IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

UNITED STATES OF AMERICA, v. RICARDO C. WILLIAMS, Defendant.	CRIMINAL CASE NO. 1:03-CR-636-5-JEC

REPORT AND RECOMMENDATION

Pending before the court is Defendant Ricardo Williams' motion [Doc. 267] to introduce the result of a polygraph examination and brief in support filed on August 8, 2005. The Government responded opposing the introduction of the result of the polygraph examination. [Doc. 277]. An evidentiary hearing, conducted pursuant to Daubert v. Merrill Dow Pharmaceuticals, Inc., 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993), was held on September 8 and 9, 2005, before the undersigned.[1] Defendant contends that the result of the polygraph examination is admissible as being offered "for the purpose of corroborating his trial testimony." [Doc. 267 at 6]. He

[1]Citations to the evidentiary hearing transcript: (Tr. at).

argues that he has satisfied the requirements set forth in United States v. Piccinonna, 885 F.2d 1529 (11th Cir. 1989), and in Daubert and, for this reason, the result of the examination is admissible at trial. [Docs. 267 and 320]. The Government, however, contends that Defendant has not demonstrated that the result of the polygraph examination administered in this case is admissible and opposes admissibility on numerous grounds, including, Federal Rules of Evidence 403, 608, 702 and 704.[2] [Docs. 277 and 332]. After consideration of all the evidence presented, the court finds that the polygraph examination evidence is not admissible under either Fed. R. Evid. 403 or 702.

1. Background Facts

Defendant Williams was initially indicted on October 29, 2003, in conjunction with four (4) other named defendants, and charged with conspiring to rob a Bantek West armored car, in violation of 18 U.S.C. § 1951. [Doc. 1]. The attempted armored car robbery occurred on October 3, 2003. [Id.]. Defendant Williams, who was not present during the robbery, but worked for Bantek West, is alleged to have provided information to the named co-Defendants to plan and execute the robbery. [Id.].

[2]The court advised counsel that it would consider admissibility of the expert evidence under Rules 403 and 702. (Tr. at 429-30).

During the attempted robbery, one of the Bantek West guards was shot and killed and a second guard was shot. [Id.]. On August 9, 2005, a superseding indictment was filed additionally charging Defendant with a violation of 18 U.S.C. § 924(c) and alleging that Defendant was aware that the named co-defendants would use and carry firearms during the attempted armed robbery. [Doc. 268].

Defendant's attorney hired Richard D. Rackleff, Federal Polygraph Associates, to conduct a polygraph examination of Defendant. (Tr. at 12). Mr. Rackleff retired from the Federal Bureau of Investigation ("FBI") in 1990, where he had conducted polygraph examinations since 1979. Since 1990, he has owned and operated Federal Polygraph Associates and continues to conduct polygraph examinations. (Tr. at 4-5, Def. Ex. 1). Based on his training, background and experience, the court qualified Mr. Rackleff as an expert in the administration of polygraph examinations.[3] (Tr. at 4-12).

[3]However, the court notes that Government witness James Murphy, formerly a Supervisory Special Agent and Unit Chief of the FBI's Polygraph Unit, whose responsibilities included reviewing and overseeing the administration of polygraph examinations by FBI field agents, such as Mr. Rackleff, testified that during the last few years of Mr. Rackleff's federal service his performance deteriorated. (Tr. at 88-103, 134-35, 153-55; Gov't Ex. 2, A). During cross-examination, Mr. Rackleff conceded that among the "high profile" cases he had worked on since his retirement from the FBI, he had given a polygraph examination to Fred Tokars concerning his involvement in the death of Mrs. Tokars and found that Mr. Tokars, who denied involvement, non-deceptive. A jury subsequently convicted Mr. Tokars of involvement in the death of

On May 31, 2005, Mr. Rackleff met with Defendant Williams to conduct the polygraph examination. (Tr. at 12). Each examination contains three (3) parts: the pre-test interview (which is a key part of the testing process), the end-test (during which the questions are posed and physiological data recorded on charts)[4], and the post-test. (Tr. at 13-14). The examination was conducted without any participation by the FBI. (Tr. at 50). And, the examination was not videotaped. (Tr. at 52). During the pre-test interview, Mr. Rackleff advised Defendant Williams that the testing results were privileged and confidential and would only be released to his lawyer and would not be released to anyone else unless authorized by the lawyer. (Tr. at 49).

---

his wife. (Tr. at 69-70). Mr. Rackleff also conducted a polygraph examination of Elliott Wiggington, associated with Foxfire Books, who was accused of child molestation and denied having committed the charged act of improper touching of children. Mr. Rackleff found Mr. Wiggington non-deceptive on the issue of the actual act alleged; however, Mr. Wiggington later confessed to the charged child molestation. (Tr. at 70-71). Most importantly, as will be discussed herein, Mr. Rackleff's polygraph examination of Defendant Williams has serious flaws and calls into question Mr. Rackleff's qualifications.

[4]The physiological responses captured during the examination are: two (2) tracings recording breathing cycle and distribution of oxygen (scored as one (1) component) by pneumatic tubes around the chest and stomach, one (1) tracing recording the cardiovascular system by an arm cuff, and one (1) tracing recording galvanic skin reflex ("GSR") by metal bands placed on two (2) fingers. (Tr. at 15-16).

In order to conduct the polygraph examination, Mr. Rackleff formulated comparison questions and relevant questions based on his pre-test interview with Defendant and his examination of the indictment and related materials. These questions were constructed because he was using the Zone Comparison Testing ("ZCT") format to conduct the examination.[5] (Tr. at 12-14, 30-31). According to Mr. Rackleff, this structured testing format is taught by the premier training facility, Department of Defense Polygraph Institute ("DODPI"), and used by state and federal agencies, including the FBI.[6] (Tr. at 14-15). Mr. Rackleff described the testing format, that he asserted he used to test Defendant Williams, as follows:

> . . . it's a structured test containing ten questions, three being relevant, three being controlled or comparative questions, and then irrelevant and sacrifice relevant questions. It's a structured format in which the five questions [sic] and seven questions [sic] are directly strong relevant questions dealing with the area of his knowledge and involvement and the tenth question being a secondary or evidence-connecting question. That's the way that format is designed, and that's what was used in this test - - in this case. . . .

