersuasive and, as a result, the court rejects it.

The Defendants' also attack the calibration method Dr. Fogg used in determining future sites affected by MTBE. The Defendants assert that Dr. Fogg improperly calibrated his model using data from 229 sites he selected. The sites, the Defendants maintain, are biased and not representative of any real-world population of sites. Moreover, the Defendants claim that Dr. Fogg failed to verify the reliability of his "fractional plume growth" technique or to validate his models' predictions by matching the results against any real-world data. Dr. Fogg disputes the Defendants' premise. He argues that the Defendants' experts' claims that the calibration data must come from a statistically representative survey of a population of sites is incorrect. Dr. Fogg cites a leading treatise for the proposition that "[m]odel predictions typically are made to investigate the simulated system at a past or future time, under stress conditions that may differ from those used to calibrate the model and/or at spatial locations where no observations exist." M.C. Hill and C.R. Tiedeman, Effective Groundwater Model Calibration, (2007).

Once again, the court finds Dr. Fogg's explanations persuasive. The Defendants have failed to make any argument regarding which stratification population method Dr. Fogg failed to properly calibrate according to. Instead, the Defendants have simply made a blanket assertion that Dr. Fogg's calibration methods were not representative of the population. As Dr.

Fogg has shown, calibration by representative population is simply not necessary. Moreover, Dr. Fogg calibrated and tested his model according to principles and methods common in the field of hydrogeology. Dr. Fogg's calibration relied on real-world data from 1,139 wells and 213 sites distributed throughout New Hampshire. The data were organized into concentration histograms for various distances from source locations, and the calibration was performed using the time for each site with the most available concentration data. As such, the court rejects the Defendants' arguments that Dr. Fogg failed to properly calibrate his model.

Next, the Defendants argue that the upper and lower bounds used by Dr. Fogg are improper because, in the absence of a truly representative sample, they say nothing about the proper future predictions of plume growth. In essence, the Defendants maintain that Dr. Fogg's bounds were created using "unreliable statistical sampling methodology." Specifically, the Defendants contend that Dr. Fogg derived his upper bound from the Environmental Monitoring Database ("EMD"), without ever determining whether the data in the EMD were reliable and actually reflected the population of potential MTBE sites in the State.

Dr. Fogg disagrees. He states that it is common in hydrogeology to state bounds due to the complexities of science and the natural uncertainty and variability associated with hydrogeologic phenomena. His methodology is the same as was used by others in the field, including the Lawrence Livermore National Laboratory. Dr. Fogg notes the distinctions between classical statistics, to which the Defendants' experts refer, and geostatistics or statistics that are otherwise used in hydrogeology. In support he cites the following:

> Traditional statistical methods are not particularly useful in groundwater modeling studies, however, for several reasons. First, there are rarely enough measurements in groundwater applications to provide a statistically rigorous test of a model's explanatory capabilities. These measurements are typically available at scattered well locations, which are spaced further apart than characteristic scales of variability. Second, the conditions prevailing when the measurements were

> collected may not reflect those that the model is designed to simulate. Finally, most classical statistical tests are based on assumptions that are not necessarily met in complex subsurface environments. These tests typically assume that the model's structure is perfect, and they are based solely on an analysis of the effects of measurement error.

Statement from the National Research Council (1990). Given these differences, Dr. Fogg asserts that the Defendants' experts' criticisms with regard to his upper and lower bounds are irrelevant. He argues that the State's MTBE sites are not like voting precincts with votes to be surveyed in a traditional statistical manner. Although not generally used in classical statistics, Dr. Fogg nonetheless asserts that the methods used to establish the upper and lower bounds for his projections are commonly used in the field of hydrogeology.

This court finds Dr. Fogg's explanations sufficient to establish reliability for his method of determining the upper and lower bounds. It is not this court's job to determine whether, at a foundational level, the use of strict classical statistical methods is necessary to properly evaluate future MTBE contamination in wells. Instead, the proper determination is whether Dr. Fogg's methods are reliable. See Langill, 157 N.H. at 87. Here, Dr. Fogg has presented substantial evidence—including other studies and learned treatises—that his method for determining upper and lower bounds has been peer-reviewed and used in other studies. Moreover, he has also presented evidence that traditional statistics are ill-suited to handle complex determinations in the field of hydrogeology. As a result, the court finds that his methods contain the level of trustworthiness necessary to be reliable. See id.

The Defendants also challenge several of Dr. Fogg's methods underlying his conclusion that an estimated 2,717 known and potential sites throughout the state where MTBE has been released. The Defendants allege that Dr. Fogg began with a list of 1,412 "known" MTBE release sites. Assuming that additional sites must exist, Dr. Fogg then compiled a list of 2,692

"closed" sites. Dr. Fogg then identified the only 30 sites that he believed are closed sites that were sampled for MTBE after closure. Eleven of the 30 showed signs of MTBE. The Defendants argue that these steps "departed completely" from the basic principles of survey design in that Dr. Fogg did not select a "representative sample." In short, he did nothing to ensure that the 30 sites were representative of the 2,692 sites he sought to characterize.

In response, Dr. Fogg argues that his decision to remove from consideration the vast majority of potential MTBE sites without data is also used in his updated estimates and it ensures that he "conservatively underestimated" future MTBE impacts to drinking water wells. Furthermore, Dr. Fogg's estimates are not aimed at a "statewide count," nor are his estimates aimed at a subset of all statewide sites currently experiencing detectable levels of MTBE. Instead his estimates were and are aimed at a small subset of the historical known historical MTBE sites, regardless of whether or not those sites currently have detectable levels of MTBE.

Once again, the court finds Dr. Fogg's method reliable. Dr. Fogg did not attempt to do a statistical analysis of every single MTBE release site in the State. Instead, his percentage reflects only a smaller subset or "likely MTBE locations," which may or may not contain MTBE. Further supporting his method is the likelihood, based on his calculations, that the values drastically underestimate the total number of MTBE release sites across the State. Here, the State has chosen to focus on a subset so as to increase the likelihood of accuracy. The court finds such a method acceptable and reliable.

Next, the Defendants once again attack Dr. Fogg's bounds. They argue that Dr. Fogg's bounds are not a representative sample of the whole population of sites. Once again, the Defendants' argument misses the mark. Their attacks are supported by classical theories of

statistical analysis, which are generally ill-suited for hydrogeological analysis. As a result, the court rejects the Defendants' argument.

Beckett

The Defendants also object to several of Beckett's methods. First, the Defendants assert that in concluding that the State spent $122,646,018.00 to remediate MTBE contamination, Beckett failed to use a statistically valid methodology. They argue that he reviewed only "nine high-priority" sites. The Defendants maintain that the nine sites were not selected using traditional sampling methods and that Beckett failed to ensure that the sites were representative of what was done at other high-priority sites. The Defendants contend that Beckett was attempting to engage in statistical reasoning and that it is irrelevant that Beckett used his observations of the nine sites to generalize regarding State procedures because probability sampling is routinely used to study organizational processes.

Beckett disagrees with the Defendants' assessment. He provides that his purpose in reviewing the nine sites was to form an initial understanding of the general mitigation actions previously taken by the State and to determine whether the State's mitigation approach at those sites effectively protected drinking water from MTBE impacts. In other words, Beckett's review was "qualitative" in nature. Furthermore, he asserts that his evaluation was used in conjunction with his sampling of 179 sites from the larger population of 335 sites. He also maintains that every priority MTBE site shows the same general deficiencies in site characterization and cleanup, including the 179 random samples.

Here, the court is satisfied that Beckett's methodology is reliable. Although the Defendants attempt to characterize Beckett's analysis in terms of traditional sampling methods, an evaluation of his opinion demonstrates that his evaluation of the nine sites was

not an attempt at sampling. Furthermore, his ultimate opinions rest upon far more facts and data. As a result, his methodology is reliable.

The Defendants next attack the methods supporting Beckett's conclusion regarding future mitigation costs. The Defendants outline Beckett's method as follows. Beckett combined three categories of potential MTBE sites: (1) sites with open cases above 13 ppb; (2) sites associated with GREE cases that have not yet been identified as the release source for such cases; and (3) potential future cases to be discovered that do not fall into the first two categories. Next, he totaled these categories to conclude that 430 high-risk MTBE sites are likely to require further mitigation actions described in his projected future costs. In doing so, Beckett selected 88 sites by combining two-unrelated databases. In essence, he treated the EMD as a sample of a population of another list, which the Defendants argue was improper.[8]

Beckett argues that the Defendants' argument is moot, and the court agrees. Since his initial calculations, Beckett has updated his analysis to included 179 randomly selected known, high-risk MTBE release sites. Furthermore, this new analysis actually confirmed that his prior projection was a "conservative estimate." Such a correction in methodology is proper under a Daubert analysis. See Ready-Mixed Concrete Antitrust Litigation, 261 F.R.D. 154, 159 (S.D. Ind. 2009); see also Crowley v. Chait, 322 F.Supp.2d 530, 540 (D.N.J. 2004) ("Daubert does not require that an expert's testimony be excluded simply because he admitted and corrected his own mistakes or retracted his false statements."). As a result, the court finds that the Defendants' argument fails.

Finally the Defendants argue that Beckett's use of the MTBE-null sites as his "baseline" was ipse dixit. Furthermore, they maintain that he failed entirely to determine a "confidence

[8] The Defendants also attack Beckett's future projections at presently *unknown* high-priority sites. This attack is no longer relevant because the State has abandoned this argument. Instead, the State plans to monitor and treat through groundwater treatment strategies.

interval" for his estimations. The Defendants assert that "instead of calculating the State's actual past expenses attributable to MTBE, Beckett sets about to estimate them using the State's database on ODD Fund expenditures." Also, the Defendants contend, Beckett made no effort to determine whether factors besides MTBE could explain the difference in expenditures between "MTBE=null" sites on the one hand and "MTBE=yes" and "MTBE=no" sites on the other. The Defendants' expert states that when running this "but-for" analysis one must "take the two groups of units being compared, and match like units in the two groups against each other." The Defendants argue that Beckett failed to do so and, thus, his decision to use the MTBE=null sites as a "baseline" is unreliable.

The State does not appear to address this apparent flaw in Beckett's analysis; if it has, then it has done so inadequately. The court is extremely troubled by what appears to be a method of extrapolation, using classical statistical methods, without any evidence that proper statistical methods were followed. Furthermore, to the extent that Beckett asserts he is not conducting a "statistical analysis," but instead is relying on his prior knowledge, the court disagrees. Throughout his report, he discusses the MTBE=null sites as his "baseline" and also refers to extrapolating that information to find characteristics of the "population." Such a technique is pure statistical sampling and must follow reliable methods. To the extent he is not relying on statistical sampling, but instead upon another method known to him, he has failed to adequately inform this court of that method. See Floorgraphics, Inc. v. News America Marketing In-Store Services, Inc., 546 F.Supp.2d 155, 165 (D.N.J. 2008) (finding that to the extent an expert relies upon personal knowledge, he "must explain how that experience leads to the conclusion reached, why that experience is a sufficient basis for an opinion, and how that experience is reliably applied to the facts").

Here, the court finds that Beckett has failed to adequately demonstrate "good grounds" to support a finding that his "past costs" methodology is reliable. See Langill, 157 N.H. at 86. However, the court notes that it did not hold a hearing on the motion. Because it did not hold a hearing in this matter, the State was not necessarily given an opportunity to address the court's concerns. As a result, the court requests that the State file a supplemental pleading of a reasonable length addressing this concern within 30 days of receiving notice of this order from the Clerk. Thereafter, the Defendants shall respond as soon as practicable, but no later than 30 days from receiving the State's pleading. The State's motion and the Defendants' response shall address only this particular issue. The court will not consider or address any other issues raised by the parties.

Dr. Hutchison

The Defendants' first argument, like many others, asserts that Dr. Hutchison's conclusions regarding future clean-up costs are ipse dixit. The Defendants argue that the only basis for his numerous inputs is his "professional judgments," which alone are insufficient to support such a scientific analysis. Dr. Hutchison disputes this fact. He asserts that he established clean-up plans that achieve specified objectives and estimates for a portfolio of 238 sites on a Statewide basis employing proper statistical methods that consider the range of clean-up measures that could be applied at the various sites.

Dr. Hutchison's report demonstrates that he used statistical approaches established by the ASTM "Estimating Costs and Liabilities for Environmental Matters" (ASTM, 2007). These methods are used extensively by other practicing remediation engineers throughout the country. Furthermore, Dr. Hutchison provided that not only did he use standard engineering cost estimating tools together with estimates of minimum and maximum values using both a

Decision Tree and Monte Carlo statistical methods, but also such a method is generally accepted in the field. Finally, the ASTM guidance provides for several approaches, all of which Dr. Hutchison detailed in his report.

Once again, the court refuses to accept the Defendants' general allegation that a State's expert's opinion is ipse dixit. The Defendants have failed to contest the hydrogeologic methods adopted by the State's experts, but instead attempt to use general principles of statistical method, which do not appear applicable in most cases. As a result, the court finds that the Defendants' argument is misplaced.

Next, the Defendants attack Dr. Hutchison's "flushing factor." The flushing factor is meant to reduce annually the amount of remediation required at all 430 (now 238) sites and/or reduce the total number of sites that would require remediation. They assert that logically, the time for calculating the flushing factor should be 2006 because any release of MTBE must have occurred by then as gasoline containing MBE was not sold in New Hampshire after 2006. They assert that Dr. Hutchison improperly began his future cost calculations with the year 2010. The difference between using the two dates, the Defendants assert, is approximately 35%.

Dr. Hutchison asserts that the Defendants' criticism is based upon an incorrect premise: that the number of sites that require further clean-up in 2010 could be reduced by the amount of natural flushing of MTBE that occurred from 2006 to 2010, four years before the sites were selected. The Defendants fail to recognize that had Beckett and Dr. Hutchison considered sites prior to 2006, they would have established a larger number for clean-up than considered in 2010, as the MTBE concentrations would have been higher and located nearer to the source.

As a matter of simple logic, the court agrees with Dr. Hutchison. The sites themselves were not selected until after 2006. Furthermore, Dr. Fogg's analysis, which provides the basis for Dr. Hutchison's flushing factor, has taken into account that there were no new releases of MTBE after 2006. Finally, even if the flushing factor is incorrect as the Defendants assert. The court finds that such an error is not so egregious as to compromise the reliability of the method itself. See Langill, 157 N.H. at 88. Thus, for all of these reasons, the court finds the Defendants' argument unpersuasive.

The Defendants next argue that the 90th percentile used by Dr. Hutchison is inflated for purposes of settlement negotiations and is not reflective of actual projected damages. Further, even if it is not, basic statistical principles require that Dr. Hutchison calculate the 90th percentile costs by estimating the 90th percentile of costs distributed across all 430 potential sites. Here, according to the Defendants, Dr. Hutchison simply takes the 90th percentile of a single site and then extrapolates that across the rest of the sites, which violates the principles of statistics. Such an extrapolation, therefore, would be unreliable.

Dr. Hutchison maintains that the Defendants have incorrectly assumed that he calculated a total 90% confidence level cost for the sites considered at the time by multiplying the individual site costs by 430 sites, which, Dr. Hutchison agrees would lead to an unrealistically high number. Instead, Dr. Hutchison used an "expected value approach" to arrive at his determination. An expected value approach is a form of probability theory and is consistent with the ASTM procedures Dr. Hutchison used elsewhere in his conclusions. Based on Dr. Hutchison's rebuttal, the court finds Dr. Hutchison's methodology reliable and is satisfied that far more went into Dr. Hutchison's work than merely multiplying a single site 430 times. Thus, the Defendants' argument is rejected.

Finally, the Defendants assert that Dr. Hutchison's "methodological flaws" carry over to past costs. They argue that, in reality, Dr. Hutchison conducted *no* analysis of Beckett's calculations of the total past costs attributable to MTBE. Rather, he simply determined that 54% of the costs attributable to MTBE relate to the site clean-up rather than site investigation. To arrive at this figure, the Defendants argue, Dr. Hutchison identifies a series of remediation phases that in his opinion can be explained by additional work required specifically for MTBE. However, he did not compare the actual site files. They assert that like Beckett, Dr. Hutchison made no effort to determine whether the MTBE site categories were representative of similarly categorized sites.

Dr. Hutchison asserts that the Defendants have mischaracterized his opinion. First, while the Defendants claim that Dr. Hutchison did not compare his estimation to actual site files, he was not required to because calculating MTBE incremental costs from actual site records is unreliable and subject to considerable bias. However, applying the methods that Beckett used, the bias is eliminated. Second, the basis for costs attributable to MTBE is in fact the actual cost information contained in the State's databases as described by Beckett. [9]

The court finds Dr. Hutchison's rebuttal persuasive. The Defendants appear to rely on several "methodological flaws" that simply do not exist in Dr. Hutchison's methodology. Further, what the Defendants call "flaws" are actually necessary changes in the methodology to account for variables in the field of hydrogeology. Such changes are acceptable and do not create flaws, fundamental or otherwise, in the methodology rendering them unreliable. As a result, the court finds that the Defendants' arguments fail.

