

IN THE SNOHOMISH COUNTY DISTRICT COURT, STATE OF WASHINGTON

CASCADE DIVISION

STATE OF WASHINGTON,

v.

WEIMER, GEORGE G.

01/02/1958,

#7036A-09D

Memorandum Decision on

Motion to Suppress

The court has heard testimony from Dr. Ashley Emery in this case. Dr. Emery's *resume* is Defendant's exhibit # B and has been admitted for the purposes of this motion. Dr. Emery's testimony laid the foundation for the admission of Defendant's exhibit #A (ASCLD/LAB-*International*, ESTIMATING UNCERTAINTY of MEASUREMENT POLICY); Defendant's exhibit #C (STRENGTHENING FORENSIC SCIENCE in the UNITED STATES: A PATH FORWARD, National Academy of Sciences, 2009); Defendant's exhibit #D (ISO/TS 21748, Guidance for the use of repeatability, reproducibility and trueness estimates in measurement uncertainty estimation); Defendant's exhibit # E (ISO/TEC 17025, General requirements for the competence of testing and calibration laboratories); Defendant's exhibit # F (JCGM 100:2008, GUM 1995 with minor corrections, Evaluation of Measurement Data – Guide to the expression of Uncertainty in Measurement); Defendant's exhibit # G, (NIST Technical Note 1297, 1994 Ed., Guidelines for Evaluating and expressing the uncertainty of NIST Measurement Results); Defendant's exhibit # H (Garriott's *Medicolegal Aspects of Alcohol*, Chapter 18 Statistical Applications in Forensic Toxicology); Defendant's exhibit # I (An Uncertainty Budget for the Measurement of Ethanol in Blood by Headspace Gas Chromatography); Defendant's exhibit # J (Estimating the Measurement Uncertainty in Forensic Breath-Alcohol Analysis); Defendant's exhibit # K (International Association for Chemical Testing Newsletter, March 2003, Dealing with Uncertainty in Chemical Measurements); Defendant's exhibit # L (Forensic Science International, 110, 2000, The Statistical Variability of Blood Alcohol Concentration Measurements in Drink-Driving Cases); Defendant's exhibit # M (ILAC-G17: 2002, Introducing the Concept of Uncertainty of Measurement in Testing in Association with the Application of the Standard ISO/IEC 17025); Defendant's exhibit # N (CALIBRATION TECHNICAL MANUAL, Toxicology Laboratory Division, Washington State Patrol, effective date 05/11/2009).

It is noted that no evidence was provided by the State in this case, except by way of cross-examination of Dr. Emery.

From the above referenced testimony, as well as the referenced exhibits, this court enters the following,

FINDINGS OF FACT,

- 1) Measurements made by scientific instruments such as the gas chromatograph are uncertain in nature due to the variables involved in the measurement process;
- 2) The scientific community, as a general rule, requires that measurement results be expressed in a manner to reflect an estimated, if not an actual, uncertainty value.

Having the above findings of fact in mind, this court enters the following,

CONCLUSIONS OF LAW,

This court first notes for the record that it has read each and every exhibit that was admitted for its consideration. This court will admit up front that it does not always understand the mathematical formulas in the materials. However this court does believe that it understands the principles discussed in the exhibits that constitute the reasons for applying the statistical formulas in order to estimate any possible uncertainties in measurements. None of the exhibits represent the theory that it is scientifically permissible to report values determined in the laboratory *without* an estimated confidence level.

This court is satisfied that the testing of blood for alcohol concentrations by a gas chromatograph meets the Frye standard, *State v. Baity*, 140 Wn. 2d 1 (2000). "In *Baity* the court stated that although blood alcohol content measurement is a scientific process, it is not a novel one. *Citation omitted*. Because a blood alcohol test is not novel, the ... tribunal was not required to conduct a *Frye* analysis. *Spratt v. Washington State Liquor Control Bd.*, 106 Wash. App. 1037 (2001). Therefore the process by which the blood alcohol concentration is tested has general approval by the scientific community. What this court must determine is whether the *result* of the blood alcohol content measurement need be expressed with a confidence level in order to be admitted into evidence.

ER 702 states," 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." "[E]xpert testimony is admissible only when the underlying scientific principle satisfies the threshold *Frye* requirements *and* the testimony meets the 2-part test of ER 702: (1) the witness qualifies as an expert and (2) the expert testimony would be helpful to the finder of fact...." *State v. Cauthern*, 120 Wn. 2d 879 (1993). "ER 702 allows qualified experts to testify regarding 'scientific, technical, or other specialized knowledge' if testimony 'will assist the trier of fact to understand the evidence or to

determine a fact in issue.' Expert testimony is helpful if it concerns matters beyond the common knowledge of the average layperson *and does not mislead the jury.*" *Carlton v. Vancouver Care LLC*, 2010 WL 927988, Wash. App. Div. 2, March 16, 2010 (approx. 9 pp.)(emphasis added).