---

[5]This term is used interchangeably with Control/Comparison Question Test ("CQT") format. (Tr. at 106).

[6]The Government's witnesses, Mr. Murphy and Supervisory Special Agent Robert Melnick, do not dispute this statement and agree with Mr. Rackleff's description, *infra*, of the structured testing format as taught at DODPI and used by the FBI for investigative purposes. (Tr. at 107-09, 148, 380, 391-92).

> The relevant question deals with the relevant issues. A comparative question is used to compare his physiological responses to the relevant area. The comparative questions are similar in nature, but separated by time and date. . . .

(Tr. at 14-15). Mr. Rackleff testified that the questions in the format he used have to meet certain criteria. (Tr. at 31). If properly constructed, a non-deceptive person will have greater reactions to the comparative questions (such as, prior to the date of the charged crime, have you ever engaged in any illegal activity), than to the questions relevant to the charged crime (such as, did you rob the bank on a date certain). (Tr. at 32-33).

In this case, the ten (10) questions[7] used by Mr. Rackleff during the polygraph examination are:

1. Are you known by the name Ricardo Williams?
SR2. Regarding the armed robbery of the Bantek West guards on Oct. 3, 2003, do you intend to be truthful on this polygraph test?
E3. Are you convinced that I will not ask you any question on this test, other than those we reviewed?
C4. Prior to that Bantek robbery on Oct 3, have you ever participated in any other theft or illegal activities before?
R5. Were you ever made aware that those individuals planned to rob the Bantek guards on the evening of Oct 3, 2003?

[7]SR denotes sacrifice relevant questions; E denotes irrelevant questions; C denotes comparative questions; and R denotes relevant questions.

C6. [Not considering] that robbery by those individuals on Oct 3, did you ever plot with anyone else to pull a robbery of an armored car?
R7. Did you ever agree to help set up the robbery of the Bantek guards?
E8. Is there something else you are afraid I will ask you a question about, even though I have told you I would not?
C9. Prior to the shooting of the Bantek guards on Oct. 3, 2003, did you ever cover up for anyone involved in a serious crime?
R10. Did you ever have an agreement with anyone to receive part of the proceeds for your assistance in the Bantek robbery?

(Def's Ex. 9). The questions are asked four (4) times with Defendant's physiological responses captured for each question sequence on separate charts. (Tr. at 21-30; Def's Exs. 4-7). Mr. Rackleff then used a scoring system "in which each comparison is made according to scoring rules. You compare the relevant question number 5 against the adjacent comparative questions number 4 and number 6."[8] The scoring rules Mr. Rackleff used are established by the DODPI. (Tr. at 35-37). Based on his use of those DODPI rules, Mr. Rackleff testified that he determined that Defendant was

[8]On cross-examination, Mr. Rackleff confirmed that to score Defendant's responses, he compares the reaction to the relevant question to the surrounding control questions. (Tr. at 57). Mr. Melnick agreed with Mr. Rackleff's description of the DODPI scoring system in that only the surrounding comparison questions can be compared to the relevant question being scored. For example in this case, comparison questions 4 and 6 are scored against relevant question 5 and comparison question 9 is scored against relevant question 10. (Tr. at 426-28).

being non-deceptive to the relevant questions. (Tr. at 37-38; Def's Exs. 2, 8). It is this conclusion that Defendant seeks to have admitted at trial.

2. Legal Framework

Federal Rules of Evidence 702 provides:

> If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliability to the facts of the case.

And, Rule 403 of the Federal Rules of Evidence provides:

> Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence.

With respect to application of Rules 702 and 403 to the issue of admissibility of polygraph examinations, three (3) decisions of the Eleventh Circuit Court of Appeals establish the framework by which the issue should be resolved: United States v. Henderson, 409 F.3d 1293 (11th Cir. 2005); United States v. Gilliard, 133 F.3d 809 (11th Cir. 1998); and Piccinonna, 885 F.3d 1529.

In Piccinonna, the court of appeals held that the results of a polygraph examination are admissible in evidence either upon stipulation of the parties or to impeach or corroborate the testimony of a witness at trial. Piccinonna, 885 F.2d at 1536. In this case, the parties have not stipulated to the admissibility of the polygraph examination result. Defendant seeks to introduce the result to corroborate his testimony at trial. [Doc. 267 at 6]. As such, he must satisfy three prerequisites for the result to be admissible under Piccinonna: (1) "the party planning to use the evidence at trial must provide adequate notice to the opposing party that the expert testimony will be offered[;]" (2) "the opposing party [must be] given reasonable opportunity to have its own polygraph expert administer a test covering substantially the same questions[;]" and (3) "the admissibility of the polygraph administrator's testimony will be governed by the Federal Rules of Evidence for the admissibility of corroboration or impeachment testimony." Id.

Defendant provided notice on July 13, 2005, of his intent to introduce the result of his polygraph examination. [Doc. 259]. And, at least as of August 8, 2005, Defendant notified the Government of his availability for a second polygraph examination. [Doc. 267]. The final prerequisite is not ripe for determination prior to trial. Accordingly, for the purpose of resolving the instant motion, the court will

assume that Defendant has satisfied the requirements set forth in Piccinonna for the admissibility of his polygraph examination result. However, this being the case, "a district court can exercise its discretion to exclude the polygraph evidence under other applicable rules of evidence[,]" such as Rules 702 and 403. Gilliard, 133 F.3d at 812; see also Henderson, 409 F.3d at 1302; United States v. Duque, 176 F.R.D. 691, 693-94 (N.D. Ga. 1998) (". . . Piccinonna does not mandate the admissibility of all polygraph evidence that is proffered for the purpose of corroboration. Instead, the Court of Appeals left the decision of polygraph admissibility to the trial court's discretion in applying Rules 702 and 403.").

