

STATE OF SOUTH CAROLINA
IN THE SUPREME COURT

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S.C. SUPREME COURT

Appeal from Charleston County
The Honorable Deadra A. Jefferson, Circuit Court Judge
Court of Appeals Appellate Case No. 2019-001945
Opinion No. 2022-UP-336

IN THE MATTER OF THE CARE AND TREATMENT
OF RONALD MJ GREGG,

RESPONDENT.

**STATE OF SOUTH CAROLINA'S PETITION FOR WRIT OF
CERTIORARI TO THE COURT OF APPEALS**

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CERTIFICATE OF COUNSEL

Counsel for Petitioner certifies a Petition for Rehearing was made and finally ruled on by the court of appeals on November 8, 2022.

QUESTION PRESENTED

Did the court of appeals err in reversing Judge Jefferson's findings and conclusion regarding the reliability and admissibility of the PPG test results in light of the extensive evidence before Judge Jefferson from a well-qualified expert that established the PPG test has been thoroughly researched and peer reviewed, is accepted as a valid medical test by government agencies and a large insurance company, and is generally accepted in the mental health community?

STATEMENT OF THE CASE

This Court's certiorari review of the court of appeals opinion in this case is appropriate and necessary because the court of appeals overlooked facts in the record, misapprehended the law related to admissibility of expert opinions, and misapplied the appropriate standard of review on appeal. In particular, during a circuit court hearing, consistent with this Court's standards as set forth in State v. Jones, 343 S.C. 562, 541 S.E.2d 813 (2001), and State v. Council, 335 S.C. 1, 515 S.E.2d 508 (1999), the State presented sufficient evidence of the penile plethsmograph (PPG) testing methodology, reliability and admissibility as it related to the expert's opinion on the question of whether Respondent is a sexually violent predator under South Carolina law.

The court of appeals' apparently *de novo* determination regarding the PPG reliability and admissibility was based on specific factual and legal concerns neither challenged in the circuit court, nor argued in the parties' briefs before the court of appeals. In addition, the court of appeals failed to recognize and give due deference to the findings and legal conclusions of Judge Deadra

Jefferson after a full evidentiary hearing. The court of appeals decided the case without oral argument, which would have afforded Petitioner an opportunity to address, for the first time, the new concerns raised in the unpublished court of appeals opinion, as well as the substantial evidence in the record regarding the general reliability and acceptance of the PPG test.

The State raised these issues in its Petition for Rehearing and Petition for Rehearing *En Banc*, with a specific request for oral argument, which were denied by the Court of Appeals. The issue of admissibility of PPG evidence, particularly in sexually violent predator proceedings, is an important novel issue in South Carolina. The State now petitions this Court for a writ of certiorari to the court of appeals for the Court to review the court of appeals decision and correct the errors therein.

STATEMENT OF FACTS

In 2008, Respondent Ronald MJ Gregg pled guilty in Charleston County to two counts of criminal sexual conduct with a minor in the second degree, and was sentenced to concurrent terms of fifteen years incarceration on each count. Prior to Respondent's release from incarceration, Respondent State of South Carolina commenced proceedings pursuant to the Sexually Violent Predator Act (SVPA) seeking Respondent's commitment to the South Carolina Department of Mental Health (DMH) as a sexually violent predator, for long term, control case and treatment. The matter was called for a jury trial on November 18, 2019, before Judge Deadra Jefferson.

Respondent moved to exclude any testimony by the State's expert regarding a PPG performed during a comprehensive psychosexual evaluation of Respondent's mental status and risk to reoffend sexually. The circuit court conducted a full evidentiary hearing pursuant to State

v. Council,¹ during which Marie Gehle, Psy.D, of DMH, testified for Respondent, and Emily Gottfried, Ph.D, of the Medical University of South Carolina (MUSC), testified for the State.

Dr. Gehle's Pre-Trial Testimony Regarding the PPG

Dr. Gehle testified she had worked at DMH for ten years and performed approximately 250 sexual predator evaluations. She stated she was "familiar" with the PPG, but had never conducted one, and her knowledge regarding the PPG was based on "a lot of reading about it, studying about it." She testified she did not use the PPG "[b]ecause of the lack of standardization of the tests, subjectivity and the differences in the administration and interpretation of the test," as well as "a lack of research supporting the reliability and validity of the stimulus sets." (Record on Appeal [R.], pp. 75-79).

On cross-examination, Dr. Gehle admitted she never witnessed a PPG test being administered or interpreted, she never received any training regarding administration or interpretation of a PPG, and she was not qualified or certified to operate a PPG machine. Dr. Gehle acknowledged other DMH evaluators doing sexual predator evaluations under the SVPA did use the PPG as part of the evaluation process. She also acknowledged the only information she had regarding standardization issues was from articles, and she had never reached out to other professionals familiar with the PPG, or even the manufacturer of the PPG machine used by MUSC, to get additional information about those issues. (R., pp. 90-96).

Dr. Gottfried's Pre-Trial Testimony Regarding the PPG

Dr. Gottfried testified she is the director of the Sexual Behavior Clinic and Lab (SBCL) at MUSC, an assistant professor in psychiatry and behavior sciences at MUSC, and a licensed clinical

¹335 S.C. 1, 515 S.E.2d 508 (1999).

psychologist in South Carolina. She stated the PPG is part of her standard protocol in SVPA evaluations, but it is only one part of a comprehensive evaluation.