[9] For several arguments, including this one, the Defendants assert Dr. Hutchison relied solely on "professional judgment." However, after reviewing Dr. Hutchison's rebuttal as well as other relevant exhibits, the court finds that such statements have been either taken out of context or sufficiently explained by Dr. Hutchison.

Reply Arguments

In its reply memorandum, the Defendants again raise an array of arguments with respect to the State's experts' opinions. Their arguments can be separated into three broad categories: (1) that the updates to Dr. Fogg's opinions render them unreliable; (2) that Dr. Fogg's recommendation for statewide testing is based on no methodology at all; and (3) that the remainder of the State's experts' opinions still contain serious flaws, rendering them unreliable. The court addresses each of the Defendants' arguments in turn.

Updates to Dr. Fogg's Opinions

To begin, the Defendants argue that time and again, Dr. Fogg has changed his opinions in order to reach a desired result. The Defendants point to more than ten changes, which they claim support the conclusion that Dr. Fogg's methodologies are unreliable. The court finds that the changes made by Dr. Fogg do not render his methods unreliable.

For example, the Defendants first point to Dr. Fogg's September 2010 updates and point out his correction of a programming error. Dr. Fogg inadvertently set several cells in his program to refer to blank squares. Dr. Fogg freely admitted that this was error and fixed the problem. The Defendants also assert that Dr. Fogg changed the "distribution" associated with the time of MTBE release and the distribution associated with source persistence. This change, however, was made so as to yield a probability distribution that was not biased toward later time releases, which would ensure that the model did not overstate future plume growth and would recognize that MTBE was used in New Hampshire since 1980.

The two examples provided are representative of all of the errors that the Defendants claim "substantially changed" Dr. Fogg's methodology, therefore rendering it unreliable. However, the court does not agree. "Daubert does not require that an expert's testimony be

excluded simply because he admitted and corrected his own mistakes or retracted his false statements." Crowley, 322 F.Supp.2d at 540. Moreover, "[t]he general rule is that an expert's minor computational errors go to the weight of his testimony, rather than to its admissibility." Bartlett v. Mutual Pharmaceutical Co., Inc., 742 F.Supp.2d 182, 196 (D.N.H. 2010). The court finds that the corrections made by Dr. Fogg did not render his methodology unreliable. Thus, the Defendants' arguments related to Dr. Fogg's corrections are without merit.

Dr. Fogg's Statewide Monitoring Opinion

The Defendants argue that Dr. Fogg's final opinion—that there should be a "wide-spread," unfocused monitoring program for MTBE—is based on pure speculation. Their primary contention is that although Dr. Fogg reaches a conclusion that a program is necessary, "he has never attempted to determine what a prudent steward of New Hampshire's groundwater should do." In other words, Dr. Fogg does not define the contours of such a program. The Defendants also assert that Dr. Fogg did not perform any analysis that would allow a prudent groundwater steward to evaluate the likelihood that any wells would be impacted by unidentified release sites, such as home heating oil tanks.

The State objects on several grounds. First, the State argues that this argument was available to and should have been asserted by the Defendants in their original motion. Second, they claim that Dr. Fogg's opinion is not meant to define the contours of a Statewide monitoring program. Instead, the State has disclosed other experts who will do so. Finally, the State asserts that the Defendants have focused only on one aspect of Dr. Fogg's testimony—the home heating oil tanks—and completely ignored the fact that his opinion relies on far more.

First, the court agrees that the Defendants waived their argument by failing to object to Dr. Fogg's Statewide monitoring opinion in it is initial motion. See Panas v. Harakis, 129 N.H.

591, 617 (1987) (finding that a reply brief "may only be employed to reply to the opposing party's brief, and not to raise entirely new issues.").[10] Second, even if the Defendants did not waive their argument by failing to assert it in their original motion, the court finds that Dr. Fogg's opinion is based on more than "pure speculation." As the State points out, the need for long-term statewide monitoring is based on the known and anticipated widespread impacts of MTBE on groundwater and drinking water wells, and on the persistence and mobility of MTBE in the subsurface (especially in fractured bedrock, as in New Hampshire). Additionally, Dr. Fogg does not attempt to define the contours of the program. To suggest otherwise is entirely misleading. As a result of these considerations, the court finds that Dr. Fogg's opinion is not based upon "pure speculation."

State's Experts' Methods

The Defendants first argue that Dr. Fogg's model for calculating plume growth is unreliable because of "a simple programming error: it measures [Dr.] Fogg's real-world data in feet, but measures his model's estimates in meters." Further, the Defendants maintain that when the error is corrected, the model results are inaccurate and unreliable regarding future concentrations of MTBE. The State asserts that because the programming error has been corrected, the argument is now moot. The court disagrees that simply because the error is corrected, that the Defendants' argument is mooted. In fact, the Defendants argue that "this is not a matter of fixing Fogg's feet-to-meters error." Nonetheless, the court disagrees with the Defendants that the model is unreliable for the results that it provides once the model is properly calibrated.

[10] The court understands that the Supreme Court in Panas was referring to a reply brief on appeal. Nonetheless, the exact same principles of fairness and efficiency apply to the present case.

Importantly, the Defendants argue that once they "fixed" the programming error, therefore rendering the calibration reliable, the "results" were inaccurate. However, when evaluating an expert's opinion relative to Daubert, "[t]he focus, of course, must be solely on principles and methodology, not on the conclusions that they generate." 509 U.S. at 595. The Defendants are free to confront Dr. Fogg on the alleged inaccuracy of his results once properly calibrated. However, the "inflated conclusions" themselves do not render the model unreliable.

Next, the Defendants once again take issue with Dr. Fogg's decision to use data from the 2005/2006 USGS survey. The court has already addressed similar criticisms to Dr. Fogg's use of the USGS survey and refuses to revisit its analysis. Dr. Fogg has offered conclusions for why there has been no statistically significant decline in the detection levels since 2006. As a result, his model is not rendered unreliable by using such data.

The Defendants also assert that Dr. Fogg made a "simple statistical error" that when corrected reveals that rather than increasing, MTBE detections in each of Dr. Fogg's datasets are declining. The purported error is known as "Simpson's Paradox," which is the statistical phenomenon that causes illusory disparities when some data sets are aggregated. Phillips & Jordan, Inc. v. Watts, 13 F.Supp.2d 1308, 1315 (N.D. Fla. 1998). Simpson's Paradox "may arise when heterogeneous or dissimilar data populations are grouped together for statistical purposes. Data so aggregated may yield disparities that disappear when the data are disaggregated." Id. Here, the Defendants assert that Dr. Fogg's aggregation of data from the 229-site, the EMD, and the SHAHPD databases resulted in Simpson's Paradox. Furthermore, they assert that Dr. Fogg did not account for this phenomenon.[11]

[11] The Defendants' argument stems entirely from a brief remark made by Dr. Fogg that "[r]ecent detection frequencies appear significantly higher than those computed from detections at any time in the past."

The State disagrees. In support, Dr. Fogg argues, "[d]espite the considerable attention that those estimates seem to have received from Defendants and Dr. Rubin, the overall pooled data were actually never used for any of my opinions." Dr. Fogg maintains that, instead, "the estimates from the individual databases were developed to *identify* particular data from within the 229 and EMD databases for use in the model, and elsewhere." The court finds this reasoning persuasive. Thus, although Simpson's Paradox could possibly result from a combination of the databases, it appears that it in no way affected Dr. Fogg's methodology.

Finally, the Defendants assert that Beckett failed to ensure that his sample is statistically similar to the population that he attempted to estimate. The Defendants assert that Beckett's determination that 16 of 23 sites with no detection data at all will have MTBE detection rates above 13 ppb after 2008 is unreliable. However, this argument appears to rest on a disputed fact: whether or not the post-2008 detection data may be unavailable for the 23 sites because MTBE was no longer detected. Importantly, Beckett disagrees with this proposition. He asserts that the 23 sites, like the 312 sites are "sites presently know to the State that have had MTBE releases and are also high risk according to the State DES risk ranking system." Because of this dispute, the court finds that the Defendants' argument goes to the weight of the evidence and not its admissibility. The Defendants are free to cross-examine Beckett on the issue, but the court cannot say, at this time, that Beckett's methodology is unreliable.

Conclusion

Based on the foregoing, the court finds that Beckett's failure to adequately explain his method of using MTBE=null sites as a "baseline" renders his method for determining "past costs" unreliable under the Daubert factors. Nonetheless, the court does not exclude that

opinion at this time; instead, the parties shall file additional pleadings on the issue as previously described in this order. The court otherwise DENIES the Defendants' motion in full. Any arguments raised by the Defendants but not addressed directly in this Order have not been addressed because they are either wholly without merit or directly dependent upon other arguments herein; they are, therefore, also DENIED.

So ordered.

1-4-12
Date

Peter H. Fauver
Presiding Justice

STATE OF NEW HAMPSHIRE

SUPERIOR COURT

MERRIMACK, SS. 03-CV-0550

STATE OF NEW HAMPSHIRE

v.

HESS CORPORATION,

et al.

ORDER ON DEFENDANTS' MOTION TO EXCLUDE CERTAIN OPINIONS OF PLAINTIFF'S EXPERT MARCEL MOREAU UNDER NEW HAMPSHIRE RULES OF EVIDENCE 402, 403, 702, AND RSA 516:29-A [1284]

Defendants have moved to exclude certain opinions of the State's expert Marcel Moreau. The State objects. Based on the pleadings, the arguments of parties, and the applicable law, the Court finds and rules as follows.

I. Summary of Arguments

Defendants present the following arguments in support of their motion: (1) Moreau has admitted that he is not an expert on warnings, corrosion engineering, toxicology, geology, hydrogeology, analytical chemistry, movement of MTBE contamination (including fate and transport), risk assessment with regard to human health (including gasoline exposure), and psychology or behavioral psychology; (2) Moreau's opinions about the knowledge and intent of NH regulators when they adopted the state UST regulations are unreliable and without sufficient basis; (3) Moreau's opinions that refiner Defendants could have and should have forced independent service stations to use more stringent USTs than those required by State and Federal regulations are speculative; (4) Moreau's opinions about consumer fears are unreliable,

without sufficient basis, irrelevant, and highly prejudicial; and (5) Moreau's opinions on release discovery rates of various underground storage tank ("UST") owners that suggest that certain Defendants have the highest release rates in NH are unreliable, speculative, and highly prejudicial.

The State responds, explaining that Moreau is fully qualified to opine on most of the contested topics because he is a nationally recognized expert in the area of USTs.

II. Legal Standard

Rule 702 of the New Hampshire Rules of Evidence provides that "a witness qualified as an expert by knowledge, skill, experience, training, or education," may offer testimony if "scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue." N.H. R. Ev. 702.

The question of an expert's qualifications is a question of fact. Emery v. Company, 89 N.H. 165, 169 (1938). The sufficiency of the evidence to establish qualification, however, is a question of law. Wood v. Mfgs. & Merch. Mut. Ins. Co., 89 N.H. 213, 215 (1937). Thus, the trial court has discretion to determine whether an expert is qualified to give testimony. Fitzgerald v. Sargent, 117 N.H. 104, 107 (1977). When making this determination, the trial court must focus on the reliability of the methodology or technique of the expert. Baker Valley Lumber v. Ingersoll-Rand Co., 148 N.H. 609, 616 (2002).

Pursuant to Rule 702, expert testimony must rise to the threshold level of reliability to be admissible. Baker Valley Lumber applied the framework for evaluating the reliability of an expert's testimony adopted in Daubert. Daubert v. Merrell Dow Pharmaceuticals, Inc., 516 U.S. 869 (1995). Subsequently, the legislature enacted RSA

516:29-a codifying the Daubert factors and "section 1(b) codif[ying] Daubert's requirement that a court preliminarily assess 'whether the reasoning or methodology underlying the testimony is scientifically valid.'" State v. Langill, 157 N.H. 77, 85 (2008) (quoting Daubert, 509 U.S. at 592–93). The statute provides that the Court find that the testimony (a) is "based upon sufficient facts or data;" (b) "is the product of reliable principles and methods;" and (c) "[t]he witness has applied the principles and methods reliably to the facts of the case." RSA 516:29-a (I).

III. Moreau Opinion

Moreau is a nationally recognized expert in underground petroleum storage systems. He currently serves as president of a consulting firm that provides information and educational services related to petroleum storage systems for government, industry trade organizations, and private sector clients. He has worked in the petroleum storage field since 1983. His work in this field has been chiefly in the area of regulation, storage system design, leak detection technology, and regulatory compliance assessment. A significant facet of Moreau's career has included analyzing underground storage system failures. Moreau has provided technical training concerning underground storage systems to state regulators in approximately 44 states. He has published more than 60 articles on topics, including but not limited to: prevention of leaks from storage systems, operation of storage systems, and leak detection; and he has also published eight practice guides related to storage systems. He has provided consultant services to the United States Environmental Protection Agency ("EPA"), the American Petroleum Institute ("API"), and the Petroleum Equipment Institute ("PEI"). Moreau has been qualified as an expert on storage system design, installation, operation, and

maintenance by New York, California, and Maryland courts. He has testified at trial about storage systems and how they could have been improved to address the unique environmental risks posed by MTBE gasoline.

In this case, the State asked Moreau to opine on five topics:

> I. What are the components of underground storage systems and how do petroleum releases typically occur from these systems?
> II. What is the efficacy of leak detection methods in detecting leaks from underground petroleum storage systems, especially leaks of petroleum containing MTBE?
> III. What was the petroleum marketing industry's knowledge concerning the integrity of underground storage systems at the time when gasoline/MTBE mixtures were stored in underground storage systems?
> IV. What is the MTBE problem, what did the oil industry know during the 1980's and 1990's about the MTBE problem, and what steps did they take and what warnings did they provide in response to the problem?
> V. What does the widespread occurrence of MTBE in New Hampshire tell us about the standard-of-care required to store and handle gasoline containing MTBE?

Moreau Report 4 (Aug. 1, 2010). To briefly summarize these sections of Moreau's lengthy expert report, the Court takes each topic in turn.

First, Moreau explained the components of USTs, but he also concluded that although oil companies knew the most common modes of UST failure decades ago, only in the last 25 years have safety measures been taken to address the leaking storage system problem. More significantly, Moreau explained, "corrosion protection, improved leak detection, and greater concern for environmental contamination have reduced the magnitude of releases, but these measures have been too little and, in many cases, too late." Id. at I-1.

Second, Moreau explained various methods of leak detection and concluded that most detection technologies became insufficient when MTBE began to be used in gasoline, in light of the nature of MTBE. Moreau believes effective containment of

MTBE would have required a concerted effort on a number of fronts, including: (1) improved engineering of storage systems; (2) more stringent leak detection standards; (3) better training to impress upon all those who handle MTBE of the consequences of small releases; and (4) pre-installed remediation systems to immediately address small releases. Id. at II-8.

Third, Moreau concluded that the oil marketing industry had knowledge of the leaking storage tank problem and considered such leaks to be inevitable. Recognizing this problem, many oil companies took expensive steps to upgrade USTs. However, many other companies that owned or controlled USTs put off upgrading their storage systems. Thus, Moreau concluded, at the time "when MTBE was prevalent in the nation's gasoline supply, the nation's storage tank population was poorly suited to contain it." Id. at III-24.

Fourth, Moreau discusses the characteristics of MTBE and distinguished these features from other oxygenates. Most significantly, Moreau concluded, "[s]mall leaks from storage systems and spills associated with delivery activities, equipment maintenance, and vehicle fueling were accepted as a fact of life. Because the components of traditional gasoline were relatively insoluble and biodegraded fairly readily, these types of leaks and spills only rarely caused significant contamination incidents." Id. at IV-1. However, when MTBE was introduced into New Hampshire, these spills were suddenly significant, yet oil companies steadfastly maintained that gasoline containing MTBE should be handled just like any other gasoline. Moreau, on the other hand, believes that radical adjustments needed to be made to attitudes concerning small leaks and spills.