In resolving whether polygraph examination results are admissible pursuant to Rule 702, courts look to the Supreme Court's decision in Daubert, "which requires expert scientific evidence to be both reliable and relevant. . . ." Henderson, 409 F.3d at 1302. "[T]he evidence must: (1) constitute scientific knowledge; and (2) assist the trier of fact to understand the evidence or to determine a fact at issue." Id.; see also Gilliard, 133 F.3d at 813. "The scientific knowledge question requires the trial court to consider the theory or technique upon which the testimony is based in light of at least five factors:

(1) whether the theory or technique can be and has been tested;

(2) whether the theory or technique has been subjected to peer review and publication;
(3) the known or potential rate of error for that theory or technique;
(4) the existence and maintenance of standards controlling the theory or technique's operation; and
(5) whether the theory or technique has attained general acceptance within the relevant scientific community."

Henderson, 409 F.3d at 1302 (citing Daubert, 509 U.S. at 593-94, 113 S. Ct. at 2796-97; Gilliard, 133 F.3d at 812).[9]

To answer the second question of whether the evidence will assist the trier of fact, "the Daubert Court underlined the enhanced importance and role Fed. R. Evid. 403 plays in excluding overly prejudicial evidence, because '[e]xpert evidence can be both powerful and quite misleading because of the difficulty in evaluating it.'" Id. (citing Daubert, 509 U.S. at 595, 113 S. Ct. at 2798). Application of Rule 403 will, therefore, assist in resolving the issue of admissibility under Rule 702 as well as provide an independent basis for determining whether the evidence should be admitted at trial.

The court will first address admissibility under Rule 702 and then under 403.

3. Discussion

---

[9]After consideration of the Daubert factors, the Eleventh Circuit Court of Appeals in both Henderson and Gilliard and the district court in Duque found that the polygraph examination evidence was not admissible. See Henderson, 409 F.3d at 1302-03; Gilliard, 133 F.3d at 812-15; Duque, 176 F.R.D. at 694-95.

a. Federal Rule of Evidence 702

Before conducting the analysis of the Daubert factors, the court will address the issue of qualification and credibility of the expert witnesses offered by the Defendant and the Government because the experts' testimony is challenged and because the court's evaluation of the relative credibility and weight given to these witnesses impacts its analysis of the evidence offered at the hearing. First, Defendant challenges (as he did at the evidentiary hearing) the qualifications of the Government's witness, Mr. Murphy, to testify as an expert on analysis of polygraph examinations.[10] Defendant points to the facts that Mr. Murphy lacks a background in conducting studies on polygraph examinations and in publishing peer reviewed articles on polygraph examination and that he lacks an educational background in psychology and related fields. [Doc. 320 at 11-14]. The court considered those arguments at the evidentiary hearing when Defendant opposed qualifying Mr. Murphy and declines to reconsider the decision made at the hearing. Mr. Murphy's extensive background in conducting, reviewing and evaluating polygraph examinations, his training in the field of polygraph examinations, his service on committees reviewing examination procedures and his

[10]Defendant did not contest that Mr. Murphy was qualified to offer expert testimony on the administration of polygraph examinations. (Tr. at 98).

ongoing and thorough review and study of the published materials on polygraph examinations, and the fact that he has been qualified as an expert witness in federal court (recently before United States Magistrate Judge Brill), all provide a sufficient basis for this court to consider his opinions on the analysis, as well as the administration, of polygraph examinations.[11] (Tr. at 87-104; Gov't Ex. 2, A).

In support of the admissibility of polygraph examination evidence, Defendant offered as an expert witness Charles Robert Honts, Ph. D. (Tr. at 169). Dr. Honts has an educational background in psychology and is currently a Professor of Psychology at Boise State University, in Idaho. He is a member of a number of professional societies and has served on committees conducting reviews and analysis of polygraph examination techniques. He has written extensively about the analysis of polygraph evidence and has been published after peer review of his materials, and he has conducted laboratory and field studies of polygraph examination. Dr. Honts presented an impressive, as well as lengthy, resume concerning his background and experience

---

[11]The court notes that, as regards analysis of polygraph evidence, Mr. Murphy primarily stated the position of scientists, from published and peer reviewed articles, and of the results from national studies on the issue of admissibility of polygraph evidence. The information on which he relied was admitted into evidence at the hearing. He sides with those scientists that believe that polygraph examination evidence does not satisfy the Daubert factors. (Tr. at 142).

in administering polygraphs and in analyzing polygraphs. (Tr. at 169-176; Def's Ex. 10, A). The court, therefore, qualified him as an expert witness to offer evidence on the issue of the administration and analysis of polygraph examination. (Tr. at 176). However, the court has serious concerns about the credibility of Dr. Honts' testimony on the issue before the court.

After considering all of Dr. Honts' testimony and reviewing his declaration, the conclusion the court reaches is that Dr. Honts "never met a polygraph examination that he didn't like" - including the examination conducted in this case in which the court finds, as will be discussed *infra*, some serious flaws. (Tr. at 261-63). This conclusion about Dr. Honts' position is not surprising as he represents the relatively small group of scientists who strongly support the admissibility of polygraph evidence and who oppose the relatively small group of scientists on the other side of the issue, opposing the admissibility of polygraph evidence. (Tr. at 194, 287-89). At the hearing, Dr. Honts rejected any proposal which might undermine the accuracy of polygraph evidence. Basically, according to him, those proposals lacked scientific support or were only supported by low quality studies or publications. According to Dr. Honts, only the studies conducted and articles published by the proponents of polygraph

evidence are high quality and deserving of consideration by this court. (Tr. at 194-96, 245, 248, 255, 267-84, 299).