Dr. Gottfried is a certified clinical analyst to read and report on the results from the Limestone manufactured PPG machine, which includes the stimulus set known as Real Child Voices (RCV). She explained the PPG test in detail, during which the examinee sits alone in a comfortable chair in a private room, he is covered up and he puts a strain gauge on his penis. The examinee is presented with scenarios describing sexual situations with children, teenagers and adults, and his responses to the stimulus sets are compared to his arousal, or millimeters of change in the circumference of the penis, for consenting adults and stimuli (normal responses). (R., pp. 99-102).

Dr. Gottfried testified MUSC uses a standardized measurement in its PPG, which is more conservative than the standard recommended in published literature, because having “a false positive would be an awful thing in a case like this.” “The literature recommends 10 percent of an erection, which is 2.5 millimeters, [MUSC uses] five millimeters.” She stated Canada uses one millimeter, and also includes child pornography in its stimulus sets, which is not legal in the United States. (R., pp. 102-103).

As to standardization concerns, Dr. Gottfried testified she is a member of the International Standardization group, and the main standardization issue is the difference between countries regarding what images can be used in a PPG. Labs using the Limestone system do have a standardized method of interpreting the PPG, but internationally, there are labs that use their own stimuli or are able to show stimuli that other countries cannot use. The RCV stimulus set is part of the Limestone system, and between forty and eighty-five labs across the United States use it. (R., pp. 103-104).

Dr. Gottfried testified the Diagnostic and Statistical Manual of Mental Disorders, 5th Ed. (DSM-V),² states that “the most thoroughly researched and longest used of [psychophysiological] measures is [the PPG], although the sensitivity and specificity of diagnosis may vary from one site to another.” In addition, the PPG has been subjected to peer review and publication, including at least 100 articles, based on studies of “thousands of subjects from lots of studies, and the studies found the PPG is reliable and consistent,” and it is considered the “single best measure of deviant arousal and has good internal consistency.” The PPG is recommended in the professional guidelines of the Association for the Treatment of Sex Abusers (ATSA), as well as mentioned in best practices textbooks, as an important tool to consider and use in conducting sexually violent predator evaluations,. (R., pp. 105-109).

Dr. Gottfried further testified there are multiple quality control measures in the MUSC PPG lab, including training and certification by Limestone (the PPG machine manufacturer) of all lab personnel. The PPG gauges are calibrated multiple times in the same way, and the software will not let someone perform a PPG until the gauge is properly calibrated. There are countermeasures to ensure reliability and consistency in administering PPG, including sound checks and standardized instructions, and the PPG machine and software are designed to detect movements or other things that will affect the results. She testified the MUSC PPG lab has the highest certification a lab can obtain, meaning everything is standardized as required, including humidity and temperature in the lab. (R., pp. 109-110).

According to Dr. Gottfried, the PPG is important to measure the examinee’s preferential arousals to certain stimuli, i.e., arousal to deviant stimuli compared to arousal to consenting adult

²The DSM-V is the official, peer reviewed publication of the American Psychiatric Association. Matter of Ridley, 433 S.C. 316, 858 S.E.2d 165, 168 (Ct. App. 2021).

scenarios. The MUSC PPG lab uses two stimulus sets: the Marshall stimulus set, which is older and uses a monotone male voice reading the scenarios; and the RCV stimulus set, with actual actors on a sound stage, and the examinee can hear background noise such as glasses clinking and other people talking in addition to the narrator. (R., pp. 110-111).

Respondent took two PPGs in the course of Dr. Gottfried's evaluation. Respondent's first PPG results were "not interpretable" because he moved around during it, so Respondent was transported to MUSC for a second PPG. Dr. Gottfried testified the PPG was only one data point she considered in Respondent's evaluation, and the PPG results were not the sole basis of her ultimate diagnoses. (R., p. 110-114).

Dr. Gottfried testified there are differences between a polygraph and a PPG. She stated the polygraph looks at heart rate and other physiological markers, and the examiner administering the test interprets those markers to determine whether the person is lying or telling the truth. In contrast, the PPG is not designed to determine if the person is truthful, or committed a specific crime; rather, the PPG shows patterns of arousal by looking at actual changes in the penis circumference between various stimulus sets. In interpreting the PPG results, the MUSC lab only considers an increased circumference of five millimeters or greater to be a significant arousal. (R., pp. 114-116).

On cross-examination, Dr. Gottfried testified MUSC's cut score of five millimeters is conservative based on all the PPG studies, which have shown that anything under 10% of a full erection (cut score of 2.5) is not a valid way to score the results, and using the higher cut score minimizes the risk of false positive results. Dr. Gottfried stated using the higher score could also increase false negative results, but a potential false negative is preferable in light of the potential consequences of a positive result. (R., pp. 118-119).

MUSC has studied its own data regarding the correlation between the examinee's interview responses to determine false negative or false positive results, and Dr. Gottfried testified the study was being prepared for peer review. She stated peer reviewed and approved abstracts of a study that included MUSC data and Canada's data specifically related to the RCV stimulus set, had been presented at several conferences, and the RCV data looked better than the older Marshall set, as well as a standardized set used in Canada. She testified the study was "pretrial accurate" when compared to "super normals," who are people who have no evidence of deviant sexual interest in children, and are selected by use of polygraph, the PPG, and criminal background checks. The presentations related to the peer reviewed and approved abstracts were presented at conferences in 2015-2019.³ (R., pp. 119-121, 133-136).