Fifth, Moreau explained the knowledge and typical handling behavior of the average consumer and gasoline retailer with respect to traditional gasoline. He compared this to the standard that he asserts should have been applied to MTBE gasoline. Moreau illustrates this distinction as follows: "A general population that was accustomed to spills on the order of cupfuls and an oil marketing industry that regarded spills on the order of gallons as insignificant had to enter a new era where releases on the order of teaspoons were a serious concern." Id. V-2–3. Moreau ultimately concluded:

> There were a number of steps that could have been taken that could have greatly lessened the number and magnitude of MTBE release incidents, including acknowledging the increased threat to groundwater posed by MTBE, promoting better handling procedures for gasoline, installing better storage systems and using leak detection methods specifically aimed at the early detection of MTBE releases. The key step would have been to acknowledge that MTBE posed a threat to groundwater [and to provide warnings].

Id. at VI-2.

IV. Analysis

Preliminarily, the State indicates it does not intend to offer Moreau's opinions at trial about the intent or knowledge of New Hampshire regulators and consumer fear.[1] Therefore, these arguments are moot. The Court addresses the remainder of Defendants' arguments in turn.

A. *Warnings*

Defendants argue that "Moreau is not an expert in the field of warnings[.]" Defs' Mem. Law 9. Defendants indicate that the California Superior Court for Merced County found Moreau not qualified as an expert on warnings. See Maroney Aff., Ex. I at 2–3

[1] See Stipulation Regarding Expert Witnesses (approved Jan. 9, 2013); State's Mem. 19–20.

(City of Merced v. Chevron, No. CU148451 (Cal. Super. Ct. June 7, 2011)). Defendants further contend that Moreau is only an expert on some aspects of USTs; he admitted that he is not an expert on warnings; he has no training in regards to human behavior; he is not part of any societies associated with efficacy of warnings; he has done no research on efficacy of warnings; he has not fashioned an actual warning that he believes would be effective in preventing spills or leaks of gasoline. They further claim that his opinions are unreliable because of his lack of such qualifications. Finally, Defendants claim that allowing this testimony would be unfairly prejudicial because he "knows nothing about warnings or messaging." Defs Mem. Law 15.

The State objects, claiming that Defendants misconstrue Moreau's report and proffered testimony. The State explains the challenged opinions concern: (1) Defendants' failure to provide information about unique threats to groundwater posed by MBTE or to recommend measures to effectively contain, store, and handle MBTE gasoline; and (2) Defendants should have recommended specific mitigation measures. The State further explains that Defendants misconstrue the evidentiary ruling in City of Merced. The State explains that City of Merced addressed only Moreau's rebuttal opinion and that his affirmative opinions were not challenged. The rebuttal opinion concerned a witness for the Defendants that will not testify in this case, so any rebuttal report relating to that witness is therefore minimally relevant, and the Court does not expect such evidence to be admitted.

Moreau will opine, not on the efficacy of warnings, but more generally on mitigation measures of contamination from leaking USTs, and warnings as a type of mitigation. Defendants mischaracterize Moreau's opinions and the reasons they are

offered. The parties do not dispute that Moreau is qualified to provide testimony on technical topics, including the proper storage and handling of MBTE.

Moreau's opinions go directly to the State's case supporting its claim that Defendants provided no warnings regarding the unique dangers of MBTE gasoline. See Deutsch v. Novartis Pharmaceuticals Corp., 768 F. Supp. 2d 420, 440 (E.D.N.Y. 2011) ("Opining as to whether certain information was false or misleading does not require the type of scientific methodology outlined in Daubert. Both experts reached their conclusions by comparing facts in evidence with the content shown on drug labels and in the warnings, which is a commonly accepted methodology used by experts admitted to testify as to the accuracy of warnings."). The State further provides that other courts have found Moreau qualified to testify on the very subjects Defendants now challenge. State's Mem. 8–9.

Moreau's testimony will aid the jury in understanding UST operation and maintenance, including industry mitigation measures for leaks in USTs and how they compare to the ones proposed by Defendants and by Moreau. See e.g., Pineda v. Ford Motor Co., 520 F.3d 237, 244 (3d Cir. 2008) (explaining that an engineer with advanced engineering degrees was qualified to testify as an expert in a products liability action that a car manual should have contained an explicit warning that following the necessary step-by-step instruction was a safety issue, even though the engineer testified at a Daubert hearing that he did not offer himself as a warnings expert because he had expertise in engineering, and a proper warning in service manual was also a solution to an engineering problem); Bartlett v. Mutual Pharmaceutical Co., Inc., 742 F. Supp. 2d 182, 193 (D.N.H. 2010) (ruling that an expert was entitled to testify that the

hypersensitivity warning on a label of a generic drug served as an adequate warning where the expert had sufficient expertise as evidenced by founding a study, writing leading articles on the topic, and holding positions of chief of dermatology and professor of dermatology); but see Bourelle v. Crown Equipment Corp., 220 F.3d 532, 539 (7th Cir. 2000) (explaining that a failure to draft a proposed alternative warning renders a warning expert's opinion inadmissible); Jaurequi v. Carter Mfg. Co., Inc., 173 F.3d 1076, 1084 (8th Cir.1999) (explaining that a failure to design a warning, much less test its effectiveness, rendered proffered expert testimony inadmissible); Milanowicz v. The Raymond Corp., 148 F. Supp. 2d 525, 541 (D.N.J. 2001) (explaining that the reliability of expert testimony is extremely questionable when he failed to design and test proposed warning and could not point to contrary industry practice). Considering the way in which Moreau defines warning and his expertise regarding USTs and the oil marketing industry, his opinions and methods are appropriate and admissible.

In short, the concerns Defendants have raised go to the weight and credibility of Moreau's testimony and not to its reliability. Additionally, Defendants have not shown that Moreau's opinions about warnings are unfairly prejudicial to their case. To the extent that Defendants disagree with Moreau's expert opinions, Defendants may elicit this testimony through direct and cross-examination of Moreau and Defendants' own experts in the presence of the jury. See Baker, 148 N.H. at 615–16 ("The appropriate method of testing the basis of an expert's opinion is by cross-examination of the expert."). Thus, because the testimony is relevant and not unduly prejudicial, it is admissible.

However, in discussing the types of mitigation measures Moreau would have recommended, Moreau's expert report also considers what end consumers should have been told. For example, a landscaper who fills a gas can for lawnmower use. Moreau opines that even this person should have received some kind of warning. Moreau's qualifications and his own admissions regarding his qualifications, do not offer him expertise in this area. Understanding the operation of the oil marketing industry and the supply chain and most specifically USTs does not give Moreau special knowledge regarding what the ultimate end consumer of gasoline should have been told that would have altered the behavior of the local landscaping company. Accordingly, Moreau may **not** opine as to this area of "warnings."

B. *Mitigation Measures at Independent Service Stations*

Next, Defendants argue that Moreau is not qualified to opine about mitigation measures and whether Defendants could and should have required branded stations owned by independent business to implement them by adding such requirements to the contracts between the stations and Defendants. Defendants assert that Moreau is not an attorney and professes no expertise regarding franchise agreements. In addition, they claim that his opinion on this subject is purely speculative. The State objects, claiming that the record contains evidence that certain Defendants took specific steps to control USTs at certain service stations, including threatening to refuse delivery to operators that failed to comply. State's Mem. 17.

In his experience with the petroleum industry, Moreau has come in contact with contracts that include provisions regarding different types of compliance, including, but not limited to: specifications on the types of dispensers to be installed; compliance with

environmental regulations; and use of specific storage tanks. State's Mem. 18. In addition, the record indicates that certain Defendants, including Exxon (and formerly Mobil) attempted to self-police USTs at storage stations. The extent to which Defendants should or could have continued to require service stations to implement potential mitigation measures can be presented to the jury and examined on cross and direct examination. Defendants' challenge to Moreau's mitigation opinions goes to its credibility, not its admissibility.

C. *MTBE—Equal Opportunity Contaminant*

Finally, Defendants claim that Moreau's opinions on release discovery rates of various UST facility owners suggesting that certain Defendants have the highest release rates in New Hampshire are unreliable, speculative, and highly prejudicial. Defendants claim that Moreau offers no methodology whatsoever for these opinions. "Rather, his main opinion in this section, i.e., that the level of sophistication of the facility owners does not correspond to the success of the system in containing MTBE, is based on nothing more than his assumption." Defs' Mem. 26. Defendants continue that this section unfairly and speculatively singles out Exxon as having more experience and expertise in storage system issues than other entities. Moreover, the data Moreau uses for table 1 and figure 6 (reflecting the percentages of releases discovered at facilities owned by various entities, including several Defendants) in Moreau's Expert Report are unreliable because he made no attempt to determine who the registered owners were when the releases occurred. "If ExxonMobil . . . assumed responsibility for any of these facilities from less sophisticated owners after the systems already had suffered releases, Moreau's entire opinion is blatantly wrong." Defs' Mem. 27. For these reasons,

Defendants assert that this portion of Moreau's report is unreliable and highly prejudicial.

The State explains that Moreau's report indicates he compiled data that NHDES collected to come to this conclusion and Moreau revealed this methodology in his report and in a deposition with Defendants. Defendants challenge Moreau's reliance on DES data and his assumptions, including that Moreau did not take certain variables—for example, who the registered owners were when the releases occurred—into consideration. However, these arguments address the credibility of Moreau's report and, specifically, the challenged figures, but not admissibility. Moreau's report indicates what factors he did not consider in coming to his conclusion regarding the leak potential of USTs generally and specifically in New Hampshire. Moreau's conclusion is generally that the experience and sophistication of a UST owner does not relate to the rate of leakage a tank owner experiences and does not eliminate the potential for various kinds of releases because the leaks and releases were largely attributable to the UST technology, not the experience of handlers. This opinion, at its core, is directly within Moreau's expertise. These arguments are most appropriately addressed on cross-examination.

V. Conclusion

Accordingly, Defendants' motion is DENIED in part, GRANTED in part, and is MOOT in part.

So Ordered.

1/18/13
Date

Peter H. Fauver
Presiding Justice

STATE OF NEW HAMPSHIRE
SUPERIOR COURT

MERRIMACK, SS.

03-C-0550

STATE OF NEW HAMPSHIRE

v.

HESS CORPORATION,
et al.

ORDER

The Plaintiff, State of New Hampshire, brought suit against several gasoline manufacturers and refiners (collectively "Defendants") in order to protect its citizens and remedy alleged contamination and future contamination of State waters containing methyl tertiary butyl ether ("MTBE"), a chemical additive previously used in gasoline. Given the extensive history of this case, familiarity with the Court's previous orders and with the factual background is assumed. Certain Defendants have moved to strike the August 18, 2011 supplemental report of State's expert Dr. Graham Fogg ("Dr. Fogg"). The Defendants argue that they are prejudiced by the supplemental report because Dr. Fogg has significantly changed his methodology. The State objects on several grounds. Because the Defendants have failed to demonstrate that Dr. Fogg's supplemental report violated expert disclosure rules, their motion is DENIED.

For the purposes of this order, the Court finds the following facts. In this Court's February 17, 2010 structuring order, the Court ordered the State to file its expert reports no later than August 2, 2010. In compliance with the Court's or-

der, the State filed Dr. Fogg's initial report on August 2, 2010. Since that time, the State has submitted several revisions. One of the State's most recent revisions, which was filed in March 2011, was created primarily in response to the Defendants' motion to exclude Dr. Fogg's testimony as irrelevant. The Court relied heavily upon Dr. Fogg's March 2011 submission, which was filed as an affidavit, in denying the Defendants' motion to exclude.

Since that time, the Court has held several structuring conferences and extended the final date for expert disclosures. On August 8, 2011, the Court identified the final expert disclosure date as October 17, 2011. This date applies equally to the Defendants and the State. At its July 13, 2011 structuring conference, the Court ordered that the State allow the Defendants to depose Dr. Fogg based upon Dr. Fogg's March 2011 supplemental report. The parties scheduled Dr. Fogg's deposition for August 16, 2011. However, shortly before the deposition was to take place, the State postponed the deposition because Dr. Fogg was working on another supplemental report. The State submitted that report to the Defendants on or about August 18, 2011. The parties rescheduled Dr. Fogg's deposition for September 22, 2011. The Court has no reason to believe that the September 22, 2011 deposition did not occur.

Dr. Fogg's August 18, 2011 supplemental report provides the following introduction:

> In my prior reports and March 2011 [a]ffidavit, I provided estimates for private wells contaminated with MTBE at detection levels of .2 ppb, 5 ppb, and 13 ppb. Subsequent to my March 2011 [a]ffidavit, I analyzed new data from the Maine Study of MTBE occurrence (Maine 1998) regarding MTBE contaminated wells. . . . This analysis, along with updated and current data from the NHDES regarding

> MTBE contaminated wells and release sites has allowed me to update my estimates of the number of currently contaminated private wells in New Hampshire. My methodology remains unchanged. Additionally, I am providing updates to the number of MTBE release sites and associated model post-processing to estimate the number of future impacts to private wells.
>
> The methodologies previously used in my August 2, 2010 report are again used to update the estimated numbers of private wells with detections greater than or equal to 5 ppb and 13 ppb presented in the executive summary of my original August 2, 2010 report and subsequent updates and affidavit. . . .

Defs.' Mot. to Strike, at Ex. 4. In the pages that follow the introduction, Dr. Fogg references his prior findings based upon the USGS report, compares his findings with the Maine MTBE study, lays out updated sampling data for private wells near certain release sites, and uses the information to update the estimated future MTBE impacts. Id. In all, the supplemental report is 11 pages in length. See id.

The Defendants now move to strike the August 18, 2011 report. They argue that Dr. Fogg's opinion has changed drastically and is now based upon an "entirely new" methodology. The Defendants further provide that his newest report has merely "cobbled together a fourth distinctly different method, created solely for this case, to develop another, varying estimate of the number of wells impacted by MTBE in the State." Defs.' Mot. to Strike, at 3. The Defendants maintain that Dr. Fogg has changed his methodology by: (1) identifying wells currently impacted by MTBE at or above the MCL using the 2008 USGS Ayotte study and data from the Maine MTBE study, both of which were available before Dr. Fogg's August 2010 report; (2) revising his estimate of the number of wells

currently impacted with MTBE; and (3) changing portions of his "post-processing."

The State objects. First, the State argues that it is allowed to supplement not only Dr. Fogg's reports, but also any of its experts' reports on or before October 17, 2011. Second, the State asserts that the changes identified by the Defendants are based exclusively upon updated data and new "post-processing" analyses, neither of which constitutes a change in methodology. The Court addresses the parties' arguments in turn.

"Control over the breadth and scope of pre-trial discovery is left to the sound discretion of the trial judge." Petition of Haines, 148 N.H. 380, 381 (2002). When evaluating the sufficiency of expert disclosures, several rules govern the court's analysis. "RSA 516:29-b, II requires parties in civil cases to disclose to their opponents any expert witness and, unless the parties so stipulate or the court orders otherwise, to provide for each such witness a written report that includes certain specific information." J & M Lumber and Construction Co., Inc. v. Smyjunas, 161 N.H. 714, 723 (2011). It is within the court's discretion to impose different requirements under RSA 516:29-b, II. Milliken v. Dartmouth-Hitchcock Clinic, 154 N.H. 662, 670 (2006).

In addition to statute, expert disclosures are also governed by court rule. For instance, under Super. Ct. R. 35, a party is "required to disclose, by the court-ordered deadline, a summary of the facts and opinions to which the expert is expected to testify and a summary of the grounds for each opinion." Estate of Sicotte v. Lubin & Meyer, P.C., 157 N.H. 670, 676 (2008) (citing Super. Ct. R. 35)

(quotation omitted). The Superior Court Rules also require that a party supplement its responses to discovery under certain circumstances. See Super. Ct. R. 35(e). This includes the requirement that parties supplement expert reports. See generally J & M Lumber, 161 N.H. at 722-24.

The relief provided to a party injured by the failure of another to comply with the expert disclosure rules stems from the Supreme Court's interpretation of the Superior Court Rules:

> [A] party is entitled to disclosure of an opposing party's experts, the substance of the facts and opinions about which they are expected to testify, and the basis of those opinions. A party's failure to supply this information should result in the exclusion of expert opinion testimony unless good cause is shown to excuse the failure to disclose.

Id. at 723 (citations and quotations omitted). The decision of whether or not to exclude testimony is within the sound discretion of the trial judge. Id. Finally, the moving party has the burden of demonstrating a violation of the expert disclosure rules. See id.

The Court finds that the Defendants have failed to meet their burden of demonstrating that Dr. Fogg's August 18, 2011 report violates the expert disclosure rules. Most importantly, although this Court originally required the State to submit its expert disclosures by August 2, 2010, the final expert disclosure date is not until October 17, 2011. Thus, by filing Dr. Fogg's 11-page supplemental report on August 18, 2011, the State was not in violation of the expert disclosure rules.