The bias in Dr. Honts' perspective is illustrated by the fact that highly regarded and peer reviewed journals (as identified by Dr. Honts) publish the studies conducted by and the articles written by the opponents of polygraph evidence admissibility. (Tr. at 177, 224-25, 279). Also, although Dr. Honts struggled to avoid admitting the obvious, a recent report on polygraph examination reliability and validity issued by the National Academy of Science ("NAS") questioned the quality of all of the available studies regarding polygraph accuracy - including those in which Dr. Honts participated or on which he relies. (Tr. at 179, 317-23; Gov't Ex. 2, C-2). After culling through hundreds of studies, the NAS panel used approximately fifty (50) studies for its review, including several of those in which Dr. Honts participated and/or which he deemed "high quality" as compared to the "low quality" of those challenging his position. However, the NAS noted:

> Virtually all the available scientific evidence on polygraph test validity comes from studies of specific-incident investigations, so the committee had to rely heavily on that evidence. . . . The general quality of the evidence for judging polygraph validity is **relatively low**: the **substantial majority** of the studies most relevant for this purpose were **below** the quality level typically needed for funding by the National Science Foundation or the National Institutes of Health.

(Gov't Ex. 2, C-2 at 1) (emphasis added). In discussing the studies on polygraph accuracy, the NAS summary further states: "The quality of the studies varies considerably, but **falls far short** of what is desirable." (Gov't Ex. 2, C-2 at 2) (emphasis added).

Additionally, Dr. Honts is not above editing quotes or taking quotes out of context in his declaration to this court in order to support the arguments he makes as a proponent of the admissibility of polygraph evidence. For example, in his declaration submitted to the court, quoting from the NAS study referenced above, Dr. Honts states:

> d. The National Research Council of the National Academy of Science recently reviewed the scientific research concerning the validity of the polygraph. Although they were critical of the use of non-specific issue polygraphs as a national security screening tool, they reached the following conclusions about specific issue polygraphs used in criminal cases:
>
> > The available evidence indicates that in the context of specific-incident investigations and with inexperienced examinees untrained in countermeasures, polygraph tests as currently used have value in distinguishing truthful from deceptive individuals.
> > No alternative techniques are available that perform better,
> > . . .

(Tr. at 313-14; Def's Ex. 10 at 22).[12] However, as the Government pointed out, Dr. Honts left out a sentence critical of his position which preceded the last line he quoted for the court: "However, they are far from perfect in that context, and important unanswered questions remain about polygraph accuracy in other important contexts." (Tr. at 314; Gov't Ex. 7). Dr. Honts' explanation that beginning the last sentence he quoted on a new line indicated the omission of the sentence critical of his position is weak. (Tr. at 315). If not intending to intentionally mislead the court, this omission at least exemplifies Dr. Honts' bias. Another of Dr. Honts' citations to the NAS report in a published article confirms the court's decision to place little reliance on Dr. Honts' expert opinion or his interpretation of the studies concerning polygraphs.

In a paper published by the Cambridge University Press, attached to the declaration submitted to the court, Dr. Honts cited again to the NAS study in support of the accuracy of polygraph examinations: "The National Research Council (NRC) of the National Academy of Science recently completed an extensive review of the polygraph. They included a wider variety of studies in their review . . . and came up with an overall accuracy estimate of 86 per cent (NRC, 2003)." (Tr. at 353-55; Def's

[12]As closely as possible, given the differences in font and margin, the quotation appears as it does in Dr. Honts' declaration.

Ex. 2, C at 110). However, in the executive summary of the NAS study, after noting the problems with both laboratory and field studies, the report concludes that the accuracy rates (presumably the 86% cited by Dr. Honts) are "almost certainly" or "highly likely" to "overestimate real-world polygraph accuracy." (Tr. at 353-55, 375-77; Gov't Ex. 2, C-2 at 2-3). Although Dr. Honts acknowledged that "[i]t might have been[ ]" fairer to place the percentage he quoted in the context of the executive summary, he did not - - apparently because he did not agree with those qualifiers and, the court assumes, only his opinion matters. (Tr. at 355, 377). This court, however, is not so persuaded.

Taking into account these incidents - as well as other testimony that will be noted *infra* concerning the examination given in this case - and the court's observation of the witnesses, Mr. Murphy and Dr. Honts, as they testified and giving due consideration to the witnesses' backgrounds and qualifications, the court makes the following findings of fact on the Daubert factors.

b. Testing of Theory/Technique and Known or Potential Rate of Error

Because the analysis of these two (2) factors involves consideration of overlapping facts and evidence, the court will address both in conjunction. After consideration of the credible evidence presented at the hearing, the court finds that

neither the theory of nor the technique (in this case ZCT/CQT) of polygraph examination can be adequately tested and that there is no reliable measure of the accuracy of a polygraph's ability to detect deception.

A polygraph examination measures an individual's physiological responses to questions posed during the end-test phase of the examination. There is no known physiological response to lying. (Tr. at 104, 265-66, 294; Gov't Ex. 2, C-2 at 2). There is no scientific theory involved; instead, the studies attempt to test a hypothesis or a rationale, such as: Is a properly administered ZCT/CQT polygraph examination capable of producing a high rate of accuracy in determining deception? (Tr. at 106-07, 181-83, 266, 294-95). The problems with testing this hypothesis are many. First and of significance, psychological states besides deception can trigger the same physiological responses captured during a polygraph examination. As concluded in the NAS study:

> Almost a century of research in scientific psychology and physiology provides little basis for the expectation that a polygraph test could have extremely high accuracy. Although psychological states often associated with deception (e.g., fear of being judged deceptive) do tend to affect the physiological responses that the polygraph measures, these same states can arise in the absence of deception. Moreover, many other psychological and physiological factors (e.g., anxiety about being tested) also affect those responses. Such phenomena make polygraph testing intrinsically susceptible to producing erroneous results. . . .