If an expert testifies that a particular blood alcohol content measurement is value A, without stating a confidence level, it is this court's opinion that the evidence is being represented as an exact value to the trier of fact. From all of the proffered exhibits this is *not* a position that is generally accepted in the scientific community. "The evidentiary weight attributed to forensic breath alcohol results in drunk-driving prosecutions requires that measurement uncertainty be established and shown to be fit for purpose." see exhibit # J, p. 562. The Washington State Patrol Toxicology Laboratory Division Technical Manual (exhibit #N) has actually adopted a policy for identifying and estimating uncertainty *in breath tests*. That policy was adopted as of May 11, 2009. However this policy does not appear to require that the test *result* identify a confidence level. It appears to only require that uncertainties be determined for the simulator solutions and for QAPs (see exhibit # N, pp. 47-50). It is this court's opinion that representing to the trier of fact that the result of a blood test as an exact numerical value without stating a confidence level, is not generally acceptable in the scientific community and misrepresents the facts to the trier of fact.

As a result of the above conclusion, this court holds that the result of the blood test in this case is not admissible under ER 702 in the absence of a scientifically determined confidence level because it misrepresents the facts and therefore cannot be helpful to the trier of fact.

ER 403 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."

"When the first alcohol *per se* drunk-driving law was introduced in Sweden in 1941 the legal limit was 0.08 g/ml and the (Swedish) Supreme Court mandated that the laboratory charged with the task of analyzing the blood samples should allow for uncertainty or error in the analytical procedures..." (see exhibit #K, p. 6).

"In general, the result of a measurement is only an approximation or estimate of the value of the specific quantity subject to measurement, that is, the **measurand**, and *thus the result is complete only when accompanied by a quantitative statement of its uncertainty.*" (exhibit # G, section 2.1, emphasis added).

"Measurements in forensic toxicology are very significant with serious consequences for error...."

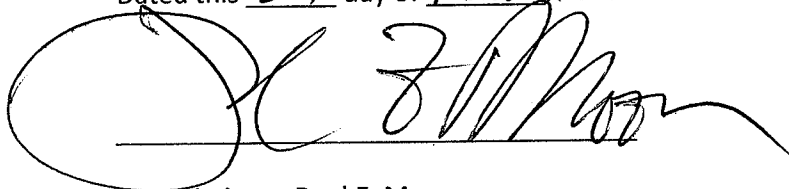
All measurements involve error. The concept of error does not refer to blunder or mistake. In metrology it simply refers to uncertainty--- *a concept implying some degree of doubt about the true property being quantified*. However, the term error is used routinely in the metrology literature and should not be a concern to the forensic scientist. *Nothing is measured exactly*. There are limitations in technology and methodology. Measurement uncertainty must simply be understood, acknowledged

and shown..... The (*International Vocabulary of Basic and General Terms in Metrology*) defines uncertainty as "a parameter associated with the result of a measurement that characterizes the dispersion of the values that could reasonably be attributed to the measurand." (exhibit #H ,section 18.5)(emphasis added). Rod Gullberg's example in exhibit #J more than adequately demonstrates that a measurand result of 0.092 can have parameters that include values that *are below the legal limit of 0.08*.

After weighing the probative weight of the blood result (which is great), this court also holds that the prejudicial value of the blood result outweighs its probative value. The value of the blood test can, in and of itself, establish the most contested fact at trial. An expert who represents to the trier of fact that the results of a scientific test is an exact value in the face of all of the scientific evidence to the contrary (see all of the exhibits), and with no such evidence to support this position, presents an extreme disadvantage to the Defendant. It is misleading to the trier of fact.

It has been this court's experience since 1983 that juries it has presided over place heavy emphasis on the numerical value of blood alcohol tests. To allow the test value into evidence without stating a confidence level violates ER 403. The probative value of this evidence is substantially outweighed by its prejudicial value. Therefore this court holds that the result of the blood test in this case is not admissible under ER 403 in the absence of a scientifically determined confidence level.

Dated this 23 day of March 2010.

A handwritten signature in black ink, appearing to read "Paul F. Moon", is written over a horizontal line. The signature is stylized and cursive.

Commissioner Paul F. Moon