Nonetheless, the Defendants maintain that the October 17, 2011 date "cannot apply in Dr. Fogg's case where the Defendants moved to exclude his

opinions, the Court ordered that he be deposed, and the Defendants are to file a reply brief following the depositions." Defs.' Mot. to Strike, at 8. The Defendants' argument is not based in statute, court rule, or case law, but instead is nothing more than ipse dixit. This Court has never held that the State is prohibited from updating Dr. Fogg's reports before the final October 17, 2011 deadline. The Court simply required the State to allow the Defendants to depose Dr. Fogg based upon his March 2011 affidavit.

The Court agrees with the Defendants that although a party may supplement or correct its disclosure, it may not "sandbag [its] opponent with claims and issues which should have been included in the expert witness'[s] report." Lindner v. Meadow Gold Dairies, Inc., 249 F.R.D. 625, 639 (2008). However, that has not occurred here. First, Dr. Fogg's March 2011 supplemental disclosure was a response to the Defendants' attack on his analysis, which is perfectly reasonable under expert disclosure rules. See Engineered Products Co. v. Donaldson Co., Inc., 313 F.Supp.2d 951, 1015 (N.D. Iowa 2004) ("it would be ridiculous to hold that a challenged expert should have no opportunity to address any actual errors or omissions pointed out by an opposing party in a Rule 702 challenge. . . .").

Likewise, despite the Defendants' arguments to the contrary, Dr. Fogg's August 2011, 11-page supplement was not a change in methodology. As the Defendants explicitly recognize, Dr. Fogg only changed his analysis by revising his prior estimate, relying upon data available since 2001, and updating his post-processing. The Court finds that such changes are within the sphere of allowable updates under the expert disclosure rules. Moreover, to the extent that the

Maine MTBE report was available before Dr. Fogg's initial report, the Court finds that the Defendants have not been prejudiced by Dr. Fogg's use of the new data in updating his report.[1]

Based on the foregoing analysis, the Court finds that the Defendants have failed to meet their burden in demonstrating that the State has violated the expert disclosure rules. Therefore, the Defendants' motion to strike is DENIED.

So ordered.

10·20-11
Date

Peter H. Fauver
Presiding Justice

[1] The Defendants must remember that an expert's decision to change his report cuts both ways. Although an expert may update or change his opinion within certain limits, the Defendants "will have the opportunity at trial to point out 'changes' in an expert's opinion in an attempt to undercut that expert's opinion as a 'moving target' that changes on a whim." Engineered Products Co., 313 F.Supp.2d at 1015.

State v. McLeod

Supreme Court of New Hampshire

January 10, 2013, Argued; May 14, 2013, Opinion Issued

No. 2011-809

Reporter
165 N.H. 42; 66 A.3d 1221; 2013 N.H. LEXIS 53; 2013 WL 1956017

THE STATE OF NEW HAMPSHIRE v. DAVID MCLEOD

PRIOR HISTORY: [***1] Cheshire.

Disposition: Reversed in part; vacated in part; and remanded.

Core Terms

intercept, testimonial statement, testimonial, cross-examination, trial court, witnesses, conclusions, expert opinion, suppression, hearsay, flames, smoke, independent judgment, direct examination, rules of evidence, expert testimony, investigating, defendant's right, inadmissible, couch, training and experience, scientific, testifying, reasonable suspicion, written memorandum, authorization, transmitter, disclosure, quotation, tested

Case Summary

Procedural Posture

Defendant, who was charged with second-degree murder in relation to a 1989 fire at an apartment building, filed motions to preclude certain expert testimony and to suppress an audio recording of a one-party consensual telephonic interception. The Cheshire Superior Court (New Hampshire) granted the motion. The State appealed.

Overview

Defendant sought to preclude testimony by three experts on the ground that their testimony was based upon a decedent's hearsay statements. The court held that the *Confrontation Clause of U.S. Const. amend. VI* was not violated when an expert testified regarding his independent judgment, even if that judgment was based upon inadmissible testimonial hearsay. The experts had each applied their independent judgment to the decedent's statements and were not acting as mere "transmitters" of testimonial hearsay. Thus, the Confrontation Clause did not prohibit them from testifying regarding their opinions, so long as they did not testify as to the decedent's statements on direct examination. Because there was no Sixth Amendment violation, there was also no violation of N.H. Const. pt. I, art. 15. Next, the trial court erred in excluding the one-party intercept. The State obtained the intercepted information lawfully, and its three-day delay in meeting the post-intercept written memorandum requirement of *RSA 570-A:2, II(d)* (2001) did not vitiate the lawfulness of the intercept. Thus, *RSA 570-A:6* (2001) did not require suppression.

Outcome

The court reversed the trial court's suppression order and its ruling that allowing the State's experts to testify would violate defendant's confrontation rights. It vacated the trial court's rulings that were based on its mistaken ruling as to the Confrontation Clause and remanded the case for reconsideration of those rulings.

LexisNexis® Headnotes

Constitutional Law > ... > Fundamental Rights > Criminal Process > Right to Confrontation

Criminal Law & Procedure > ... > Standards of Review > De Novo Review > General Overview

HN1 An appellate court reviews Confrontation Clause challenges de novo.

Constitutional Law > ... > Fundamental Rights > Criminal Process > Right to Confrontation

Constitutional Law > Bill of Rights > State Application

Criminal Law & Procedure > Trials > Defendant's Rights > Right to Confrontation

HN2 U.S. Const. amend. VI provides that in all criminal prosecutions, the accused shall enjoy the right to be confronted with the witnesses against him. U.S. Const. amend. XIV renders the Confrontation Clause binding on the states.

Constitutional Law > ... > Fundamental Rights > Criminal Process > Right to Confrontation

Criminal Law & Procedure > Trials > Defendant's Rights > Right to Confrontation

HN3 Only testimonial statements cause a declarant to be a witness within the meaning of the Confrontation Clause. A statement in response to interrogation is "testimonial" when circumstances indicate that the primary purpose of the interrogation is to establish or prove past events potentially relevant to later criminal prosecution.

Constitutional Law > ... > Fundamental Rights > Criminal Process > Right to Confrontation

Criminal Law & Procedure > Trials > Defendant's Rights > Right to Confrontation

HN4 The State may admit against a defendant the "testimonial statements" of an absent witness only when the witness is unavailable and the defendant had a prior opportunity to cross-examine the witness.

Criminal Law & Procedure > ... > Reviewability > Preservation for Review > General Overview

HN5 The purpose of the preservation requirement is to ensure that the trial court is made aware of the substance of an objection and thus given an opportunity to correct the asserted error.

Evidence > ... > Testimony > Expert Witnesses > General Overview

HN6 See N.H. R. Evid. 703.

Evidence > ... > Testimony > Expert Witnesses > General Overview

HN7 See N.H. R. Evid. 705.

Constitutional Law > ... > Fundamental Rights > Criminal Process > Right to Confrontation

Criminal Law & Procedure > Trials > Defendant's Rights > Right to Confrontation

Evidence > ... > Testimony > ***Expert*** Witnesses > General Overview

HN8 Frequently, facts or data relied upon by ***experts*** will ***qualify*** as "testimonial statements" under Crawford. The import of those statements on the opinions of ***experts***, however, requires a different analysis than that applicable to lay witnesses. Crawford prohibits lay witnesses from simply relating the testimonial statements of an unavailable declarant. Crawford does not, however, offer guidance on the question of the extent to which an expert may rely on testimonial statements of unavailable declarants.

Constitutional Law > ... > Fundamental Rights > Criminal Process > Right to Confrontation

Criminal Law & Procedure > Trials > Defendant's Rights > Right to Confrontation

Evidence > ... > Statements as Evidence > Hearsay > General Overview

Evidence > ... > Testimony > Expert Witnesses > General Overview

HN9 The Confrontation Clause is not violated when an expert testifies regarding his or her independent judgment, even if that judgment is

based upon inadmissible testimonial hearsay. This approach strikes the proper balance between a defendant's confrontation rights and the valuable role expert testimony plays in a criminal trial. Thus, the court must determine whether the expert has applied his own training and experience to the statements or has acted merely as a transmitter for testimonial hearsay.

Constitutional Law > ... > Fundamental Rights > Criminal Process > Right to Confrontation

Criminal Law & Procedure > Trials > Defendant's Rights > Right to Confrontation

Evidence > ... > Statements as Evidence > Hearsay > General Overview

HN10 The Supreme Court's United States Confrontation Clause jurisprudence under the Federal Constitution forecloses an analysis in which some forms of testimonial hearsay are considered more inherently reliable than others.

Constitutional Law > ... > Fundamental Rights > Criminal Process > Right to Confrontation

Criminal Law & Procedure > Trials > Defendant's Rights > Right to Confrontation

Evidence > ... > Statements as Evidence > Hearsay > General Overview

Evidence > ... > Testimony > Expert Witnesses > General Overview

HN11 In determining whether an expert has applied his own training and experience to inadmissible testimonial hearsay statements or has acted merely as a transmitter for testimonial hearsay, the question is not whether the expert can explain his opinion in a manner that is independent from testimonial statements; rather, it is whether the expert brings his own independent judgment to bear on the facts before him. So long as the expert applies his training and experience to the sources before him and reaches an independent judgment, the expert's opinion will be an original product that can be tested through cross-examination, and thus will not violate a defendant's rights under the Confrontation Clause.

Constitutional Law > ... > Fundamental Rights > Criminal Process > Right to Confrontation

Criminal Law & Procedure > Trials > Defendant's Rights > Right to Confrontation

Evidence > ... > Statements as Evidence > Hearsay > General Overview

Evidence > ... > Testimony > Expert Witnesses > General Overview

HN12 The reconciliation of Crawford, Melendez-Diaz, and Bullcoming — which forbid the introduction of testimonial hearsay as evidence in itself — with *Fed. R. Evid. 703*, which permits expert reliance on otherwise inadmissible testimonial hearsay, necessarily involves a case-by-case assessment as to the quality and quantity of the expert's reliance.

Evidence > ... > Testimony > Expert Witnesses > General Overview

HN13 See N.H. R. Evid. 705.

Constitutional Law > Bill of Rights > Fundamental Rights > General Overview

Constitutional Law > ... > Fundamental Rights > Criminal Process > General Overview

HN14 The criminal process, like the rest of the legal system, is replete with situations requiring the making of difficult judgments as to which course to follow. Although a defendant may have a right, even of constitutional dimensions, to follow whichever course he chooses, the Constitution does not by that token forbid requiring him to choose. The threshold question is whether compelling the election impairs to an appreciable extent any of the policies behind the rights involved.

Constitutional Law > ... > Fundamental Rights > Criminal Process > Right to Confrontation

Criminal Law & Procedure > Trials > Defendant's Rights > Right to Confrontation

HN15 The purpose behind the Confrontation Clause is to secure for the opponent the opportunity of cross-examination. The Confrontation Clause was designed to root out the principal evil of using ex parte examinations as evidence against the accused. In the context of expert testimony, the Confrontation Clause is meant to prohibit experts from acting merely as transmitters of the testimony of others. This purpose is not compromised by the defendant's choice, "forced" or otherwise, to elicit underlying testimonial statements through an expert witness who is not acting as a mere transmitter of testimonial hearsay. When an expert renders his own independent judgment as to the significance of others' testimonial statements, the expert's opinion will be an original product that can be tested through cross-examination.

Constitutional Law > ... > Fundamental Rights > Criminal Process > Right to Confrontation

Criminal Law & Procedure > Trials > Defendant's Rights > Right to Confrontation

Evidence > ... > Testimony > Expert Witnesses > General Overview

HN16 In the context of expert testimony, the Confrontation Clause is meant to prohibit experts from acting merely as transmitters of the testimony of others. This purpose is not compromised by the defendant's choice, "forced" or otherwise, to elicit underlying testimonial statements through an expert witness who is not acting as a mere transmitter of testimonial hearsay. When an expert renders his own independent judgment as to the significance of others' testimonial statements, the expert's opinion will be an original product that can be tested through cross-examination.

Communications Law > Federal Acts > Wiretap Acts

Criminal Law & Procedure > Search & Seizure > Eavesdropping, Electronic Surveillance & Wiretapping > General Overview

HN17 Pursuant to RSA ch. 570-A, New Hampshire's wiretapping statute, it is generally unlawful for any person to wilfully intercept any telecommunication or oral communication without the consent of all parties to the communication. RSA 570-A:2, I(a) (2001). However, it is not unlawful for an investigative or law enforcement officer in the ordinary course of the officer's duties pertaining to the conducting of investigations of offenses enumerated in this chapter to intercept a telecommunication or oral communication, when such person is a party to the communication or one of the parties to the communication has given prior consent to such interception; provided, however, that no such interception shall be made unless the attorney general, the deputy attorney general, or an assistant attorney general designated by the attorney general determines that there exists a reasonable suspicion that evidence of criminal conduct will be derived from such interception. RSA 570-A:2, II(d). The statute provides that if oral authorization is given, a written memorandum of the reasonable suspicion determination and its basis shall be made within 72 hours thereafter. RSA 570-A:2, II(d).

Criminal Law & Procedure > Criminal Offenses > Illegal Eavesdropping > Elements

HN18 A person is guilty of a misdemeanor if the person knowingly intercepts a telecommunication or oral communication when the person is a party to the communication or with the prior consent of one of the parties to the communication, but without the approval required by RSA 570-A:2, II(d). RSA 570-A:2, I-a (2001).

Evidence > ... > Illegally Obtained Evidence > Eavesdropping, Interception & Wiretapping > Interception of Information

HN19 See RSA 570-A:6 (2001).

Governments > Legislation > Interpretation

HN20 In matters of statutory interpretation, the New Hampshire Supreme Court is the final arbiter of legislative intent as expressed in the words of the statute considered as a whole. The court first examines the language of the statute and ascribes the plain and ordinary meanings to the words used. Furthermore, the court interprets statutes in the context of the overall statutory scheme and not in isolation. If the statute's language is clear and unambiguous, the court does not look beyond the language of the statute to discern legislative intent.

Evidence > ... > Illegally Obtained Evidence > Eavesdropping, Interception & Wiretapping > Interception of Information

HN21 RSA 570-A:6 (2001) requires suppression only if the disclosure of evidence derived from the intercept would be in violation of RSA ch. 570-A. The legislature, pursuant to RSA 570-A:2, I(c) and (d), has expressly set forth the circumstances under which the disclosure or other use of the contents of an intercept violates the chapter: a violation occurs when the information is obtained in violation of RSA 570-A:2, RSA 570-A:2, I(c), (d). Thus, as long as the intercepted information is obtained lawfully under the chapter, RSA 570-A:6 does not require suppression. RSA 570-A:6.

Criminal Law & Procedure > Search & Seizure > Eavesdropping, Electronic Surveillance & Wiretapping > General Overview

HN22 Under RSA 570-A:2, II(d), a law enforcement officer, in the course of conducting an investigation of offenses enumerated under the chapter, may intercept communications as long as either the officer is a party to the communication or one of the parties to the communication has given prior consent to such interception. RSA 570-A:2, II(d). However, before the officer may conduct an intercept, the attorney general or the attorney general's designee must determine that there is reasonable suspicion that evidence of criminal conduct will be derived from the intercept. Authorization may be given in writing or orally.

Headnotes/Syllabus

Headnotes

NEW HAMPSHIRE OFFICIAL REPORTS HEADNOTES

NH1. 1.

Criminal Law > Confrontation of Witnesses > Hearsay Evidence

Only testimonial statements cause a declarant to be a witness within the meaning of the Confrontation Clause. A statement in response to interrogation is "testimonial" when circumstances indicate that the primary purpose of the interrogation is to establish or prove past events potentially relevant to later criminal prosecution. U.S. CONST. amend. VI.

NH2. 2.

Evidence > Hearsay > Testimonial/Nontestimonial Statements

The State may admit against a defendant the "testimonial statements" of an absent witness only when the witness is unavailable and the defendant had a prior opportunity to cross-examine the witness.

NH3. 3.

Appeal and Error > Preservation of Questions > Generally

The purpose of the preservation requirement is to ensure that the trial court is made aware of the substance of an objection and thus given an opportunity to correct the asserted error.

NH4. 4.

Evidence > Hearsay > Testimonial/Nontestimonial Statements

Frequently, "facts or data" relied upon by ***experts*** will ***qualify*** as "testimonial statements" under

Crawford. The import of those statements on the opinions of ***experts***, however, requires a different analysis than that applicable to lay witnesses. *Crawford* prohibits lay witnesses from simply relating the testimonial statements of an unavailable declarant. *Crawford* does not, however, offer guidance on the question of the extent to which an expert may rely on testimonial statements of unavailable declarants.

NH5. 5.