> Polygraph research has not developed and tested theories of the underlying factors that produce the observed responses. Factors other than truthfulness that affect the physiological responses being measured can vary substantially across settings in which polygraph tests are used. There is little knowledge about how much these factors influence the outcomes of polygraph tests in field settings. For example, there is evidence suggesting that truthful members of socially stigmatized groups and truthful examinees who are believed to be guilty or believed to have a high likelihood of being guilty may show emotional and physiological responses in polygraph test situations that mimic the responses that are expected of deceptive individuals. The lack of understanding of the processes that underlie polygraph responses makes it very difficult to generalize from the results obtained in specific research settings or with particular subject populations to other settings or populations, or from laboratory research studies to real-world applications.

(Gov't Ex. 2, C-2 at 2; see also Gov't Ex. 9 and Tr. at 285-86, 294-95).

Additionally, as recognized in the NAS report, there are problems inherent in the use of both laboratory and field studies to attempt to test the accuracy of polygraph examination results, thus undermining claims that such studies establish reliable error rates. (Tr. at 112-119; Gov't Ex. 2, C-2 at 2-4; Gov't Ex. 9 at 213-15; Gov't Ex. 10). See United States v. Orians, 9 F. Supp. 2d 1168, 1171 (D. Ariz. 1998) (discussing and finding significant the problems with laboratory and field testing of polygraphs). The court has already noted that NAS deemed the studies available as "falling far short" of the type usually relied on to test scientific theories/techniques. (Gov't Ex. 2, C-2 at 2). The potential for the use of countermeasures to "beat the box" also undermines

reliance on the studies undertaken to test accuracy, as well as calling into doubt the results of a given polygraph examination. If successfully employed, countermeasures (about which much has been written and disseminated to the public) go undetected and sabotage the result of the examination. (Tr. at 120-23, 139-40, 149, 202-10, 267).[13]

Recognizing the problems with the studies attempting to test the validity of polygraphs, the fact that lying does not produce a set of verifiable physiological responses, and the other environmental and situational factors impacting these examinations, the NAS report concluded that estimates of polygraph accuracy is overstated and that "[t]he evidence is insufficient to allow a quantitative estimate of the size of the overestimate." (Gov't Ex. 10 at 214). The NAS reached the following conclusion in attempting to estimate the accuracy of polygraph examinations:

---

[13]Dr. Honts recognized the existence of countermeasures and agreed that, if successful, they go undetected impacting the validity of the polygraph examination and conceded that he trained in approximately thirty (30) minutes, in the laboratory, students to employ countermeasures with a success rate of 40%. However, he gave little credence to the idea that countermeasures are a general concern in determining the accuracy of polygraph examinations. It seems to be Dr. Honts' opinion that only with his training on countermeasures can they be successfully employed and impact the accuracy of a polygraph examination's results. (Tr. at 202-10, 267, 279-85, 345-50). This self-centered reasoning is another example of why the court attributes little weight to Dr. Honts' opinions.

> Notwithstanding the limitations of the quality of the empirical research and the limited ability to generalize to real-world settings, we conclude that in populations of examinees such as those represented in the polygraph research literature, untrained in countermeasures, specific-incident polygraph tests for event-specific investigations can discriminate lying from truth telling at rates well above chance, though well below perfection.
>
> Accuracy may be highly variable across situations. The evidence does not allow any precise quantitative estimate of polygraph accuracy or provide confidence that accuracy is stable across personality types, sociodemographic groups, psychological and medical conditions, examiner and examinee expectancies, or ways of administering the test and selecting questions. In particular, the evidence does not provide confidence that polygraph accuracy is robust against potential countermeasures. There is essentially no evidence on the incremental validity of polygraph testing, that is, its ability to add predictive value to that which can be achieved by other methods.

(Gov't Ex. 9 at 214). See Henderson, 409 F.3d at 1303 (noting that the magistrate judge concluded "that the error rate for polygraph testing 'is not much more reliable than random chance and does not meet the stricter standards of scientific methods . . .'").

For these reasons, the court finds that polygraph examination techniques are not susceptible to reliable scientific testing and that there is insufficient evidence to establish a reliable error rate for polygraphs.

c. Peer Review and Publication

The court has been presented with a number of articles, publications, reports and related materials which concern the reliability and validity of various polygraph examination techniques. Most of those articles reference a multitude of other literature published on polygraphs. (Def's Ex. 10; Gov't Ex. 2). Accordingly, the court finds that polygraph examination techniques have been subjected to peer review and publication. See Henderson, 409 F.3d at 1302 ("finding that polygraph techniques were subject to peer review and publication . . .").

d. Existence and Maintenance of Controlling Standards

The court finds that this factor overwhelmingly weighs against admission of polygraph examination results in general and the examination conducted in this case specifically. While there are standards issued for the proper conduct of polygraph examinations, there is no enforcement mechanism for those standards. (Tr. at 130-32). See Henderson, 409 F.3d at 1303 (noting "that despite the presence of standards regulating polygraphers, all compliance is self-imposed . . ."). Also, based on the evidence presented, the court finds that the polygraph conducted in this case did not conform to the standards acknowledged by Mr. Rackleff as controlling. Finally, the court notes there are conflicting standards applicable to polygraph testing and scoring calling into question the reliability and accuracy of polygraph evidence.

One of the generally accepted standards, which Mr. Rackleff acknowledged as being one of the standards under which he operates, provides that polygraph examinations conducted for evidentiary purposes are to be videotaped. (Tr. at 53-54). The polygraph examination in this case, which Defendant seeks to use as evidence, was not videotaped, although Mr. Rackleff had the equipment necessary to do so. (Id.). Dr. Honts also acknowledged that videotaping polygraph examinations for admission into evidence was a standard practice and that videotaping the examinations provides a means to access the validity of the examination, especially the pre-test interview. He, in fact, always videotapes the polygraph examinations he conducts.[14] (Tr. at 325-27, 344-45). As will be noted *infra*, failure to videotape this polygraph examination does impact evaluation of the reliability and validity of the result.