Judge Jefferson's Pre-Trial Ruling Regarding Admissibility of the PPG Evidence

Judge Jefferson took the matter under advisement. The next morning, Judge Jefferson heard testimony regarding Dr. Gottfried's qualifications, qualified Dr. Gottfried as an expert, and then made a preliminary ruling the PPG test results were admissible. The court found the evidence would assist the trier of fact, the subject was outside the realm of the ordinary juror's knowledge, and the probative value of the evidence outweighed the prejudicial effect on Respondent. (R., pp 206-214).

In considering the reliability of the science underlying the PPG, Judge Jefferson considered the relevant cases, the parties' arguments, and the testimony of Dr. Gehle and Dr. Gottfried. She

³Dr. Gottfried explained the conference peer review process, and testified she is a peer reviewer for many conferences, and actually chaired one of the conferences at issue. In her capacity as chair, she received all the abstracts for psychiatry and behavioral sciences, and sent them for review by people who are considered experts in that field. The abstracts are assigned numerical scores in categories such as intellectual merit and innovativeness. The scores from multiple reviewers determine whether or not the subject should be presented at the scientific conference. (R., p.135).

also considered publications and peer review of the technique, prior applications and methods, quality control procedures used to ensure reliability, and the consistency of the method with recognized scientific laws and procedures.

On the issue of peer review, Judge Jefferson found Dr. Gottfried's testimony regarding the numerous publications and extensive peer review of the PPG to be credible. While there were no peer reviewed published articles regarding the RCV stimulus set, the Marshall stimulus set had been the subject of peer reviewed articles, and MUSC used both stimulus sets in Respondent's PPG. Judge Jefferson also noted Dr. Gottfried's membership in the International Standards Group assessing and creating standardizations and rules for the PPG, and her testimony the PPG is generally accepted within the psychological community. (R., pp. 214-216).

As to prior applications and methods, Judge Jefferson noted Dr. Gottfried testified MUSC has performed many PPGs, all the PPGs conducted at MUSC are conducted in the same manner, Respondent's PPG was conducted with the same hardware and software MUSC uses in all PPGs, and the RCV stimulus set is part of the software used in between forty and eighty-five labs across the country. The hardware and software used by MUSC and across the country includes quality control procedures, and the company provides free test software, data pat gauges, stimulus sets and other materials required to conduct PPG. (R., pp. 216-217).

On the issue of quality control procedures, Judge Jefferson found Dr. Gottfried is certified by Limestone to operate the hardware and software used in MUSC's PPGs, MUSC's PPG lab is research certified at the highest level, and the lab is humidity and temperature controlled. The court also noted Dr. Gottfried's testimony that the gauges used in MUSC's PPG are calibrated several times before and during administration of a PPG, countermeasures are used, and the manufacturer includes standardized instructions with each machine. (R., p. 217-218).

Judge Jefferson further found MUSC uses a more conservative response threshold of five millimeters to measure significant responses within the PPG, which improves the reliability and reduces the number of false positives. She noted MUSC uses this more prudent approach, which may allow people with deviant sexual interests to escape detection, because it limits false positives as much as possible. Judge Jefferson gave credence to Dr. Gottfried's testimony that a large portion of the unreliability often attributed to the PPG is due to smaller measurements used by other labs, and inconsistency between labs is partly due to the fact labs outside the United States use photographs depicting child pornography, which United States labs cannot use. On the reliability issue, Judge Jefferson also found "as an aside" that Dr. Gehle's testimony was based on periodicals she had read, rather than first hand experience with the PPG. (R., pp. 218-219).

As to the consistency of methods recognizing scientific laws and procedures, Judge Jefferson found the DSM-5 is an authoritative resource, and it recognizes use of the PPG. She noted the DSM-5 states the PPG is the most thoroughly researched and longest used of physiological measures of sexual interest, although sensitivity and specificity may vary from site to site. (R., pp. 218-219).

Judge Jefferson found Dr. Gottfried's experience more extensive, and her testimony more credible on the issue of the PPG reliability. Based on all her findings, Judge Jefferson ruled preliminarily that the PPG evidence was admissible, but reserved a final ruling until the testimony was proffered during trial. (R., pp. 219-220).

Dr. Gottfried's Trial Testimony Regarding the PPG and Her Ultimate Opinion

Before the jury, Dr. Gottfried was qualified as an expert in psychology and forensic psychology, and testified MUSC was retained to perform a pre-commitment psychosexual evaluation of Respondent pursuant to the SVPA. As part of her evaluation protocol, she reviews

criminal history records, incident/police reports relating to the person's offenses, prison records, medical records and mental health records (if available), which is the type of information typically relied on by experts in her field.

After Dr. Gottfried reviewed all available documents and information regarding Respondent, he was transported to MUSC on several occasions for psychological testing, physiological testing, and clinical interviews, which included reviewing the tests results with him. Dr. Gottfried testified she used all of the information gathered during the evaluation process as data points in formulating her ultimate opinions. (R., pp. 248-319).