Criminal Law > Confrontation of Witnesses > Hearsay Evidence

The Confrontation Clause is not violated when an expert testifies regarding his or her independent judgment, even if that judgment is based upon inadmissible testimonial hearsay. This approach strikes the proper balance between a defendant's confrontation rights and the valuable role expert testimony plays in a criminal trial. Thus, the court must determine whether the expert has applied his own training and experience to the statements or has acted merely as a transmitter for testimonial hearsay. U.S. Const. amend. VI.

NH6. 6.

Criminal Law > Confrontation of Witnesses > Hearsay Evidence

The Supreme Court's United States Confrontation Clause jurisprudence under the Federal Constitution forecloses an analysis in which some forms of testimonial hearsay are considered more inherently reliable than others. U.S. Const. amend. VI.

NH7. 7.

Criminal Law > Confrontation of Witnesses > Hearsay Evidence

In determining whether an expert has applied his own training and experience to inadmissible testimonial hearsay statements or has acted merely as a transmitter for testimonial hearsay, the question is not whether the expert can explain his opinion in a manner that is independent from testimonial statements; rather, it is whether the expert brings his own independent judgment to bear on the facts before him. So long as the expert applies his training and experience to the sources before him and reaches an independent judgment, the expert's opinion will be an original product that can be tested through cross-examination, and thus will not violate a defendant's rights under the Confrontation Clause. U.S. Const. amend. VI.

NH8. 8.

Evidence > Expert Testimony > Generally

The reconciliation of *Crawford*, *Melendez-Diaz*, and *Bullcoming* — which forbid the introduction of testimonial hearsay as evidence in itself — with the rule of evidence which permits expert reliance on otherwise inadmissible testimonial hearsay, necessarily involves a case-by-case assessment as to the quality and quantity of the expert's reliance. Fed. R. Evid. 703.

NH9. 9.

Criminal Law > Confrontation of Witnesses > Particular Cases

Because experts had each applied their independent judgment to a decedent's hearsay statements and were not acting as mere "transmitters" of testimonial hearsay, the Confrontation Clause did not prohibit them from testifying regarding their opinions, so long as they did not testify as to the decedent's statements on direct examination. U.S. Const. amend. VI.

NH10. 10.

Evidence > Relevance > Particular Cases

Allowing the State's experts to testify as to their opinions without testifying on direct examination as to a decedent's hearsay statements was not more prejudicial than probative. The experts could testify, on direct examination, that they relied upon witness statements, among other evidence, and the defense could explore the basis of those

conclusions on cross-examination in whatever detail it deemed useful to impeach them. N.H. R. Ev. 403.

NH11. 11.

Criminal Law > Confrontation of Witnesses > Particular Cases

Allowing experts to testify on direct examination regarding their opinions without testifying as to a decedent's hearsay statements did not violate defendant's right to confrontation, as elicitation of the decedent's statements on cross-examination would be for the purpose of impeaching the experts, not to offer the statements for their truth. Even if introduction of the decedent's testimonial statements on cross-examination was "forced" upon the defendant, this did not mean that defendant's rights were thereby violated. *U.S. Const. amend. VI*.

NH12. 12.

Constitutional Law > Fundamental Rights > Generally

The criminal process, like the rest of the legal system, is replete with situations requiring the making of difficult judgments as to which course to follow. Although a defendant may have a right, even of constitutional dimensions, to follow whichever course he chooses, the Constitution does not by that token forbid requiring him to choose. The threshold question is whether compelling the election impairs to an appreciable extent any of the policies behind the rights involved.

NH13. 13.

Criminal Law > Confrontation of Witnesses > Hearsay Evidence

The purpose behind the Confrontation Clause is to secure for the opponent the opportunity of cross-examination. The Confrontation Clause was designed to root out the principal evil of using *ex parte* examinations as evidence against the accused. In the context of expert testimony, the Confrontation Clause is meant to prohibit experts from acting merely as transmitters of the testimony of others. This purpose is not compromised by the defendant's choice, "forced" or otherwise, to elicit underlying testimonial statements through an expert witness who is not acting as a mere transmitter of testimonial hearsay. When an expert renders his own independent judgment as to the significance of others' testimonial statements, the expert's opinion will be an original product that can be tested through cross-examination. *U.S. Const. amend. VI*.

NH14. 14.

Evidence > Particular Matters > Intercepted Communications

Suppression of intercepted communications is required only if the disclosure of evidence derived from the intercept would be in violation of the chapter regarding wiretapping and eavesdropping. The legislature has expressly set forth the circumstances under which the disclosure or other use of the contents of an intercept violates the chapter: a violation occurs when the information is obtained in violation of the statute prohibiting interception and disclosure of telecommunications or oral communications. Thus, as long as the intercepted information is obtained lawfully under the chapter, suppression is not required. *RSA 570-A:2, I(c), (d)*; :6.

NH15. 15.

Evidence > Particular Matters > Intercepted Communications

The trial court erred in excluding an audio recording of a one-party consensual telephonic interception. The State obtained the intercepted information lawfully, and its three-day delay in meeting the post-intercept written memorandum requirement did not vitiate the lawfulness of the intercept. *RSA 570-A:2, II(d)*; :6.

Counsel: *Michael A. Delaney*, attorney general (*Janice K. Rundles*, senior assistant attorney general, on the brief and orally), for the State.

Stephanie C. Hausman, senior assistant appellate defender, of Concord, on the brief and orally, for the defendant.

Judges: CONBOY, J. DALIANIS, C.J., and HICKS, LYNN and BASSETT, JJ., concurred.

Opinion by: CONBOY

Opinion

[*44] **[**1223]** CONBOY, J. The State appeals orders of the Superior Court (*WAGELING*, J.) granting motions of the defendant, David McLeod, to preclude certain expert testimony and to suppress an audio-recording of a one-party telephonic interception, *see* RSA 570-A:6 (2001). We reverse in part, vacate in part, and remand.

I. Facts and Procedural History

The following facts are derived from the record. This heretofore "cold" case arises from a fire that occurred at an apartment building in Keene on January 14, 1989. The fire began in the second floor apartment of Sandra Walker. Walker and several other occupants of the building were unharmed by the fire; however, four members of a family living in the building died of smoke inhalation.

On the night before the fire, Ed Bussieres, who lived on the first floor, hosted a party, attended **[***2]** by both Walker and the defendant. Walker left the party between 7 p.m. and 9 p.m. to visit Linda Colburn, a friend who lived nearby. Walker returned from Colburn's apartment between 11 p.m. on January 13 and midnight, and went to her own apartment. Walker drank heavily during the night.

In the early morning hours of January 14, Walker awoke to find flames in her apartment. Over the course of several interviews with Keene police **[*45]** officers and Fire Investigator Thomas Norton, Walker gave differing accounts as to where she saw flames when she awoke, and how she believed the fire started.

When first interviewed by police, she stated that she assumed she fell asleep with a burning cigarette, and that she awoke to find her bed and the nearby wall completely engulfed in flames. She tried to put out the fire with her hands, but the flames intensified. She stated that she walked to the bathroom, where she filled a coffee pot with water. When she left the bathroom and looked at the bed, however, she "just saw flames." After realizing that she could not put out the fire, she ran out of her apartment. Based, in part, on the initial interviews with Walker, Norton reached the preliminary conclusion **[***3]** that the cause of the fire was "smoking materials."

[1224]** Thereafter, the Keene Police Department reported that certain witnesses had implicated the defendant in starting the fire. One witness told officers that the defendant said, "How'd I do[?] [M]ake sure you go to the insurance company." Several other witnesses recounted hearing similar statements. Another witness stated that the defendant commented before the fire, "I'm going up to [Bussieres's] to get some coke and torch the place." The defendant denied involvement in the fire.

After receiving this information, Norton and the police again interviewed Walker. A police officer told her that the police suspected the defendant had started the fire. Walker stated that she did not know whether she had been smoking a cigarette but that she rarely smoked in the bedroom. She stated that she saw low flames around the couch, did not remember coughing, and that her eyes were burning a little bit, but not badly. She also said that she barely knew what was going on around her and that she was "very hazy."

Norton went back to the scene, and conducted a "controlled burn test." He applied a flame to a

piece of stuffing from Walker's couch, which created [***4] so much smoke that he had to stop the experiment after six minutes. Norton ultimately concluded that the fire started on the couch and was the result of an "incendiary act" — that is, that the introduction of an open flame to the couch caused it to ignite. He ruled out the possibility the fire was caused by "smoking materials."

The State then assembled a grand jury for the purpose of investigating the fire. Following the grand jury's investigation, the State did not pursue charges against the defendant.

In 2010, some twenty-one years later, the State's Cold Case Unit reinvestigated the fire. Prior to the initiation of the new investigation, Walker died and some of the evidence related to the fire was lost or destroyed, including the couch. The Cold Case Unit hired two experts from [*46] the United States Alcohol, Tobacco and Firearms Bureau (ATF): Special Agents Andrew Cox and John Pijaca. ATF is the primary federal agency that investigates fire incidents.

Because fire science had changed since 1989, Cox agreed to review and investigate Norton's conclusions. Cox determined that Norton's methodology and conclusions were consistent with the current scientific method outlined in the National Fire [***5] Protection Agency's Guide for Fire and Explosion Investigations (NFPA 921), which was developed after 1989. NFPA 921 is the definitive treatise to which fire investigators look in order to comply with the applicable scientific standards of reliability. Cox further concluded that the origin of the fire was the area of the bed and the couch, but could not narrow it to the couch only. He agreed that the fire was caused by a human incendiary act with an open flame, rather than a smoldering cigarette. Pijaca reviewed Cox's opinions and report, and agreed with his conclusions as to the origin and cause of the fire. In July 2010, the defendant was indicted on four counts of second degree murder, *see* RSA 630:1-b, I(b) (2007).

II. Expert Testimony

Before trial, the defendant moved to preclude the testimony of Norton, Cox, and Pijaca on the ground that their opinions are based upon Walker's hearsay statements. The defendant argued that Walker's statements were so "vague, ambiguous and inconsistent" as to be an unreliable basis for scientific analysis. The defendant also argued that the State's experts did not apply "accepted scientific methodology in formulating and testing their hypotheses." [***6] Finally, the defendant [**1225] asserted that the opinions were inadmissible pursuant to the *Sixth* and *Fourteenth Amendments to the United States Constitution*; Part I, Article 15 of the New Hampshire Constitution; RSA 516:29-a (2007); and New Hampshire Rules of Evidence 402, 403, 702, and 703. The State objected.

The State moved, *in limine*, to admit Walker's statements through the testimony of its experts. The defendant sought to preclude the introduction of Walker's statements, arguing that their introduction would violate his right to confront witnesses against him as guaranteed by the Federal and State Constitutions.

The trial court held evidentiary hearings at which Norton, Cox, and Pijaca testified and were subject to cross-examination. In relevant part, they testified that in arriving at their conclusions as to the cause and origin of the fire, they relied upon: witness statements; reported witness demeanor; physical evidence, such as burn patterns at the scene; field tests; fire studies; and their prior training and experience. They testified that [*47] NFPA 921 requires an investigator to consider witness statements at every step of the investigation, and that it provides that witness interviews [***7] are a necessary component of fire investigation. Norton testified that it is common practice in the field to rely upon witness statements.

The experts testified that they took into account Walker's statements and physical condition in

ruling out a "smoldering fire" and concluding that the fire resulted from an open flame. According to Norton:

> [I]f the fire were the result of smoking materials[,] it would be expected that Walker would have succ[u]mbed or suffered from smoke inhalation and burns. The reason for this is the advanced stage of burning, for a cigarette fire, she describes. Smoking materials fire starting in a couch stuffed with cotton fib[ers] takes over an hour to erupt into flames. During this time[,] large amounts of smoke and carbon monoxide are produced[,] which would cause injury or death.

Norton conceded on cross-examination that some of Walker's statements were inconsistent.

Following the evidentiary hearings, the trial court issued an order precluding admission of the State's experts' opinions and Walker's statements. The trial court did *not* rule that the experts improperly relied upon Walker's statements under the Rules of Evidence or NFPA 921. Instead, it concluded [***8] that "[b]ecause the experts' opinions were not independent from Walker's testimonial statements, allowing the experts to testify about the statements would violate the [d]efendant's [*Confrontation Clause*] rights." The trial court reasoned that without Walker's statements, the defendant could not engage in a threshold level of inquiry of the experts, and in order to "get to the heart" of the experts' statements' accuracy and reliability, the "[d]efendant [would] be placed in an untenable position of having to introduce the statements himself." The court found that without Walker's statements, the experts lacked sufficient facts or data to support their conclusions, as required by the Rules of Evidence and RSA 516:29-a, I(a).

Pursuant to RSA 606:10 (2001) (permitting certain appeals by the State in criminal cases), the State appealed the trial court's ruling. The State argues that the trial court erred by concluding that allowing its experts to testify would violate the defendant's rights to confrontation, and by also finding the experts' opinions inadmissible under the New Hampshire Rules of Evidence and RSA 516:29-a. ***HN1*** We review *Confrontation Clause* challenges *de novo*. [**1226] *State v. Brooks*, 164 N.H. 272, 278, 56 A.3d 1245 (2012). [***9] Because the parties' arguments center on the defendant's rights under the Federal Constitution, we first address the State's arguments under the Federal Constitution. *Id.* at 278-79.

NH[1] [1] [*48] ***HN2*** The *Sixth Amendment* provides: "In all criminal prosecutions, the accused shall enjoy the right ... to be confronted with the witnesses against him." "The *Fourteenth Amendment* renders the [Confrontation] Clause binding on the States." *Michigan v. Bryant*, 131 S. Ct. 1143, 1152, 179 L. Ed. 2d 93 (2011). ***HN3*** "Only [testimonial] statements ... cause the declarant to be a 'witness' within the meaning of the *Confrontation Clause*." *Davis v. Washington*, 547 U.S. 813, 821, 126 S. Ct. 2266, 165 L. Ed. 2d 224 (2006). A statement in response to interrogation is "testimonial" when circumstances indicate "that the primary purpose of the interrogation is to establish or prove past events potentially relevant to later criminal prosecution." *Id.* at 822. Here, the State concedes that Walker's statements are testimonial.

NH[2] [2] ***HN4*** The State may admit against a defendant the "testimonial statements" of an absent witness only when the witness is unavailable and the defendant had a prior opportunity to cross-examine the witness. *See* *Crawford v. Washington*, 541 U.S. 36, 68, 124 S. Ct. 1354, 158 L. Ed. 2d 177 (2004). Here, the [***10] defendant did not have an opportunity to cross-examine Walker before her death; thus, her statements may not be entered by the State substantively against the defendant. *See id.*

The State advances a two-part argument. First, it asserts that Walker's testimonial statements are admissible through the experts' direct

examinations because they will be offered only to explain the bases of the experts' opinions, and not for the "truth" of the statements. Alternatively, the State argues that if Walker's statements are not admissible through the experts' direct examinations, the experts may nonetheless offer their opinions, and the defendant is free to challenge those opinions on cross-examination, even if such challenge involves eliciting Walker's statements.

As to the first part of its argument, the State cites *Crawford*, in which the Supreme Court noted, "The [Confrontation] Clause ... does not bar the use of testimonial statements for purposes other than establishing the truth of the matter asserted." *Id. at 60 n.9*. The State also cites several cases in which courts have relied upon this statement to conclude that testimonial statements admitted to support an expert's conclusions are not [***11] offered to establish the truth of the assertions in the statements and, thus, do not violate a defendant's right to confrontation. *See, e.g.*, *United States v. Pablo, 625 F.3d 1285, 1291-92 (10th Cir. 2010)*, *judgment vacated by Pablo v. United States*, 133 S. Ct. 56, 183 L. Ed. 2d 699 (2012).

We reject this argument in light of the Supreme Court's recent opinion in *Williams v. Illinois, 132 S. Ct. 2221, 183 L. Ed. 2d 89 (2012)*. In *Williams*, a plurality of the Court upheld the admission of expert testimony that the defendant's DNA profile matched a similar DNA profile generated by a non-testifying scientist. *See id. at 2228-31*. The plurality concluded that the testimonial [*49] evidence was used to support the expert's opinion and not for the truth of the matter asserted. *Id. at 2235-36*. Justice THOMAS, however, in his concurring opinion, and the four dissenting Justices rejected the plurality's rationale that evidence supporting the basis of an expert's opinion is not [**1227] offered for its truth. *See id. at 2256-57, 2268-70*. The dissent explained:

> The situation could not be more different when a witness, expert or otherwise, repeats an out-of-court statement as the basis for a conclusion, because the statement's utility is then dependent [***12] on its truth. If the statement is true, then the conclusion based on it is probably true; if not, not. So to determine the validity of the witness's conclusion, the factfinder must assess the truth of the out-of-court statement on which it relies. That is why the principal modern treatise on evidence variously calls the idea that such "basis evidence" comes in not for its truth, but only to help the factfinder evaluate an expert's opinion "very weak," "factually implausible," "nonsense," and "sheer fiction."