Other generally accepted standards, part of the structured procedure by which to conduct a ZCT/CQT polygraph and as taught at DODPI, involve the types of and format for the questions propounded during the end-test portion of the examination.

[14]However, Dr. Honts testified that the failure to comply with this standard in this case did not impact his review of Defendant Williams' polygraph and that he was able to accurately score the test. (Tr. at 367). This is one example of Dr. Honts excusing a problem with the polygraph examination in this case in order to support his conclusion that it was reliable and should be admitted at trial.

As noted, the test format used in this case is the ZCT/CQT. (Tr. at 14). Mr. Murphy described the test procedure and rationale for the test as being:

> . . . designed to measure the truthfulness or deception of a person on a specific issue or issues by comparing the subject's physiological responses to relevant questions against control [or comparison] questions. Control/Comparison questions are unrelated to the offense at issue. The object is to develop questions to which the subject is led to answer no, but will doubt the truthfulness or accuracy of his/her answers. This theory assumes that persons who are truthful will be more concerned about the control/comparison questions than the relevant questions, and therefore have greater physiological responses when answering the control/comparison questions than when answering the relevant questions. Deceptive persons, on the other hand, will be more concerned about the relevant questions than about the control/comparison questions and will thus have greater physiological responses when answering the relevant questions.

(Gov't Ex. 2 at 2). All of the witnesses appeared to agree with this explanation of the testing format used in this case. (Tr. at 14-15, 185-88, 380). According to both Mr. Rackleff and Mr. Melnick, as taught at DODPI and as used by the FBI and other federal agencies, this is a structured format which depends on properly formulated relevant questions about the issue being tested and properly formulated comparison

questions, separated from the issue being tested by time and date.[15] (Tr. at 14-16, 391-92).

The evidence establishes that Mr. Rackleff did not follow the structured format in developing the relevant questions or the comparison questions, thus, invalidating the test conducted in this case. As noted, the comparison questions, according to the testing procedure established at DODPI and supposedly used in this case, must be separated by time and date from the issue of the examination. A comparison question should not be structured to include relevant conduct. A comparison question referencing the relevant conduct becomes a relevant question and compromises the examination. (Tr. at 109-10, 391-92). This restriction on formatting the questions makes perfect sense because one cannot compare physiological responses between

[15]Dr. Honts also testified that a properly structured ZCT/CQT consisted of relevant and comparison questions formatted following these rules and stated that he conducts all of his polygraph examinations following that structure as he was taught to do so at DODPI. However, when confronted with problems with the structure of the relevant and comparison questions in the polygraph examination at issue in this case, he quickly backtracked and claimed that following that format was not necessary and would not impact the result of the polygraph examination in this case. (Tr. at 185-88, 250-51, 335-39, 347-50). The court makes two (2) observations about this testimony: First, it constitutes another example of Dr. Honts offering up any explanation available to avoid invalidating the examination of Defendant Williams, and second, if believed, the testimony supports the finding that there are no uniform standards that govern the conduct of polygraph examinations.

relevant and comparison questions if the comparison question is a relevant question touching on the issue being tested.

Mr. Melnick, who was qualified as an expert in the administration of polygraph examinations and who currently conducts quality control of polygraph examinations for the FBI's Southeastern Region, determined that the polygraph examination administered to Defendant Williams was flawed because two (2) comparison questions incorporated relevant conduct. (Tr. at 391-97; Gov't Ex. 11). As noted, Defendant Williams is charged with a conspiracy to violate 18 U.S.C. § 1951, in that he, because of his employment with Bantek West, provided information for a period of time prior to the robbery about the armored car routes, the drivers, and related information to one or more of his co-Defendants for the purpose of planning a robbery of one of the armored cars. That robbery actually occurred on October 3, 2005. There is no indication that Defendant Williams was aware of the actual date of the robbery, and he was not present at the scene of the attempted robbery. Therefore, a properly constructed comparison question would need to avoid any conduct relevant to the conspiracy to commit the charged armed robbery and be separated from the alleged conspiracy by date and time. However, the first control question asked by Mr. Rackleff, C4, was: "Prior to that Bantek robbery on Oct 3, have you ever participated

in any other theft or illegal activities before?" (Tr. at 391-93). Using October 3 as the time bar is a problem because, the conspiracy charge alleges and includes conduct by Defendant Williams prior to October 3; therefore, "the reminder of the question 'participating in other illegal activities' would certainly fall into that category of relevancy . . . for this particular test." (Tr. at 393-94). In Mr. Melnick's opinion, the polygraph examination was invalidated by the improperly structured comparison question. (Tr. at 394). The same failure to properly structure a comparison question was found in C9: "Prior to the shooting of the Bantek guards on Oct. 3, 2003, did you ever cover up for anyone involved in a serious crime?" (Tr. at 394-95). This question also included relevant conduct.

And, finally, Mr. Melnick testified that the first relevant question, R5, asked was improperly structured and allowed or would have allowed Defendant Williams to rationalize and answer truthfully no: "Were you ever made aware that those individuals planned to rob the Bantek guards on the evening of Oct 3, 2003?" Defendant could have done all of the acts alleged by the Government and been a knowing participant in the attempted robbery without having any knowledge of the date that his co-conspirators intended to act. If so, he could have rationalized that he lacked the knowledge of the date, which is the focus of the question, and answered the relevant

question truthfully. (Tr. at 395-96). Mr. Rackleff acknowledged that the format of this question, which included a date specific, allowed or could have allowed Defendant Williams to rationalize a truthful response.[16] (Tr. at 58-59).