Prior to Dr. Gottfried's testimony before the jury regarding Respondent's PPGs, Judge Jefferson heard additional proffered testimony from Dr. Gottfried regarding the PPG reliability, which was substantially the same as her testimony during the pre-trial hearing. Judge Jefferson then confirmed her earlier ruling the evidence was admissible, specifically incorporating her pre-trial findings as if stated again verbatim. (R., pp. 320-338).

Dr. Gottfried then testified before the jury about the multiple tests performed during Respondent's evaluation, some of which indicated Respondent had not been "forthcoming" regarding his sexual history. She also testified about the PPG in general, what it is designed to measure, how the machine measures it, and the stimulus sets used in the PPG. As to Respondent's PPG results, Dr. Gottfried testified he showed significant clinical arousal to eight out of ten scenarios involving coercive sexual behavior, which was consistent with his offense history. (R., pp. 340-358).

Dr. Gottfried also testified Respondent's score on a actuarial risk assessment instrument was in the above average risk category for reoffending sexually, which was in the 88.7 percentile and indicated he was 2.7 times more likely to reoffend than the average sex offender. She also

testified about Respondent's dynamic risk factors for re-offending sexually and their impact on potential treatment outcomes. (R., pp. 358-368).

Based on all the data collected during Respondent's evaluation, Dr. Gottfried opined he has paraphilic coercive disorder, characterized by urges, fantasies or behavior involving coercive sexual acts toward non-consenting victims. She also diagnosed him with antisocial personality disorder. (R., pp. 368-372).

Dr. Gottfried concluded to a reasonable degree of psychological certainty Respondent suffers from a mental abnormality or personality disorder, which affects his emotional or volitional control or capacity such that he is predisposed to commit future acts of sexual violence. She testified he has the propensity to be dangerous which poses a menace to the health and safety of others, he has serious difficulty controlling his behavior, he should be confined in a secure facility for long term control, care and treatment, and he meets the SVPA criteria for civil commitment as a sexual predator. (R., pp.372-375).

Dr. Gehle's Trial Testimony

Dr. Gehle was qualified as an expert in forensic psychology and sexually violent predator evaluations. She testified she reviewed the same information Dr. Gottfried described, and interviewed Respondent three times. Like Dr. Gottfried, she diagnosed Respondent with antisocial personality disorder. (R., pp. 434-442).

Dr. Gehle also testified she did not find a connection between Respondent's antisocial personality disorder and his sexual offending. She determined that his first sexual conviction involved a fourteen year old female who did not fight with Respondent during the incident, even though the victim did not want to have sex with him, so she "acquiesced" and force was not used. As to the second victim, Respondent pretended to be law enforcement, and she did not "even know

if the girls thought they were being sexually offended against” because he told them he was investigating a crime and took (naked) pictures of them, but there was no evidence Respondent was sexually aroused or engaged in sexual gratification. (R., pp. 447-451).

Dr. Gehle testified she did not conduct a PPG because it “has a lot of problems with the research foundation of it.” She further testified the PPG “is rarely used in these precommitment (sic) evaluations.” She did score the actuarial risk assessment tool, and like Dr. Gottfried, arrived at a score putting Respondent in the high risk category for reoffending sexually. (R., pp. 458-461).

Jury Verdict/Appeal

The jury found beyond a reasonable doubt that Respondent is a sexually violent predator, and the circuit court placed him in the custody of the South Carolina Department of Mental Health for long term control, care and treatment. (R., pp. 537-538, 565). This appeal followed.

By unpublished opinion filed August 10, 2022, a court of appeals panel, without oral argument, reversed Respondent’s commitment, finding the circuit court erred in allowing the PPG testimony because there was no evidence regarding peer review and reliability of Limestone’s certification process, MUSC’s PPG procedures, or the RCV stimulus set, and the error was not harmless because the State’s expert and the State’s attorney emphasized it in testimony and closing argument. (In re: Gregg, 2022 WL 3224560 (S.C. Ct. App)). The State filed a Petition for Rehearing and a Petition for Rehearing *En Banc*, raising issues regarding the court of appeals’ application of the appellate standard of review, evidence and case law the court of appeals overlooked or misconstrued, and requesting oral argument. (State’s Petition for Rehearing and Petition for Rehearing *En Banc*). By Order filed November 8, 2022, the court of appeals denied the State’s petitions. The State now petitions for a writ of certiorari to the court of appeals for this Court to review the court of appeals’ decision.

ARGUMENT

The court of appeals erred in reversing Judge Jefferson’s findings and conclusion regarding the reliability and admissibility of the PPG test results in light of the extensive evidence before Judge Jefferson from a well-qualified expert that established the PPG test has been thoroughly researched and peer reviewed, is accepted as a valid medical test by government agencies and a large insurance company, and is generally accepted in the mental health community.

A. The court of appeals misconstrued the peer review issue and overlooked evidence supporting admissibility of the PPG testimony.