Id. at 2268-69 (Kagan, J., dissenting) (quoting D. KAYE ET AL., THE NEW WIGMORE: A TREATISE ON EVIDENCE: EXPERT EVIDENCE § 4.10.1, at 196-97 (2d ed. 2011)); *see* KAYE ET AL., *supra* § 4.11.6, at 24 (Supp. 2012); *see also State v. Navarette, 294 P.3d 435, 439-40 (N.M. 2013)* (reading *Williams* to support the principle "that an out-of-court statement that is disclosed to the fact-finder as the basis for an expert's opinion is offered for the truth of the matter asserted"). Thus, we agree that the defendant's confrontation rights would be violated were the State permitted to introduce Walker's statements through the direct examination of its experts. *See Williams, 132 S. Ct. at 2268-69*.

The [***13] State's alternative argument, however, stands on a different footing. The State contends that merely because a witness's testimonial statements are not admissible on direct examination does not mean that the expert's opinion should be excluded. Rather, so long as the expert can proffer a relevant opinion, "the expert's ability to recount the underlying basis for his or her opinion [can be] circumscribed." We agree.

NH[3] [3] As a preliminary matter, the defendant maintains that the State waived this argument below. ***HN5*** The purpose of our preservation requirement is to ensure that the trial court is made aware of the substance of an objection and

thus given an opportunity to correct the asserted error. State v. Fischer, 143 N.H. 311, 318, 725 A.2d 1 (1999). Here, the trial court stated, "The State appears to argue that it will achieve [its] purpose by not introducing [Walker's statements] in its case in chief." The trial court then addressed the State's argument. Thus, we are satisfied that the State has preserved the argument for review.

NH[4] [4] **[*50]** This case illuminates the intersection of the right to confrontation and the parameters of permissible expert testimony. New Hampshire Rule of Evidence 703 provides:

> ***HN6*** The facts **[***14]** or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence.

Further, ***HN7*** "[t]he expert may testify in terms of opinion or inference and give reason therefor without prior disclosure of the underlying facts or data." N.H. R. Ev. 705. ***HN8*** Frequently, "facts or data" relied upon by ***experts*** will ***qualify*** as "testimonial statements" under *Crawford*. The import of those statements on the opinions of ***experts***, however, requires a different analysis than that applicable to lay witnesses. Crawford prohibits lay witnesses from simply relating the testimonial statements of an unavailable declarant. *See* **[**1228]** Crawford, 541 U.S. at 68. *Crawford* does not, however, offer guidance on the question of the extent to which an expert may rely on testimonial statements of unavailable declarants.

Since *Crawford*, the United States Supreme Court has considered the extent to which an expert, in rendering an opinion, may testify about "testimonial statements" **[***15]** of others. In Bullcoming v. New Mexico, 131 S. Ct. 2705, 2710, 180 L. Ed. 2d 610 (2011), the defendant was arrested for driving while under the influence of liquor (DWI). A sample of the defendant's blood was drawn and sent to the New Mexico Department of Health, Scientific Laboratory Division. *Id.* One of the analysts at the laboratory, Curtis Caylor, prepared a report and certified his finding that the defendant's blood alcohol content (BAC) was .21. *See* id. at 2710-11. A second analyst reviewed Caylor's analysis and certified that Caylor was qualified to conduct the BAC test and that he followed laboratory procedures. Id. at 2711.

The State used Caylor's report to support an aggravated DWI prosecution. *Id.* However, at trial the State did not call Caylor; rather, the State introduced the report through a third analyst "who had neither observed nor reviewed" Caylor's analysis. Id. at 2712. The Court concluded that entering the report through this analyst violated the defendant's right to confrontation. Id. at 2716-18. It rejected the argument that the testifying analyst should be permitted to convey Caylor's opinion because he was knowledgeable as to the laboratory procedures. *See* id. at 2715. It found **[***16]** the "surrogate testimony" impermissible because such testimony could not attest to what Caylor knew or observed; nor could it "expose any lapses or lies on the certifying analyst's part." *Id.*

[*51] *Bullcoming's* guidance as to the permissible scope of expert testimony, however, is limited: the Court in *Bullcoming* held only that admitting a testimonial certification through "surrogate testimony" of another expert violates the Confrontation Clause. *See* id. at 2710. *Bullcoming* is noteworthy, however, not only for the rule it provides, but also for the factual circumstances it did *not* address. In her concurrence, Justice Sotomayor "emphasize[d] the limited reach of the Court's opinion," id. at 2719 (Sotomayor, J., concurring), and listed some of the factual circumstances "that th[e] case did *not* present." Id. at 2722. In relevant part, she stated, "[T]his is not a case in which an expert witness was asked for

his independent opinion about underlying testimonial reports that were not themselves admitted into evidence." *Id.* She wrote further, "We would face a different question if asked to determine the constitutionality of allowing an expert witness to discuss others' testimonial statements if **[***17]** the testimonial statements were not themselves admitted as evidence." *Id.*

That is the question before us here: to what extent may the State's experts rely upon Walker's unadmitted testimonial statements in rendering their own opinions as to the cause and origin of the fire? Although the plurality in *Williams* stated that it was confronting this question, *see* Williams, 132 S. Ct. at 2233, it did not, in fact, do so. Rather, in *Williams*, the substance of the report prepared by the non-testifying scientist *was* admitted into evidence during the direct examination of the testifying expert. *See* id. at 2229-30, 2236. The plurality concluded that admission of the evidence did not constitute a Confrontation Clause violation for two independent reasons: the evidence was not introduced for its truth, id. at 2236, 2239-40; and the primary purpose of the report was not to accuse a particular individual or to create **[**1229]** evidence for use at trial, *see* id. at 2242-44. Thus, *Williams* is not helpful on this issue. *See* State v. Kennedy, 229 W. Va. 756, 735 S.E.2d 905, 922 (W. Va. 2012) (finding *Williams* "a tenuous and highly distinguishable opinion which does not, with majority support, dispense with the issue of to what **[***18]** extent a[n] ... expert may 'rely' upon testimonial hearsay"). Nor have we had occasion to address the issue. *But see* State v. Dilboy, 163 N.H. 760, 766-67, 48 A.3d 983 (2012) (stating, in dicta, that if the expert's statements at trial about test results were based upon his own review of raw data, "his statements may not have been a violation of the Confrontation Clause," and that the admission of his "statements would violate the Confrontation Clause only if he recited the statements of a non-testifying witness, rather than his own opinions or conclusions based upon his review of the raw data").

Other courts, however, have squarely addressed the issue. In *United States v. Johnson*, "the government ... intercepted telephone calls between various members of [a] drug conspiracy." United States v. Johnson, 587 F.3d 625, 633 [*52] (4th Cir. 2009). To help interpret the calls, the government called expert witnesses who had extensive training and experience in drug trafficking. Id. at 633-34. The experts testified that "several seemingly innocuous terms ... were actually code words for narcotics," id. at 634, and that they were able to decode the "conversations by looking for unusual patterns of speech," **[***19]** *id.* (quotation and brackets omitted). One expert explained that he based his conclusions upon the context of the conversations, the known nature of the organization, informant information, and other seized evidence. *Id.*

The defendant in *Johnson* argued that allowing the experts to provide opinions based upon testimonial statements of others violated his rights under the Confrontation Clause. *See id.* After assuming that the statements relied upon by the experts were testimonial, *see* id. at 635, the court held that there was no Confrontation Clause violation because the "expert witnesses present[ed] their own independent judgments, rather than merely transmitting testimonial hearsay, and were subject to cross-examination," id. at 636. The court explained:

> An expert witness's reliance on evidence that *Crawford* would bar if offered directly only becomes a problem where the [expert] witness is used as little more than a conduit or transmitter for testimonial hearsay, rather than as a true expert whose considered opinion sheds light on some specialized factual situation. Allowing a witness simply to parrot out-of-court testimonial statements of cooperating witnesses and confidential informants **[***20]** directly to the jury in the guise of expert opinion would provide an end run around *Crawford*. For this reason, an

> expert's use of testimonial hearsay is a matter of degree. The question is whether the expert is, in essence, giving an independent judgment or merely acting as a transmitter for testimonial hearsay. As long as he is applying his training and experience to the sources before him and reaching an independent judgment, there will typically be no *Crawford* problem. The expert's opinion will be an original product that can be tested through cross-examination.

Id. at 635 (quotations and citations omitted). The court further noted:

> [E]xpert witnesses play a valuable role in our criminal justice system. As recognized in *Federal Rule of Evidence 702*, experts often assist the trier of fact to understand the evidence or to determine a fact in issue. To better fulfill this role, experts are permitted to consider **[**1230]** otherwise inadmissible evidence as long as it is of a type reasonably relied upon by ***experts*** in the particular **[*53]** field. Some of the information ***experts*** typically consider surely ***qualifies*** as testimonial under *Crawford*. Were we to push *Crawford* as far as [the defendant] proposes, **[***21]** we would disqualify broad swaths of ***expert*** testimony, depriving juries of valuable assistance in a great many cases.

Id. (quotations and citation omitted); *see also, e.g., United States v. Ramos-González, 664 F.3d 1, 5 (1st Cir. 2011)* ("[T]he assessment is one of degree. Where an expert witness employs her training and experience to forge an independent conclusion, albeit on the basis of inadmissible evidence, the likelihood of a *Sixth Amendment* infraction is minimal."); *United States v. Williams, 740 F. Supp. 2d 4, 9-10 (D.D.C. 2010)* (expert may testify to "independent judgment" that is "reached by application of [the expert's] training and experience to" testimonial evidence (quotation omitted)); *State v. Gonzales, 274 P.3d 151, 159 (N.M. Ct. App. 2012)* ("An expert's testimony may be based on inadmissible evidence, and until such expert testimony crosses the line from the formation of an independent opinion based on underlying raw data to a reliance on the conclusions and opinions of the author of the autopsy or a mere parroting of the report's findings, then that testimony is admissible subject to the rules of evidence."); *State v. Manion, 173 Wn. App. 610, 295 P.3d 270, 273 (Wash. Ct. App. 2013)* **[***22]** ("[A] testifying expert may base his or her opinion on a nontestifying expert's testimonial statement, so long as the testifying expert has exercised independent judgment."); *Kennedy, 735 S.E.2d at 922*.

NH[5] [5] We agree with the proposition that ***HN9*** the *Confrontation Clause* is not violated when an expert testifies regarding his or her independent judgment, even if that judgment is based upon inadmissible testimonial hearsay. We conclude that this approach strikes the proper balance between a defendant's confrontation rights and the valuable role expert testimony plays in a criminal trial. Thus, here, we must determine whether the State's experts have applied their "own training and experience" to Walker's statements or have acted merely as "transmitter[s] for testimonial hearsay." *Johnson, 587 F.3d at 635*.

Citing *Johnson*, the trial court stated that "it is helpful ... to also consider the degree of an expert's reliance on the testimonial statements of another as a spectrum." It then stated, however, that on one end of the spectrum are "testimonial statements [that] are nothing more than technical test data or machine readouts," and on the other end "are testimonial statements which require so **[***23]** much subjective knowledge and observation that they are fraught with error and bias." The trial court concluded that "[i]f ... the experts' opinions can be explained in a manner that is **[*54]** *independent from* the subjective observations and potential bias of another, then they comply with the requirements of the *Confrontation Clause*." (Emphasis added.)

NH[6] [6] The trial court misconstrued *Johnson* and erred in its analysis for two reasons. First, it did not address the extent to which the experts' opinions resulted from the exercise of independent judgment based upon training and experience; rather, it focused upon the reliability of the underlying testimonial statements. However, ***HN10*** the Supreme Court's *Confrontation Clause* jurisprudence under the Federal Constitution forecloses an analysis in which some forms of testimonial hearsay are considered more inherently reliable than others. *See Melendez-Diaz v. Massachusetts* [**1231] , 557 U.S. 305, 317-18, 129 S. Ct. 2527, 174 L. Ed. 2d 314 (2009) (rejecting any distinction, for *Confrontation Clause* purposes, between testimony that is the "result of neutral, scientific testing" and testimony that recounts "historical events"). *But see State v. Ata*, 158 N.H. 406, 409, 969 A.2d 419 (2009) (noting that we have not [***24] adopted *Crawford* under our State Constitution and, thus, applying the "indicia of reliability test" set forth in *Ohio v. Roberts*, 448 U.S. 56, 100 S. Ct. 2531, 65 L. Ed. 2d 597 (1980)).

NH[7] [7] Second, ***HN11*** the question is not whether an expert can explain his opinion in a manner that is *independent from* testimonial statements; rather, it is whether the expert brings his own independent judgment to bear on the facts before him. *See Johnson*, 587 F.3d at 635. So long as the expert applies "his training and experience to the sources before him and reach[es] an *independent judgment*, ... [t]he expert's opinion will be an original product that can be tested through cross-examination," and thus will not violate a defendant's rights under the *Confrontation Clause*. *Id.* (emphasis added).

NH[8,9] [8, 9] ***HN12*** "[T]he reconciliation of *Crawford*, *Melendez-Diaz*, and *Bullcoming* — which forbid the introduction of testimonial hearsay as evidence in itself — with Rule 703, which permits expert reliance on otherwise inadmissible testimonial hearsay ... necessarily involve[s] a case-by-case assessment as to the quality and quantity of the expert's reliance." *Ramos-González*, 664 F.3d at 5. Here, we conclude that the State's experts have each applied their independent judgment [***25] to Walker's statements and that they are not acting as mere "transmitters" of testimonial hearsay. Norton relied upon several types of evidence in reaching his conclusions, including physical evidence from the scene and field tests, as well as witness interviews. Norton testified that it is common practice in the fire science field to rely upon witness statements. Further, although Norton assumed the truth of Walker's statements, in reaching his opinions, he also considered the fact that she was unharmed, and applied his knowledge of fire science and his experience.

[*55] Cox and Pijaca also relied upon several types of evidence, including physical evidence and fire studies, as well as Walker's statements and the statements of other witnesses. Cox testified that NFPA 921 specifically requires fire experts to consider witness statements.

Further, it is apparent that the experts reached their own independent conclusions based upon the facts disclosed by the prior investigation. Walker's statements have little significance as to the cause and origin of the fire in the absence of the experts' knowledge of fire science. For example, Walker's statements that she was able to see across the room and [***26] did not experience much coughing take on significance only when coupled with the experts' knowledge that smoldering fires (*e.g.*, fires caused by "smoking materials") produce substantial amounts of smoke before turning to flame. Because the experts have applied their own knowledge to the facts before them, they are not acting as mere "transmitters" of testimonial statements of others, including Walker; rather, they are "true expert[s] whose considered opinion[s] shed[ ] light on [a] specialized factual situation." *Johnson*, 587 F.3d at 635. Thus, the *Confrontation Clause* does not prohibit them from testifying regarding their opinions, so long as they

do not testify as to Walker's statements on direct examination. *See* Commonwealth v. Barbosa, 457 Mass. 773, 933 N.E.2d 93, 106-07 (Mass. 2010) (prosecution's expert is limited on direct examination to "the expert's opinion and matters of which [**1232] the expert has personal knowledge"; on cross-examination, defendant can "open the door ... to testimony regarding the basis for the expert's opinion"), *cert. denied*, 131 S. Ct. 2441, 179 L. Ed. 2d 1214 (2011); *see also* N.H. R. Ev. 705.

NH[10] [10] The defendant argues that without the introduction of Walker's statements, the experts would be providing [***27] only meaningless conclusions to the jury and, thus, their testimony would be more prejudicial than probative. *See* N.H. R. Ev. 403. We disagree. Our holding — disallowing "basis evidence" in the form of testimonial statements of an unavailable witness on direct examination of a State's expert, but allowing a defendant to explore those statements on cross-examination — is based upon well-established legal principles. *See, e.g.*, Barbosa, 933 N.E.2d at 106-07; *see also* Carignan v. N.H. Int'l Speedway, 151 N.H. 409, 418, 858 A.2d 536 (2004). Further, this is precisely the scenario addressed by New Hampshire Rule of Evidence 705: ***HN13*** "[An] expert may testify in terms of opinion or inference and give reason therefor without prior disclosure of the underlying facts or data ... . The expert may ... be required to disclose the underlying facts or data on cross-examination." *See also* N.H. R. Ev. 703 (data underlying expert opinion need not be admissible). Here, the experts may testify, on direct examination, that they relied upon witness statements, among other evidence, in reaching their conclusions. *See* United States v. Henry, 472 F.3d 910, 914, 374 U.S. App. D.C. 149 [*56] (D.C. Cir. 2007) (noting that *Crawford* "did not alter an expert [***28] witness's ability to rely on (without repeating to the jury) otherwise inadmissible evidence in formulating his opinion"); State v. Huettl, 305 P.3d 956, 966 (N.M. Ct. App. 2012) ("What has emerged as clearly permissible under the Confrontation Clause and under the Federal Rule of Evidence 703 ... is expert, scientific testimony based upon facts or data of which the expert has been made aware, even when those facts or data would otherwise be inadmissible, provided that the expert testifies only to his or her own, independently derived conclusions."), *cert. granted*, 300 P.3d 1182 (N.M. March 1, 2013). The defense can explore the basis of those conclusions on cross-examination in whatever detail it deems useful to impeach them. *See* Barbosa, 933 N.E.2d at 106-07.