Even if these problems with the format of the questions asked did not invalidate the polygraph examination, there are issues with the scoring of the test that both point out the lack of reliability of this test and the apparent lack of standards superintending the operation of polygraph examinations. Mr. Rackleff scored the polygraph examination as non-deceptive presenting his scoring sheet and an explanation of that process. He testified that he used the scoring rules taught at the DODPI. (Tr. at 33-39; Def. Ex. 8). Mr. Melnick independently reviewed and scored the charts, using the rules and standards taught at the DODPI. He concluded that the result of the test was inconclusive. (Tr. at 383-91; Gov't Ex. 12).

Mr. Melnick voiced several concerns with the charts he reviewed and noted that Mr. Rackleff failed to make indications on the charts to account for deep breaths or potential movement by Defendant Williams which would normally be noted by a polygrapher. (Tr. at 387-89). According to Mr. Melnick, because he was not present

[16]Of course, Dr. Honts discerned no problems with either the relevant or comparison questions posed to Defendant Williams. (Tr. at 255-55, 346-50).

to observe, it is difficult for him to know exactly what happened during the examination. A videotape would have helped to evaluate the test. (Tr. at 388, 407-11). One scoring error that Mr. Melnick particularly noted had to do with a deep breath that Defendant Williams apparently took in connection with comparison question C9 being asked during one of the questioning sequences. Mr. Melnick discounted that comparison question and, therefore, following DODPI rules, did not score the following relevant question, R10. Mr. Rackleff had scored the response to R10 in Defendant's favor. (Tr. at 387-88).

Defendant did not challenge Mr. Melnick's scoring of the charts but noted that there may be a difference of opinion as to how the charts are read and that perhaps other scoring systems might result in different results. (Tr. at 398-412, 415-16, 418-20, 422). Dr. Honts noted the problem with the deep breath at C9 and, like Mr. Melnick, discounted that comparison question. (Tr. at 415, 422-23). He, however, claiming to use a different scoring system, that used in Utah, referred back to an earlier comparison question, C6, in order to score relevant question R10 in Defendant's favor. He testified that jumping back and forth to compare questions is standard practice. (Tr. at 415-16, 422-23; Def. Ex. 11). He initially testified that DODPI scoring rules allow for skipping around the test questions to compare physiological responses between

comparison questions and relevant questions. But he qualified that testimony by indicating, "That's my best recollection of what was being done in the late 1980's." (Tr. at 423-25). Mr. Melnick, without being disputed, testified that the DODPI scoring rule for ZCT/CQT, "which is steadfast, there's no exception to the rule here, you can only compare relevant - - relevant question 5 with either comparison question 4 or comparison question 6. Relevant question 7 can only be compared to question - - comparison question number 6 and relevant question 10 can only be compared to comparison question 9." (Tr. at 426-27). And, the examiner may not "jump over" the symptomatic question at position number 8 (which is specifically built into the testing format), which would have to be done to compare questions 6 and 10 and as done by Dr. Honts. Accordingly, R10 may not be scored impacting the overall examination result.[17] (Tr. at 427-28).

Two (2) conclusions, neither of which is favorable to Defendant's position, can be drawn from this testimony. First, the court could find that there is a standard for structuring questions and that there are standard scoring rules and practice which

[17]Although not questioned explicitly about the scoring rule in this context, Mr. Rackleff testified that in scoring Defendant's polygraph examination, he compared the adjoining comparison and relevant questions. (Tr. at 36, 57).

govern the operation of the ZCT/CQT polygraph format, that being the DODPI standards.[18] Although there is no enforcement mechanism, such standards may indicate that this factor under the Daubert test has been met. However, if that conclusion is adopted, the polygraph test in this case failed to comply in a number of ways with those standards and practices and, thus, is not reliable. Therefore, the polygraph evidence does not satisfy Rule 702 and is not admissible.[19] See Fed. R. Evid. 702 ("If 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, **if** . . . (3) the witness has applied the principles and methods reliability to the facts of the case.") (emphasis added).

---

[18]Given the uniform agreement that DODPI is the "Cadillac" of polygraph examination training and standards, the court declines to look to other practices and standards. (Tr. at 148).

[19]Another issue potentially impacts the reliability of the polygraph examination in this case pertaining to Defendant Williams' knowledge that the result of the examination was confidential and privileged - - in other words, that he had nothing to fear from taking the test as the result would not be disclosed to the Government unless he authorized the disclosure. (Tr. at 50). Tests given under these circumstances, a "friendly examination," may be less reliable. (Tr. at 131-323, 162-63).

On the other hand, if there are various and interchangeable standards and practices (as testified to by Dr. Honts) available to substitute if one practice or standard is not met in a given case or that can be used to validate, or invalidate, a polygraph examination or that provide for different scoring of one examination, this factor of the Daubert test has not been met. See Orians, 9 F. Supp. 2d at 1174. Whichever conclusion is adopted, this factor weighs heavily against introduction of the polygraph evidence.

e. General Acceptance within Scientific Community

The last factor to consider is whether there is a general acceptance of the polygraph examination technique within the relevant scientific community. The answer to that question has been best stated by the Supreme Court: ". . . there is simply no consensus that polygraph evidence is reliable. To this day, the scientific community remains extremely polarized about the reliability of polygraph techniques." United States v. Scheffer, 523 U.S. 303, 309, 118 S. Ct. 1261, 1265, 140 L. Ed. 2d 413 (1998).[20] The Court further stated that "[t]his lack of scientific consensus is reflected

[20]In the Scheffer case, the Supreme Court upheld, over Fifth and Sixth Amendment objections, a *per se* rule in court martial proceedings to exclude polygraph evidence. Id. at 309, 118 at 1254-65.

in the disagreement among state and federal courts concerning both the admissibility and the reliability of polygraph evidence." Id. at 310-11, 118 S. Ct. at 1265; see also Orians, 9 F. Supp. 2d at 1173-74. As found by the Eleventh Circuit Court of Appeals in Henderson, the same conclusion is as true in 2005 as it was in 1998. See Henderson, 409 F.3d at 1303 (noting the magistrate judge's determination "that polygraphy did not enjoy general acceptance from the scientific community . . .").