In finding “no evidence” regarding the three delineated items set forth in the opinion, the court of appeals misconstrued the factors regarding reliability and admissibility set forth in Jones/Council, and overlooked significant evidence in the record that Judge Jefferson expressly cited in support of her findings and ultimate conclusion the PPG was reliable and admissible. Rather than focus on the Jones/Council factors and the evidence Judge Jefferson considered, the court of appeals relied on minutia regarding “peer review” and/or reliability of the “Limestone certification standards” and “MUSC’s PPG procedures,” issues that were not challenged at trial or addressed in either party’s brief. The court of appeals then completely overlooked substantial evidence regarding peer review and reliability of the RCV stimulus set. Indeed, it is difficult to find any indication the court of appeals actually considered Judge Jefferson’s detailed ruling because there is no reference to it in the opinion. (See standard of review discussion below).

1. Reliability of the Limestone certification standards was not challenged at trial, and such evidence is not required to establish admissibility in the absence of a specific objection.

Contrary to the demands suggested by the court of appeals’ opinion, whether or not the Limestone certification standards were subjected to either peer review or found to be reliable was not raised as an objection or deficiency to admission of the PPG evidence and a basis to exclude the PPG testimony at trial, or discussed in the briefs before the court of appeals,. In spite of that

fact, the court of appeals found Judge Jefferson erred in admitting the PPG evidence because “[t]here was no evidence the Limestone certification standards had been subjected to peer review and/or found reliable.”

As part of her testimony regarding quality control in the MUSC lab, Dr. Gottfried indicated Limestone’s “certification process” is the training Limestone provides to labs and/or individuals using the Limestone PPG hardware and software. Thus, a “certification” indicates the lab and/or individuals have completed the training and are qualified to operate and use the system Limestone designed and manufactured as Limestone intended. (R., pp. 109-110). *See Jones*, 541 S.E.2d at 819 (quality control and peer review are separate and distinct factors for consideration).

In spite of diligent searching, the State can find no case law in South Carolina or elsewhere indicating that admissibility of evidence regarding a particular scientific test or technique requires evidence the training provided to use the testing equipment and interpret the results must be either peer reviewed or found to be reliable. Indeed, the Jones/Council analysis goes to the reliability of the test or technique itself, not the training to operate the testing machines or interpret the results generated by the equipment used in the test or technique. The court of appeals conflated peer review and quality control, which are separate and distinct factors.

2. Reliability of MUSC’s PPG procedures was not challenged at trial, and the court of appeals overlooked evidence indicating the MUSC procedures were consistent and reliable.

Also, contrary to the demands suggested by the court of appeals opinion, whether or not the MUSC PPG lab procedures were subjected to either peer review or found to be reliable was not raised as an objection or deficiency to admission of the PPG evidence and a basis to exclude the PPG testimony at trial, or discussed in the briefs before the court of appeals,. In spite of that

fact, the court of appeals found “[t]here was also no evidence MUSC’s PPG procedures had been subjected to peer review and/or found reliable.”

As with the court of appeals’ Limestone certification standards finding, in spite of diligent searching, the State can find no case law in South Carolina or elsewhere indicating admissibility of evidence regarding a particular scientific test or technique requires evidence that the procedures in an **individual** lab using the test or technique must be peer reviewed and/or found to be reliable. Requiring such evidence would require **every** lab performing **any** scientific test to have its internal procedures peer reviewed and found to be reliable in order to have the test results admissible as evidence. That is not, and never has been, the law, and the court of appeals again conflated the Jones/Council peer review and quality control factors.

Even if reliability of the individual lab procedures is required, which the State disputes, the court of appeals overlooked ample evidence before Judge Jefferson establishing the reliability of MUSC’s procedures in this case. Again, as part of her quality control testimony, Dr. Gottfried testified extensively about how each PPG is performed in the MUSC lab and the quality control measures MUSC utilizes for every test. All MUSC lab personnel involved in administration of PPG tests are trained by Limestone, and each PPG test performed in the MUSC lab is performed in exactly the same way according to a checklist provided by Limestone. The strain gauge is calibrated multiple times using the same method, and the software will not even allow a test to begin until the gauge is properly calibrated. There are sound checks to ensure all the sound equipment is working properly, and the humidity and temperature inside the lab is controlled. In addition, as a safeguard against false positives, MUSC uses a higher cut score for significant arousals than recommended in the published literature. (R., pp. 99-110).

Further, as discussed in the Brief of Respondent before the court of appeals, the Limestone system is approved by the Federal Drug Administration and utilized in numerous labs in the United States, and the PPG has been recognized as a valid medical procedure by Medicare/Medicaid and Blue Cross/Blue Shield.

The PPG has undergone Federal Drug Administration review, and the FDA has approved several PPG systems, including the Limestone system used in this case. *See* 501(k) Summary – Limestone Technologies, Inc. (https://www.accessdata.fda.gov/cdrh_docs/pdf5/K052929.pdf). In addition, the Medicaid/Medicare regulations provide coverage for PPG tests. *See* Federal Register Volume 72, Number 61, Addendum III and Addendum V (Friday, March 30, 2007) (<https://www.gpo.gov/fdsys/pkg/FR-2007-03-30/html/07-1414.htm>). Major insurance companies, such as Blue Cross Blue Shield, also recognize the PPG as a medical procedure, and either provide limited coverage, or exclude it from coverage. *See* Blue Cross Blue Shield of Texas, Treatment of Male Sexual Dysfunction, Special Comment on Contract Exclusions (January 7, 2003) (<https://www.bcbstx.com/provider/pdf/medicalpolicies/surgery/717-010.pdf>). The Federal Government's and insurance companies' recognition of the PPG as a valid medical device and procedure amply demonstrates its general acceptance.