NH[11] [11] The defendant argues that allowing the experts to testify on direct examination regarding their opinions without testifying as to Walker's statements puts him in the untenable position of choosing between his right to cross-examine the experts and his right to confront Walker. We disagree. If offered on [***29] direct examination, the testimonial statements could only be understood as being offered for their truth. *See* Williams, 132 S. Ct. at 2268-69 (Kagan, J., dissenting). On cross-examination, elicitation of Walker's statements would be for the purpose of impeaching the experts' opinions. *Cf.* United States v. Hudson, 970 F.2d 948, 956 (1st Cir. 1992) ("Impeachment evidence ... is admitted not for the truth of the matter asserted but solely for the fact that the witness' trial testimony is less believable."). Because, on cross-examination, Walker's statements would not be offered for their truth, the Confrontation Clause is not violated. *See* Crawford, 541 U.S. at 60 n.9; *cf.* Barbosa, 933 N.E.2d at 106 ("A defendant ... cannot reasonably claim that his right to confront the witnesses against him is violated by the admission of evidence that he elicits on cross-examination.").

NH[12] [12] [**1233] Even if introduction of Walker's testimonial statements on cross-examination is "forced" upon the defendant, we do not conclude that the defendant's rights are thereby violated. ***HN14*** "The criminal process, like the rest of the legal system, is replete with

situations requiring the making of difficult judgments as to which [***30] course to follow." State v. Williams, 115 N.H. 437, 442, 343 A.2d 29 (1975) (quotations omitted). "Although a defendant may have a right, even of constitutional dimensions, to follow whichever course he chooses, the Constitution does not by that token forbid requiring him to choose." *Id.* (quotation omitted). "The threshold question is whether compelling the election impairs to an appreciable extent any of the policies behind the rights involved." *Id.* (quotation omitted).

NH[13] [13] [*57] ***HN15*** The purpose behind the Confrontation Clause is to "secure for the opponent the opportunity of cross-examination." Davis v. Alaska, 415 U.S. 308, 315-16, 94 S. Ct. 1105, 39 L. Ed. 2d 347 (1974) (emphasis omitted). "The Confrontation Clause was designed to root out the 'principal evil' of using '*ex parte* examinations as evidence against the accused.'" Peak v. Webb, 673 F.3d 465, 478 (6th Cir. 2012) (quoting Bryant, 131 S. Ct. at 1152). ***HN16*** In the context of expert testimony, the Confrontation Clause is meant to prohibit experts from acting merely as transmitters of the testimony of others. *See* Johnson, 587 F.3d at 635. This purpose is not compromised by the defendant's choice, "forced" or otherwise, to elicit underlying testimonial statements through an expert witness [***31] who is not acting as a mere transmitter of testimonial hearsay. *See id.* When an expert renders his own independent judgment as to the significance of others' testimonial statements, "[t]he expert's opinion will be an original product that can be tested through cross-examination." *Id.*; *see also* Barbosa, 933 N.E.2d at 107-08.

Based upon the foregoing, we hold that the trial court erred in ruling that to allow the State's experts to testify regarding their opinions would violate the defendant's rights under the Confrontation Clause to the Federal Constitution. We, therefore, reverse that ruling.

The trial court also ruled that the defendant's rights under the State Constitution are co-extensive with his rights under the Federal Constitution. Thus, it analyzed only Sixth Amendment cases, including *Crawford*, in finding a violation of the State Constitution. Because we have found no federal constitutional violation, the trial court's finding of a state constitutional violation, based upon federal jurisprudence, must necessarily be vacated. We note that "we have not adopted, and neither party argues that we should adopt, *Crawford* as applicable to claims under the State Constitution." State v. Lègere, 157 N.H. 746, 750, 958 A.2d 969 (2008). [***32] Nor have the parties "address[ed] the applicability of the Confrontation Clause test we have adopted — namely, that of Ohio v. Roberts, 448 U.S. 56, 100 S. Ct. 2531, 65 L. Ed. 2d 597 (1980)." Brooks, 164 N.H. at 282.

As a final matter, the trial court found that allowing the experts to testify would violate not only the defendant's rights to confrontation, but also RSA 516:29-a, as well as Rules of Evidence 403, 702 and 703. Because this ruling was based entirely upon the trial court's mistaken conclusion that the experts' opinions had to be "independent from" Walker's statements, we vacate it and remand for reconsideration in light of this opinion. We note that the trial court did not address the defendant's challenges to the State's experts' scientific methods and principles. Accordingly, we make no ruling as to those issues.

[*58] [**1234] *III. One-Party Telephonic Interception*

The State argues that the trial court erred by excluding a recording of a one-party consensual telephonic interception (one-party intercept) conducted on January 3, 2002. In late 2001, Kurt Frazier, who knew the defendant in 1989, came forward with additional information about the fire. Thereafter, Senior Assistant Attorney General Simon Brown scheduled a one-party [***33] intercept for January 3, 2002. On January 3, 2002, Keene police intercepted a telephone call made by Frazier, who was at the Keene Police

Department, to the defendant, who was in California. Brown orally authorized the intercept for the time period between 6:30 p.m. on January 3, 2002, and 12:00 a.m. on January 4, 2002. Frazier spoke with the defendant between the authorized hours, and their conversation was recorded.

Both before and during the conversation, Brown made handwritten notes. The notes reference the statements made by Frazier to the authorities that the defendant admitted to lighting Walker's couch on fire. The notes also document that there were two attempts to contact the defendant: one at 6:40 p.m., which was unsuccessful; and the other at 7:14 p.m., at which time Frazier spoke with the defendant. During the course of the conversation, the defendant appeared to become suspicious, and he did not provide any information. Six days later, on January 9, 2002, Brown prepared a formal memorandum setting forth the basis for his determination that reasonable suspicion existed to authorize the one-party intercept.

The defendant moved to suppress all evidence related to the intercept. **[***34]** The defendant argued, among other things, that suppression was required because the State did not make a written memorandum of its reasonable suspicion determination within seventy-two hours following the oral authorization, as required under *RSA 570-A:2, II(d)* (2001). The trial court granted the defendant's motion to suppress the recording of the intercept, and the State appeals that ruling.

HN17 Pursuant to *RSA chapter 570-A*, New Hampshire's wiretapping statute, it is generally unlawful for any person to "[w]ilfully intercept[ ] ... any telecommunication or oral communication" without the consent of all parties to the communication. *RSA 570-A:2, I(a)* (2001). However, it is not unlawful for:

> An investigative or law enforcement officer in the ordinary course of the officer's duties pertaining to the conducting of investigations of ... offenses enumerated in this chapter ... to intercept a telecommunication or oral communication, when such person is a party to the communication or one of the parties to the communication has given prior consent to such interception; **[*59]** provided, however, that no such interception shall be made unless the attorney general, the deputy attorney general, or **[***35]** an assistant attorney general designated by the attorney general determines that there exists a reasonable suspicion that evidence of criminal conduct will be derived from such interception.

RSA 570-A:2, II(d). The statute provides that if oral authorization is given, "a written memorandum of [the reasonable suspicion] determination and its basis shall be made within 72 hours thereafter." *Id.* ***HN18*** A person is guilty of a misdemeanor if "the person knowingly intercepts a telecommunication or oral communication when the person is a party to the communication or with the prior consent of one of the parties to the communication, but without the approval required by *RSA 570-A:2, II(d)*." *RSA 570-A:2, I-a* (2001). The statute also contains an exclusionary provision, which states, ***HN19*** "Whenever any telecommunication **[**1235]** or oral communication has been intercepted, no part of the contents of such communication and no evidence derived therefrom may be received in evidence in any trial ... if the disclosure of that information would be in violation of [*RSA chapter 570-A*]." *RSA 570-A:6*.

The trial court suppressed the State's recording of the intercept because it found that the State violated *RSA 570-A:2, II(d)* **[***36]** by failing to file a written memorandum setting forth a determination of reasonable suspicion and its basis within seventy-two hours following the intercept. The State challenges the trial court's ruling on three grounds, asserting that: (1) Brown's handwritten notes made contemporaneously with the intercept constitute a "written memorandum"

satisfying RSA 570-A:2, II(d); (2) intercepted recordings obtained pursuant to RSA 570-A:2, II(d) are not subject to the statute's exclusionary provision; and (3) even if the exclusionary remedy applies to intercepts that do not comply with RSA 570-A:2, II(d), the State's failure to timely file a memorandum constitutes a "technical violation" only, which should not result in suppression.

We assume, without deciding, that Brown's handwritten notes do not qualify as a "written memorandum" under RSA 570-A:2, II(d) and that RSA 570-A:6 applies to intercepts authorized under RSA 570-A:2, II(d). We nonetheless conclude that the State's failure to timely file its written memorandum does not require suppression of the recording.

Whether RSA chapter 570-A precludes disclosure of the contents of an intercepted communication presents an issue of statutory interpretation. **[***37]** *See* State v. MacMillan, 152 N.H. 67, 70, 872 A.2d 1031 (2005). ***HN20*** In matters of statutory interpretation, we are the final arbiter of legislative intent as expressed in the words of the statute considered as a whole. *Id.* We first examine the language of the statute and ascribe the plain and ordinary meanings to the **[*60]** words used. *Id.* Furthermore, we interpret statutes in the context of the overall statutory scheme and not in isolation. *Id.* If the statute's language is clear and unambiguous, we do not look beyond the language of the statute to discern legislative intent. *Id.*

NH[14] [14] ***HN21*** RSA 570-A:6 requires suppression only "if the *disclosure* of [evidence derived from the intercept] would be in violation of [the] chapter." (Emphasis added.) The legislature, pursuant to RSA 570-A:2, I(c) and (d), has expressly set forth the circumstances under which the disclosure or other use of the contents of an intercept violates the chapter: a violation occurs when the information is "obtained" in violation of RSA 570-A:2. *See* RSA 570-A:2, I(c), (d). Thus, as long as the intercepted information is obtained lawfully under the chapter, RSA 570-A:6 does not require suppression. *See* RSA 570-A:6; *see also* RSA 570-A:9, IX(a) (2001) (suppression **[***38]** warranted when "[t]he communication was unlawfully intercepted," "[t]he order of authorization or approval ... is insufficient," or "[t]he interception was not made in conformity with the order of authorization or approval").

HN22 Under RSA 570-A:2, II(d), a law enforcement officer, in the course of conducting an investigation of offenses enumerated under the chapter, may intercept communications as long as either the officer "is a party to the communication or one of the parties to the communication has given prior consent to such interception." RSA 570-A:2, II(d). However, before the officer may conduct an intercept, the attorney general or the attorney general's designee must determine that there is reasonable suspicion that evidence of criminal conduct will be derived from the **[**1236]** intercept. *Id.* Authorization may be given in writing or orally. *See id.*

NH[15] [15] Here, the State obtained the intercepted information lawfully under RSA 570-A:2, II(d). There is no dispute on appeal that the State was investigating one of the offenses enumerated under the chapter, that Frazier consented to the intercept, and that Brown orally authorized the intercept based upon reasonable suspicion that evidence of criminal **[***39]** conduct would be derived from the intercept; the trial court did not find otherwise. Under these circumstances, we cannot conclude that the State's three-day delay in meeting the *post-intercept* written memorandum requirement vitiates the lawfulness of the intercept. Because the intercept was "obtained" lawfully under the chapter, RSA 570-A:6 does not require suppression. *Cf.* United States v. Chavez, 416 U.S. 562, 575, 94 S. Ct. 1849, 40 L. Ed. 2d 380 (1974) (finding **[*61]** that, under federal wiretapping law, suppression is mandated only if "disclosure" would violate the law). Accordingly, we reverse the trial court's suppression order.

Reversed in part; vacated in part; and remanded.

DALIANIS, C.J., and HICKS, LYNN and BASSETT, JJ., concurred.

The State of New Hampshire

MERRIMACK, SS **SUPERIOR COURT**

Vention Advanced Medical Components, Inc., d/b/a Advanced Polymers

v.

Nikolaos D. Pappas
and
Ascend Medical, Inc.

No. 2014-CV-00604

ORDER

Two discovery disputes are pending before the Court. First, the parties dispute whether or not certain employees of the Plaintiff, Vention Advanced Medical Components Inc., d/b/a Advanced Polymers ("Advanced Polymers"), are expert witnesses within the meaning of RSA 516:29-b, so that they are required to provide expert reports. Second, Advanced Polymers moves to compel answers to Interrogatories 1 through 7 and Requests for Production 1 through 4, which in substance, require Defendants, Nikolaos D. Pappas and Ascend Medical, Inc., to specify the documents upon which they rely to support their claim and counterclaim that Advanced Polymers' supposed trade secret is not a trade secret at all, but is easily ascertainable from documents in the public domain.

On January 8, 2016, Advanced Polymers also sought a status conference to discuss the expert witness dispute by letter brief in accordance with Business Court Standing Order 10. Defendants responded, Plaintiff replied, and a hearing was held on January 22, 2016, after which the parties agreed that the Court could decide the substantive issue raised by the parties' letter briefs in order to advance the conduct of the litigation. For the

reasons stated in this Order, the Court orders that Plaintiff shall provide an expert disclosure from Mark Saab with respect to Subject 8 and Subject 14 of Plaintiff's identification of Mark Saab as a non-retained expert, filed on December 11, 2015, to the extent his testimony with respect to area number 14 involves "testimony concerning those topics concerning defendant." Similarly, Mr. Testa and Mr. Girarde, other employee expert witnesses disclosed by Advanced Polymers, must provide expert reports within the meaning of RSA 516:29-b if they opine regarding the Defendant's costs involved in developing and marketing its products and its profit margin, as explained in the body of this Order.

Advanced Polymers sought a status conference to discuss the interrogatories and request for production at issue by letter brief dated December 2, 2015. After a status conference on December 22, 2015, the parties briefed the issue and agreed that the Plaintiffs opening letter brief would be treated as a Motion to Compel. For the reasons stated in this Order, the Motion to Compel is GRANTED and Defendants shall answer the Interrogatories and Requests for Production referenced in the letter brief.

I

This case involves a claim by the Plaintiff that the Defendant Nikolaos Pappas, a former employee of Plaintiff, is utilizing trade secrets to which he was given access during his employment by Plaintiff. Both parties agree that RSA 516:29-b is applicable to disclosure of expert testimony to be produced in this case. RSA 516:29-b, II provides in relevant part:

> Except as otherwise stipulated or directed by the court, this disclosure shall, with respect to a witness who is retained or specially employed to provide expert testimony in the case or whose duties as an employee of the party

regularly involve giving expert testimony, be accompanied by a written report signed by the witness.

On December 9, 2016 the parties stipulated that:

> With respect to any person any party may use at trial to present evidence under New Hampshire rules of evidence 702, 703 or 705 who is not required to provide a report pursuant to RSA 516:29-B, each party shall identify each person who may provide such testimony and shall also identify the topics that such person may testify about as a possible expert. Plaintiff shall provide such disclosures on or before December 11, 2015 and defendant shall provide such disclosures on or before January 29, 2016.

On the date set for Advanced Polymer's expert disclosures, December 11, 2015, Plaintiff provided written expert reports for retained experts and provided written disclosures identifying the subject matter that identified individuals employed by Plaintiff might testify about. Saab's disclosure indicated that he would likely testify about a number of topics, including confidential and trade secret information developed and used by Advanced Polymers with respect to the manufacture of medical balloons and heat shrink tubing and analysis of how Defendants' processes and equipment and raw materials are based on confidential trade secret or proprietary information of Advanced Polymers. A total of 15 topics were identified for Saab.

On the January 8, 2016, Defendants' counsel suggested to Plaintiff's counsel that Saab could not provide testimony that commented on Defendants' processes or information received from Defendants because he had not prepared an expert report. At oral argument, counsel for Defendants asserted that he believed that counsel for Plaintiff had a made tactical decision to evade the plain meaning of the statute. Plaintiff denied this claim and stated that he believed the statute provided specifically that expert reports were not necessary for Advanced Polymer employees who would be testifying as expert witnesses, but that he had proposed the disclosure scheme in an abundance of caution to

insure that all parties had appropriate discovery. He pointed out that although the disclosure was provided on December 11, 2015, counsel for the Defendants never raised the claim that an expert report should be provided for almost a month, which, at the very least, suggests that defense counsel did not believe there was anything improper about the way in which Advanced Polymers was proceeding.