The evidence presented in this case also supports a finding that there is a lack of general acceptance of the admissibility of polygraph evidence. Recent surveys of the relevant scientific community indicate that a majority oppose the use of ZCT/CQT polygraph examination results in court. (Tr. at 128-29; Gov't Ex. 2, C-1). There are several surveys available offering various levels of approval of polygraph examination reliability, validity or admissibility. (Def. Ex. 10; Gov't Ex. 2). However, none in this court's opinion reflect the level of general acceptance necessary to satisfy this factor of the Daubert test.

For all of the foregoing reasons, the court finds that the polygraph examination evidence offered in this case does not satisfy Daubert and that, even if polygraph evidence might be found to be generally admissible under Daubert, the polygraph examination in this case is not reliable and, therefore, does not satisfy Rule 702.

f. Federal Rule of Evidence 403

"A trial court may exclude otherwise admissible evidence 'if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury. . . .'" Gilliard, 133 F.3d at 815 (quoting Rule 403). The court further noted that because expert evidence can be powerful and potentially misleading, "'the judge in weighing possible prejudice against probative force under Rule 403 of the present rules exercises more control over experts than over lay witnesses.'" Id. (quoting Daubert, 509 U.S. at 595, 118 S. Ct. at 2798). The court finds in this case that the probative value of the polygraph evidence proffered, which is slight, is greatly outweighed by the unfair prejudice to the Government, by the amount of time necessary to the present the evidence, and by the potential confusion of the issues.

First, if the polygraph examination result is admitted at trial, the jury will need to hear and evaluate much of the same evidence presented at the Daubert hearing. That hearing, without a jury and working judiciously, lasted over one and one-half days and involved the submission of many, many pages of documentary evidence. The Supreme Court discussed this problem as regards admitting polygraph evidence in Scheffer:

> Such collateral litigation prolongs criminal trials and threatens to distract the jury from its central function of determining guilt or innocence. Allowing proffers of polygraph evidence would inevitably entail

> assessments of such issues as whether the test and control questions were appropriate, whether a particular polygraph examiner was qualified and had properly interpreted the physiological responses, and whether other factors such as countermeasures employed by the examinee had distorted the exam results.

523 U.S. at 314, 118 S. Ct. at 1267; see also Gilliard, 133 F.3d at 815 (". . . a court may consider whether the amount of time needed to present the evidence would shift the focus of a criminal trial from determining guilt or innocence to determining the validity of the scientific method at use."); Duque, 176 F.R.D. at 695 (same). The court finds that introduction of the polygraph evidence in this case poses a serious threat of shifting the focus of the jury to the collateral matter of reliability and validity of polygraph evidence and that it will unduly prolong the trial.

Introduction of the examination result in this case will also unfairly prejudice the Government because the examination was conducted without notice to the Government or an opportunity to be present. See Gilliard, 133 F.3d at 816 (". . . the absence of such notice and opportunity may be a factor in determining whether admission of the polygraph evidence would unduly prejudice the adverse party.).[21] Given the problems

[21]In Gilliard, a case in which the polygraph examination was videotaped, the court still reached the conclusion that lack of notice and opportunity for the Government to be present resulted in undue prejudice. Id.

with the polygraph examination of Defendant which were identified *supra*, and especially in light of the fact this polygraph examination was not videotaped, the potential for unfair prejudice to the Government is enhanced. See Maddox v. Cash Loans of Huntsville II, 21 F. Supp. 2d 1336, 1341 (N.D. Ala. 1998) (finding that lack of notice about the polygraph examination and lack of an opportunity to participate weighs against Rule 403 admissibility).

Furthermore, the probative value of this polygraph examination is, at best, slight. The various problems with the examination have been identified, including, improper structure and formatting of questions and improper scoring of the charts. Also, the Government will introduce evidence that the test result is not non-deceptive but, in fact, inconclusive. The court fails to see how the polygraph evidence will assist the jury in any meaningful way, but it will most likely result in confusion. The polygraph evidence has slight probative value for another reason:

> The polygraph examiner can testify to only one matter - - that, in his or her opinion, the defendant's physiological responses indicated a lack of deception when, on another occasion outside of court, the defendant was asked certain questions. This opinion is a secondary and indirect indicia of truthfulness.

Duque, 176 F.R.D. at 695; see also Maddox, 21 F. Supp. 2d at 1340 (same). The court agrees that "[t]he polygraph evidence has questionable probative value at best." Maddox, 21 F. Supp. 2d at 1340.

Another issue is important to consider when deciding whether to admit polygraph evidence pursuant to Rule 403: whether it will "diminish the jury's role in making credibility determinations." Scheffer, 523 U.S. at 313, 118 S. Ct. at 1267. Considering this issue, the Supreme Court stated, "A fundamental premise of our criminal trial system is that 'the *jury* is the lie detector.'" Id. (quotation omitted) (emphasis in original); see also Duque, 176 F.R.D. at 695 ("[T]o shift the focus of trial to determining truthfulness based upon one person's opinion unduly invades the province of the jury to determine the credibility of all witnesses.").

For all of these reasons, including the facts that the polygraph examination in this case is seriously flawed, that polygraph evidence generally has little probative value, that the Government will be unduly prejudiced by introduction of the evidence, that the jury's focus may be shifted from its task of deciding guilt and innocence, and that there is potential for jury confusion, the court finds that the polygraph examination evidence is not admissible pursuant to Rule 403.

4. Conclusion

For the foregoing reasons and cited authority, the court **RECOMMENDS** that Defendant's motion [Doc. 267] to introduce the result of his polygraph examination be **DENIED**.

The Clerk is **DIRECTED** to terminate this reference.

SO RECOMMENDED this 4th day of October, 2005.

JANET F. KING
UNITED STATES MAGISTRATE JUDGE