(Brief of Respondent, p. 24). In short, the PPG system MUSC uses has been approved as a valid medical test after vigorous review by government agencies and private companies, and since MUSC uses the operating procedures promulgated by the system's manufacturer, the evidence establishes MUSC's PPG procedures are consistent and reliable.

3. The court of appeals overlooked evidence the RCV stimulus set has been peer reviewed, and MUSC also used the extensively peer reviewed Marshall stimulus set in Respondent's PPG test.

Contrary to the court of appeals' finding there was "no evidence" the RCV stimulus set has been either peer reviewed or found to be reliable, as discussed in the circuit court and the Brief of Respondent, the RCV stimulus set was peer reviewed multiple times between 2015-2019, is the subject of on-going research projects, and has been found to be more accurate than other stimulus sets. (R., pp. 119-121, 134-138, 328-331, 334-337; Brief of Respondent, p. 8). In light of that evidence, the court of appeals' finding is inaccurate.

The court of appeals completely overlooked Dr. Gottfried’s testimony regarding the peer reviewed abstracts for at least five scientific conference presentations about the RCV stimulus set, which specifically addressed studies of PPG data from MUSC and PPG labs in Canada and other countries, and found the RCV set was more accurate than other stimulus sets. (R., pp. 134-138, 328-331). She acknowledged there were no peer reviewed published articles regarding the RCV stimulus set, but testified she was actively involved in a collaborative effort with other PPG labs to prepare an article for submission, peer review and publication regarding the data and conclusions from their use of the RCV stimulus set. She also testified the preliminary data showed a higher degree of accuracy than the Marshall set. (R., pp. 119-121, 136-137).

The court of appeals appeared to focus on “peer review” as a prerequisite for finding a particular scientific test or technique is reliable. While peer review and publication is one factor to be considered under Jones/Council, it is not the determinative factor. Expert testimony may be reliable and admissible without peer review and publication. In re Viagra, 424 F.Supp.3d 781, 791 (N.D. Cal. 2020) (*citing* Wendell v. GlaxoSmithKline, LLC, 858 F.3d 1227, 1237 [9th Cir. 2017]). The absence of independent research into a topic at issue does not mean the experts’ methods were unreliable. *Id.*; *see also* United States v. Cloud, 576 F.Supp.3d 827, 841 (E.D. Wash. 2021) (existence of peer reviewed literature can help determine methodology’s reliability, but “the ‘fact of publication (or lack thereof) in a peer reviewed journal’ is not dispositive”) (*quoting* Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 593 [1993]).⁴

⁴South Carolina has not adopted the Daubert factors, but the Jones/Council factors, including peer review and publication, are very similar, and federal courts’ analysis of the factors is instructive. See State v. Warner, 430 S.C. 76, 842 S.E.2d 361, 366 (Ct. App. 2020) (“Nevertheless, our approach is “extraordinarily similar” to the federal test.”)

Even assuming “peer review” of the RCV stimulus set is required, however, Dr. Gottfried testified the stimulus set has been peer reviewed. There are different types of accepted peer review, including a “presentation of a study at a scientific conference or symposium, where it is subjected first to an abstract critique for sound methodology and subject matter relevance by the particular conference’s organizers, then later critiqued and commented upon by the conference’s audience.” Allen v. International Business Machines Corp., 1997 WL 34501372, *28 (D.C. Del. 1997); *see also Keller v. MacCubbin*, 60 A.3d 1117, 1118 (Del. Super. Ct. 2013) (“peer reviewed” is a term of art in scientific parlance, not an evaluation).

Dr. Gottfried explained the conference abstract peer review process, including the fact she is a peer reviewer for many organizations that host these conferences, and stated the reviewers provide numerical values for multiple categories, including intellectual merit and innovativeness. Abstracts regarding studies of the RCV stimulus set were submitted for presentations at five scientific conferences from 2015-2019, the conference organizers sent the abstracts for peer review, and based on the peer review responses, the presentations were approved and given at the conferences. (R., pp. 134-138, 332-333). Thus, studies regarding the efficacy of the RCV stimulus set have been peer reviewed, and received high enough scores from the peer reviewers to be accepted for presentation at the conferences.

Finally, the court of appeals overlooked the clearly established and undisputed fact the MUSC lab utilizes two stimulus sets: the RCV set and the Marshall set. Dr. Gottfried testified the Marshall stimulus set has been utilized in PPGs longer than the RCV stimulus set, and “there’s more studies concerning the Marshall and that’s the reason we use both.” Judge Jefferson expressly cited Dr. Gottfried’s testimony regarding the peer reviewed articles discussing the Marshall stimulus set used in the MUSC PPG. (R., pp. 111, 216, 330). The court of appeals did

not address any aspect of Judge Jefferson’s findings, and never mentioned, much less discussed, the Marshall stimulus set.

4. The court of appeals overlooked Judge Jefferson’s detailed and thorough ruling, and failed to properly apply the required and appropriate standard of review.