The Court finds no improper conduct on the part of Plaintiff's counsel. However, the terms of the agreement entered into by the parties required a disclosure with respect to witness who "was not required to provide a report pursuant to RSA 516:29-b." The Court must therefore analyze whether a witness is required to provide a report under the stipulation and the statute.

II

When the legislature enacted RSA 516:29-b, the Judiciary Committee noted that the enactment of the statute would "not be a significant change in current practice." N.H. Judiciary Committee Hearing Report, S. 04-0362 (Feb. 9, 2004) (statement of Attorney Honigberg). Moreover, the statutory language "data or other information" was taken directly from the 1993 version of Fed. R. Civ. P. 26(a)(2)(B). See id. ("[T]he language is straight from Federal Rule 26.") (statement of Attorney Honigberg). Precedent, practice, and the Legislature's reliance on the language of Fed. R. Civ. P. 26(a)(2)(B) in enacting RSA 516:29-b in 2004, indicates that statutory interpretations of Fed. R. Civ. P. 26(a)(2)(B) are helpful.[1] Thus, application of the

[1] Although not germane to this dispute, the statute was amended in 2013 to track recent changes in Fed. R. Civ. P. 26(j)(2)(B).

majority interpretation of Fed. R. Civ. P. 26(a)(2)(B) will ensure that the construction of RSA 516:29-b is consistent with the Legislature's intent.

The general rule in the federal courts is that an expert witness who is not retained and who does not generally testify as an expert witness is not required to prepare an expert report. Wright & Miller, 8A Federal Practice and Procedure § 2301.1 (3rd Ed. 2015). The courts have drawn a distinction between treating physicians and positions retained for the purpose of giving expert opinion testimony; while the former need not provide expert reports, the latter must. See, e.g., Downey v. Bob's Disc. Furniture Holdings, Inc., 633 F.3d 1, 9 (1st Cir. 2011) ("[W]here, as here, the expert is part of the ongoing sequence of events and arrives at his causation opinion during treatment, his opinion testimony is not that of a retained or specially employed expert."); Sprague v. Liberty Mut. Ins. Co., 177 F.R.D. 78, 81 (D.N.H. 1998). The New Hampshire Supreme Court has never addressed this issue, but Superior Court judges have specifically taken this view of RSA 516:29-b, II. Razzaboni v. Halle, Hillsborough County Superior Ct., Northern District, No. 05-C-0475 (May 16, 2006) (Order, Lewis, J.); Blouin v. Sanborn, Hillsborough County Superior Ct., Northern District, Nos. 05-C-0254 and 05-E-0152 (Feb. 9, 2006) (Order, Mangones, J.).

While the distinction is usually applied to treating and non-treating physicians, the same analysis is applicable in cases involving other areas of expertise. See, e.g., Guar. Tr. Life Ins. Co. v. Am. Med. and Life Ins. Co., 291 F.R.D. 234, 238 (N.D.Ill. 2013) (holding that a former employee who was a certified public accountant could testify to expert opinions despite not having provided an expert report because he was proffered

for his knowledge of the transactions at issue and not for the purpose of reviewing the materials expressly for litigation). Federal courts have applied a bright line test that:

> Non-retained experts must only testify about opinions formed during the course of their participation in the relevant events of the case, and only those opinions which were properly disclosed. As a result, [the expert] may only testify to opinions formed during, and as part of, his employment with [the defendant], and not those they developed later or in anticipation of litigation.

Id. at 237.

The Court believes this principle is applicable to the facts of this case. Saab's disclosure relates almost exclusively to Advanced Polymers' confidential and/or trade secret information. It recites that he will testify about Advanced Polymers' products (¶¶ 1–2), Advanced Polymers' processes for manufacturing products (¶¶ 3, 4, 5, 7, 9, 10, 12 & 15), and Advanced Polymers' marketing information (¶¶ 10–11). The disclosure also recites that he will testify as to an explanation of files reviewed by Pappas prior to his departure from Advanced Polymers and the possible use of those funds. All of these areas involve Saab's activities at Advanced Polymers. Similarly, paragraph 13 of the disclosure states that Saab will testify as to career opportunities in the medical device and plastics industries. If this testimony is based on his experience at Advanced Polymers, no report is necessary.

Paragraph 8 of the disclosure, however, indicates that Saab will testify to a "analysis of Defendants' processes and equipment and raw materials and how the same are based on confidential/trade secret information proprietary to" Advanced Polymers. Such information could not have been part of Saab's work at Advanced Polymers, because he was not aware of Defendants' processes and equipment and raw materials until this litigation began. Paragraph 14 recites that Saab will testify about steps

required for developing and manufacturing heat shrink balloons and also states that "this may also include testimony concerning the topics concerning defendants although at this point very limited information has been provided and even more limited information has been made available to Mr. Saab based on the designations under the protective order in this matter." By its very terms, the disclosure recognizes that the information to be testified to does not involve information obtained during the course of Saab's employment at Advanced Polymers. Accordingly, Advanced Polymers shall provide an expert disclosure with respect to the subject areas described in paragraphs 8 and 14 of the disclosure, to the extent the testimony involves activity engaged in by Defendants.

Advanced Polymers has also provided summaries, pursuant to the parties' agreement, for four other expert employee witnesses, Robertson, Fisher, Testa and Gilarde. The disclosures for those individuals relate almost exclusively to Advanced Polymers or the industry. Assuming they testify to information learned about during their employment, no expert report need be provided. Testa's disclosure states in relevant part that he may provide testimony concerning costs involved in development and marketing and selling as well as margins and profits for Advanced Polymers. He may do so without providing an expert report. However, his disclosure states that he "may also provide testimony as to these topics as they relate to defendant's costs and profits." He may not do so unless he provides an expert report on these subjects. Similarly, Gilarde's disclosure states that he may provide testimony relating to Advanced Polymers' product line, its uniqueness in the medical device field, and costs involved in developing, manufacturing, marketing, and selling heat shrink tubing and medical

balloons. He may do so without providing an expert report. The disclosure states that he "may also provide testimony of these topics as they relate to defendants' costs and profits." If he intends to do so, an expert report on these subjects must be provided.

III

Advanced Polymers has moved to require Defendants to answer Plaintiff's Interrogatories 1 through 7 and Document Requests 1 through 4. Advanced Polymers requested a status conference and filed a letter brief on this issue on December 2, 2015. The Court held a status conference, but the parties could not narrow the dispute. The Court ordered that the December 2 letter would be treated as an opening brief, an objection would be filed on or before January 11, 2016, and a reply would be filed on January 21, 2016. The Court ordered that the dispute would be resolved on the papers.

The dispute between the parties is straightforward. Plaintiff alleges that the Defendants have expropriated their trade secrets. Defendants assert both in their affirmative defenses and their counterclaims that Plaintiff's trade secrets are in the public domain. (See Defs.' Am. Answer to Am. Compl. with Affirmative Defenses and Counterclaims ¶ 174 ("[I]nformation Vention seeks to protect . . . is easily obtainable and readily ascertainable through . . . review of patents or other public domain information or otherwise.").) Defendants allege in their first counterclaim that Plaintiff has engaged in unfair and deceptive trade practices by "falsely claiming . . . that it had developed unique technologies involving the biaxial orientation of plastics when in fact these technologies been have well known for decades." Accordingly, in a series of interrogatories and production requests, Advanced Polymers essentially asked Defendants to specify the documents it will rely on for the proposition that information

Advanced Polymers seeks to protect is easily obtainable and readily ascertainable by reviewing patents and other public domain information. For example, Interrogatory number 2 of Plaintiff's Fifth Set of Interrogatories states:

> 2. State with specificity any facts and/or sources of information and identify all documents that demonstrate that Vention's processes (step-by-step) for production of PET heat shrink tubing, including all equipment used in processing conditions, is disclosed in the public domain.

Defendants objected that the interrogatories required it to provide *all facts* which demonstrate that each step of the process used to manufacture heat shrink tubing is in the public domain. (Defs.' Obj. ¶ 5.) Defendants answered, by stating that "it is not possible to identify all 'facts' and 'sources' and all 'documents' which demonstrate that each step of the processes used to manufacture heat shrink tubing or tubing samples is in the public domain." Subject to its objection, Defendant's interrogatory answer went on to state:

> Mr. Pappas will nevertheless attempt to identify the most significant steps or elements involved in the processing of nylon tubing so it can be used for certain medical applications; some of the categories of information which are publicly available about such debts and elements; and some examples of such information . . . .

Defendants then provided a list of sources it describes as "examples."

In its letter brief, Advanced Polymers pointed out that it did not request information about *all facts* that demonstrate that the processes it claims are a trade secret are in the public domain, but rather "the identity of the sources that demonstrated that the process used by defendants was disclosed in the public domain." (Advanced Polymer's Letter Brief, Dec. 2, 2016, at 3.) Much of Defendants' Objection asserts

positions that are irrelevant to this dispute.[2] Whether through misapprehension or otherwise, they take the position that the interrogatory requests are overbroad because the Plaintiff is requesting Pappas "to compile information and documents about what is or is not in the public domain, whether or not he is currently aware of it, and whether or not he used such information in his own independent development efforts." (Defs.' Obj. ¶ 22.) This is plainly not what was requested.

Defendants do raise one substantive issue: that requiring any further disclosure would constitute an invasion of work product. (Defs.' Obj. ¶ 27.) Defendants take the position that they are not required to disclose information regarding what is in the public domain that they intend to rely upon at trial, based on the work product privilege. Defendants Objection quotes an e-mail sent by defense counsel to plaintiff's counsel in which he articulates this view:

> To repeat . . . I thought our responses were very clear. Based on memory, I'm pretty certain we said that, even if plaintiff had not exceeded the 25 interrogatory limit:
>
> Plaintiff has the burden of proof on all elements of our trade secret claim. We do not have the burden of proof regarding what is or is not in the public domain, and *we have not yet determined what evidence we may or may not offer at trial with respect to this issue. We cannot be compelled to create this work product for plaintiff's benefit.*

(Defs.' Obj. ¶ 3 (emphasis added).)

Defendant's position is illustrated by the excerpts of the deposition of Pappas included in Plaintiff's Reply. In response to questioning about what patents he relied upon to establish that certain technology was in the public domain, defense counsel

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[2] For example, two headings of the Objection state "Plaintiff Has Not Properly Identified the Trade Secrets At Issue in This Case," and "Plaintiff Concedes That It Cannot Make the Same Products as Mr. Pappas." (Defs.' Obj. ¶¶ 16–23, 24–25.)

refused to allow him to answer. (Pappas Dep. 921:10–922:4.) At several points, Pappas refused to answer questions about what information he relied upon to establish that certain technology was by asserting the work product privilege. (Pappas Dep. 929:3–931:13.)

Defendants' view of the breadth of the work product doctrine is simply incorrect. In the first place, under the Superior Court rules:

> [A] party must, without awaiting a discovery request, provide to other parties . . . a copy of all documents, electronically stored information, and tangible things that the disclosing party has in his or her possession, custody or control and a used to support his or her claims or defenses unless the use would be solely for impeachment.

Super. Ct. R. 22(a)(2). While recognizing their obligations under the rule, Defendants take the position that requiring them to identify what documents they rely upon in order to make a claim and counterclaim that Advanced Polymers' alleged trade secret is in fact in the public domain would violate the work product doctrine.

The work product doctrine developed at common law and exists to protect litigants from being forced to reveal their litigation strategy. Riddle Spring Realty v. State, 107 N.H. 271, 224 (1966). Consistent with the federal doctrine, the New Hampshire Superior Court Rules provide that a party may obtain discovery of documents prepared in anticipation of litigation, and otherwise discoverable, only under certain circumstances, and in ordering discovery of such materials, a court "shall protect against disclosure of the mental impressions, conclusions, opinions, or legal theories of an attorney or other representative of a party concerning the litigation". Super. Ct. R. 21(e)(1). But the work product doctrine does not allow a party to shield facts from discovery:

> A party may not use the fact that relevant information sought is work product to block discovery. Courts will generally order production of the information sought, in any form in which the producing party can gather it, reserving the right to claim work product protection for a particular document. They will not countenance refusal to provide factual information on the grounds that it purportedly exists only in work product form. Interrogatories can always be imposed and must be answered even if the particular work product document need not be produced.

E.S. Epstein, The Attorney-Client Privilege and the Work Product Doctrine 803 (5th ed. 2007)

It is not clear in the instant case that any of the interrogatories, requests for production, or deposition questions would, in fact, even require the production of a document. Rather, the requests appear to be directed to Defendants with the intention that the Defendants designate the facts upon which they will rely at trial. This is entirely proper:

> The courts have consistently held that the work product concept furnishes no shield against discovery, by interrogatories or by deposition, of the facts that the adverse party's lawyer has learned, or the person from whom he has learned such facts, or the existence or nonexistence of documents, even though the documents themselves may not be subject to discovery.

State Farm Mut. Auto. Ins. Co. v. New Horizon, Inc., 250 F.R.D. 203, 214 (E.D. Pa. 2008) (quoting Wright & Miller, 8A Federal Practice and Procedure § 2023). "There is simply nothing wrong with asking for facts from a deponent even though those facts may have been communicated to the deponent by the deponent's counsel." Id. at 214 (quoting In re Linerboard Antitrust Litig., 237 F.R.D. 373, 384 (E.D. Pa. 2006)); see also GT Crystal Sys., LLC v. Khattak, Merrimack County Superior Ct., No. 2011-CV-332 (Jan. 6, 2014) (Order, McNamara, J.).

While the work product doctrine protects against the disclosure of protected documents or communications, it does not protect the underlying facts from disclosure.

Koch Materials Co. v. Shore Slurry Seal Inc., 208 F.R.D. 109, 122 (D.N.J. 2002) (citing Upjohn Co. v. United States, 449 U.S. 383, 395–96 (1981)). Courts generally reject the proposition that "discovery requests which seek to require a party to identify the evidence that it will rely to establish his legal positions are barred by the attorney work product privilege". Pentair Water Treatment Co. v. Cont'l Ins. Co., 2009 U.S. District LEXIS 106424 (S.D.N.Y. Nov. 16, 2009) *4.

Illustrative is United States ex rel. Englund v. Los Angeles County, 235 F.R.D. 675 (E.D.Cal. 2006), a *qui tam* action in which the defendant raised the defense of public disclosure. The plaintiff in that case sent an interrogatory requesting "each public disclosure of allegations or transactions in a criminal, civil or administrative hearing . . . that you claim this lawsuit is based upon"and an interrogatory requesting the defendant to "[s]tate all facts that support in any way to your claim that this lawsuit is based upon public disclosure of allegations or transactions in a criminal, civil or administrative hearing." Id. The defendant responded by objecting and referring the plaintiff to 3000 pages of documents. Id. The plaintiff moved to compel, and the court granted the motion, noting that under the Federal Rules of Civil Procedure the "plaintiff is entitled to receive the facts supporting defendant's defense in this action. Citing to 3000 pages of documents is insufficient." Id. at 682.[3]

Defendants make one last argument in support of its claim that it should not be required to produce the documents upon which it intends to rely. It points to the provision in Super. Ct. R. 22 that documents for use in impeachment need not be

[3] The New Hampshire rule is, of course, broader than the federal rules. In New Hampshire a party is entitled to discovery of anything which might reasonably lead to admissible evidence.

produced. (Defs.' Obj. ¶ 27.) The short answer to this argument is that as a counterclaim plaintiff, Pappas is required and obligated to make the same production as any plaintiff. Moreover, it is generally accepted that impeachment evidence admissible for substantive purposes is subject to the automatic disclosure provisions of Fed. R. Civ. P. 26 (a) which is similar to the New Hampshire Superior Court Rule 22 and requires automatic disclosure. Newsome v. Penske Truck Leasing Corp., 437 F. Supp.2d 431, 436 (D. Md. 2006).

It follows that the Plaintiff is entitled to know what public domain documents upon which Defendants intend to rely to prove their counterclaim that Plaintiff's trade secret is in the public domain. The Interrogatories and Requests for Production filed by Plaintiff, which are the subject of the letter brief, must be answered by the Defendants.

The Court intends to post this order on the Business and Commercial Dispute Docket webpage. Accordingly, if a party believes that any portion of the Order should be redacted, it shall advise the Clerk by February 5, 2016.

1/28/16
DATE

Richard B. McNamara
Richard B. McNamara,
Presiding Justice

RBM/