Judge Jefferson heard extensive testimony regarding the PPG from two experts, one opining the PPG is reliable and one opining it is not reliable. In rendering her decision, Judge Jefferson appropriately made credibility findings and detailed findings of fact on each Jones/Council factor, with specific citation to the evidence she considered regarding each factor. As contemplated by Jones/Council, Judge Jefferson viewed the evidence in light of the reliability of the “science” behind the PPG itself as a scientific test or technique, and expressly found Dr. Gottfried’s experience with the PPG was “extensive,” and her testimony regarding the PPG was “credible.” (R., pp. 179, 214-216, 219).

As set forth above, Judge Jefferson found that PPG testing has been subjected to extensive peer review and was the subject of numerous publications. Noting there were no peer reviewed articles regarding the RCV stimulus set, Judge Jefferson found MUSC also used the Marshall stimulus set on which there are peer reviewed articles. She then cited Dr. Gottfried’s testimony that PPG testing “is generally acceptable within the psychological community.” (R., pp. 214-216).

As to prior application of the method to the type of evidence at issue, Judge Jefferson found MUSC has performed many PPG tests, all of which were conducted in the same manner using Limestone hardware and software. She noted the Limestone system includes the RCV stimulus set, which is used in between forty and eighty-five PPG labs across the country. (R., pp. 216-217).

Judge Jefferson then made extensive findings regarding the quality control procedures used to ensure the PPG results are reliable. She noted MUSC personnel’s training from Limestone on

operation of the Limestone system, the multiple calibration of gauges before and during the tests, countermeasures used, humidity and temperature controls inside the PPG test room, and the use of standardized instructions from Limestone. Judge Jefferson further found MUSC uses a more conservative cut-off threshold to determine significant arousals in order to improve reliability and mitigate false positives, and the inconsistency of results between labs is often due to some labs using lower cut-off scores and international labs using child pornography. (R., pp. 217-218).

Regarding recognition of the PPG as a scientific test or technique, Judge Jefferson cited Dr. Gottfried's testimony regarding the DSM-V's references to the PPG stating physiological measures of sexual interest may be useful, and the PPG is the most thoroughly researched and longest used of such measures. She also noted the DSM-V's statement that sensitivity and specificity of PPG results may vary from one lab to another. (R., pp. 218-219).

Expert qualification and admission of an expert's testimony are matters within the trial court's sound discretion, and the trial court's conclusions will not be reversed on appeal absent an error of law or unsupported factual conclusions. State v. Prather, 429 S.C. 583, 840 S.E.2d 551, 559 (2020). Trial courts are tasked only with determining whether the basis for the expert's opinion is sufficiently reliable such that it may be offered into evidence, and vigorous cross examination, presentation of contrary evidence and careful instructions on the burden of proof are the traditional appropriate means of attacking admissible evidence. Ridley, 858 S.E.2d at 168-169.

Even though the court of appeals cited the appropriate standard of review, it reversed Judge Jefferson's conclusions with **no** analysis of the evidence before her, much less her detailed findings with references to the specific evidence on which she relied. The court of appeals cited no error of law, but in a conclusory fashion, focused on the absence of evidence on two things (peer review and/or reliability of the Limestone certification standards and MUSC's PPG procedures) that were

not challenged at trial, discussed in the parties' briefs before the court of appeals, or required by any legal authority absent a specific objection. The court of appeals then completely overlooked the evidence in the record regarding peer review and reliability of the RCV stimulus set. The court of appeals also overlooked the extensive evidence regarding the reliability of the PPG in general, as well as its general acceptance in the mental health community, which is the appropriate focus under Jones/Council.

Judge Jefferson clearly took her role as gatekeeper seriously. She heard testimony from two competing experts, carefully weighed all the evidence presented, and then did what the case law demands regarding the issue of reliability of the scientific test or technique at issue. She made appropriate credibility findings, and then addressed each Jones/Council factor in depth, with citation to the specific evidence on which she relied as to each factor.

In summarily reversing her ruling, the court of appeals overlooked the evidence and Judge Jefferson's thorough analysis. As noted above, the court of appeals' opinion does not even reference Judge Jefferson's analysis, much less find Judge Jefferson's actual factual findings and conclusions lacked evidentiary support. Accordingly, the State submits certiorari review by this Court is warranted.

B. Even assuming error in admitting the PPG evidence, the error was harmless because the PPG evidence presented to the jury was not extensive and the State's reference to it in closing argument was limited.

Finally, after summarily finding admission of the PPG evidence was error, the court of appeals found the error was not harmless "because the testimony was before a jury, it was extensive, the State's expert called the PPG an 'objective' way of determining what sexually arouses a male, and the State emphasized the PPG in its closing, stating 'his body can't lie.'" A careful review of the record, however, reveals the PPG evidence presented to the jury was not

“extensive,” Dr. Gottfried used the word “objective” once in her entire testimony regarding the PPG, and the State did not emphasize the PPG in closing.⁵

A harmless error analysis is contextual and specific to the circumstances of the case: “No definite rule of law governs [a finding of harmless error]; rather the materiality and prejudicial character of the error must be determined from its relationship to **the entire case**. Error is harmless when it could not reasonably have affected the result of the trial.”

State v. Byers, 392 S.C. 438, 710 S.E.2d 55, 60 (2011) (citations omitted) (emphasis added); *see also* State v. Copeland, 278 S.C. 572, 300 S.E.2d 63 (1982) (same). In order to constitute reversible error, the argument must have so infected the trial with unfairness that the resulting verdict is a denial of due process. State v. Elkins, 312 S.C. 541, 436 S.E.2d 178, 180 (1993). When the PPG testimony and references before the jury are considered in light of the State’s entire case, there was extensive evidence other than the PPG to support the jury’s verdict, and it is unlikely the limited PPG testimony and references so infected the trial with unfairness as to render the verdict a denial of due process.

1. The PPG evidence before the jury was not extensive.

Contrary to the court of appeals’ statement the PPG evidence was “extensive,” the PPG evidence actually presented to the jury was a small part of the State’s total case. The State’s case-in-chief as presented to the jury is set forth in the Record on Appeal at pages 248-257, 288-319, 340-375, for a total of seventy-five pages. The PPG testimony starts on page 348 and concludes on page 358, for a total of ten pages. Thus, only 13% of the State’s entire case dealt with the PPG, which is not “extensive.” Rather, the vast majority of the State’s case-in-chief involved Respondent’s offenses, psychological tests administered by MUSC, Respondent’s scores on

⁵The State does not concede admission of the PPG evidence was error. This harmless error analysis is presented solely in response to the court of appeals’ statements.

actuarial risk assessment tools, statements Respondent made during his interview with Dr. Gottfried, and Dr. Gottfried's ultimate conclusions.

2. Expert's use of the word "objective" was not unduly prejudicial.

The court of appeals opinion focused on one word in the entirety of Dr. Gottfried's testimony regarding the PPG. Dr. Gottfried used the word "objective" once in the beginning of her PPG testimony as part of explaining what the PPG is - a physiological measure of male sexual arousal. (R., p. 348). She subsequently testified the PPG "should never be used as the sole way" to assess sexual arousal. (R., p. 353).

Further, the PPG system provides computer generated, unbiased measurements of changes in penile circumference, which are by definition "objective." Objective means "not biased or prejudiced; fair; impartial." ([https://www.dictionary.com/objective.](https://www.dictionary.com/objective)). The PPG system, not the technician operating it, measures the penile changes, an arousal is either present or it is not, and the system merely records that fact. Thus, the measurements are objective, not subjective. Dr. Goffried's testimony was accurate, and her single use of the word "objective" does not render her entire PPG testimony unduly prejudicial for purposes of harmless error analysis.

3. The State's reference to the PPG in closing argument was limited.

The court of appeals' statement the State "emphasized" the PPG in its closing argument overlooks the entirety of the closing argument, as well as the context of the PPG reference. The State's closing is set forth in the Record on Appeal at pages 499 through 507. The PPG reference begins in the middle of the closing argument at page 504, line 13, and ends at page 505, line 2, for a total of fifteen lines. The State's closing argument consisted of 190 lines in the transcript, so the PPG reference was only 8% of the entire argument.

Significantly, as noted, the PPG reference was in the middle of the argument, not at the end, which is where the State would have referenced the PPG if it intended “emphasize” it. As with its case-in-chief, the State’s closing argument focused primarily on Respondent’s sexual offense history, the entire panoply of psychological tests Dr. Gottfried utilized, Respondent’s high scores on the actuarial risk assessment tools, and Dr. Gottfried’s ultimate opinions.

In support of its harmless error conclusion, the court of appeals cited dicta from In re Bilton, 432, S.C. 157, 851 S.E.2d 442 (Ct. App. 2020). The Bilton court expressly disavowed any conclusion regarding the admissibility of PPG evidence in general. Rather, it stated the issue before it was “narrow,” and held “due process does not allow a testifying expert to be a pipeline for someone else's scientific work to be admitted into evidence without a baseline demonstration of reliability.” In the face of that limited holding, however, the court then included dicta regarding the PPG in general that went far beyond the “narrow” question before it. *Id.* at 445-446.

The evidence regarding the PPG in this case is starkly different and more extensive than the evidence before the court in Bilton, particularly on the “baseline demonstration of reliability” Bilton required. Indeed, the evidence in this case is exactly what the Bilton court found was lacking in that case, but the court of appeals overlooked it in reversing Judge Jefferson.

This case presents an opportunity for this Court to address the important novel issue of reliability/admissibility of PPG test results, specifically in SVPA cases where the person’s propensity to commit future acts of sexual violence is the ultimate issue. Accordingly, the State requests this Court grant a writ of certiorari to review the court of appeals decision.

CONCLUSION

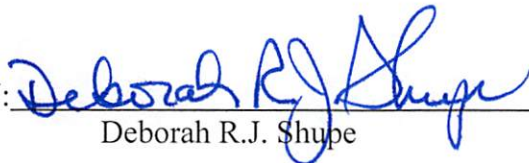
Based on the foregoing and the matter set forth in the Brief of Respondent, the Petition for Rehearing and Petition for Rehearing *En Banc*, the State respectfully petitions for a writ of certiorari to the court of appeals for this Court to review the court of appeals decision, correct the court of appeals' error by affirming Judge Jefferson's findings and conclusions regarding the admissibility of the PPG testimony that were amply supported by the evidence, and reinstate the well-supported jury verdict finding Respondent is a sexually violent predator and committing him for long term control, care and treatment pursuant to the SVPA.

Respectfully submitted,

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