

## NATIONAL COMMISSION ON FORENSIC SCIENCE

### Testimony Using the Term “Reasonable Scientific Certainty”

Subcommittee: Reporting and Testimony

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#### Comment

My name is Dr Geoffrey Stewart Morrison. I am currently an Independent Forensic Consultant; and an Adjunct Associate Professor, Department of Linguistics, University of Alberta. My previous appointments include: Scientific Counsel, Office of Legal Affairs, INTERPOL General Secretariat; Director, Forensic Voice Comparison Laboratory, School of Electrical Engineering & Telecommunications, University of New South Wales; and Chair, Forensic Acoustics Subcommittee, Acoustical Society of America. Any opinions I express are my own and do not necessarily represent the opinions or policies of any of the organizations with which I am or have been affiliated.

I agree with the views of the Subcommittee on Reporting and Testimony of the National Commission on Forensic Science as expressed in the views document: Testimony Using the Term “Reasonable Scientific Certainty”

I have two suggestions for improvement of the form of the document.

The first sentence of the first paragraph is difficult to interpret since it lacks context. One way to ameliorate this would be to switch the order of the first and second paragraphs. What is currently the second paragraph would then provide the context for the first sentence of what is currently the first paragraph. There would also be other ways of rewriting the first two paragraphs, my suggestion of reversing the order of the paragraphs is simply the quickest and easiest.

The structure of the first sentence of what is currently the first paragraph is also extremely complex and difficult to parse: It is the opinion of A that B should not require that C be admitted conditioned upon D testifying that E is held to F, G, H, or I. I would suggest rewriting it, for example, as follows:

The following is the view of the National Commission on Forensic Science (NCFS): As a condition for the admission of forensic testimony, legal professionals should not require

expert witnesses to testify that they hold a conclusion to a “reasonable scientific certainty,” a “reasonable degree of scientific certainty,” or a “reasonable degree of [discipline] certainty.”

I would also encourage the Subcommittee to consider stating that in their view it is inappropriate for an expert witness to express a conclusion using a phrase such as “to a reasonable degree of scientific certainty”. This would cover not only cases in which legal professionals require or pressure expert witnesses to use such phrases, but also cases in which expert witnesses choose of their own volition to use such phrases. In fact such a statement could be a clear opening statement, the first sentence of the first paragraph.

The following comments relate mostly to the final section of the views document “V. Toward a Meaningful Alternative (or Alternatives):”

There are many other misleading phrases which have been used by expert witnesses to express their conclusions in courts of law. Jackson (2009) provides a review. It is important that the use of these phrases also be discouraged, and I would encourage the Subcommittee to consider making a statement to this effect.

The logically correct way for a forensic scientist to express their conclusion as to strength of evidence is via a likelihood ratio: the probability of the evidence if the prosecution hypothesis were true versus the probability of the evidence if the defense hypothesis were true (and the details of both the hypotheses that the forensic scientist has considered must be clearly articulated). There is a copious body of literature on this matter, and I will only point out here that it is now the official position of the European Network of Forensic Science Institutes that strength of evidence should be evaluated and reported using likelihood ratios (Willis et al, 2015). I would encourage the Subcommittee to consider making a similar statement.

## **References:**

- Jackson, G. (2009). Understanding forensic science opinions. Ch. 16 (pp. 419–445) in Fraser, J., & Williams, R. (Eds.), *Handbook of Forensic Science*. Cullompton, UK: Willan.
- Willis, S.M., McKenna, L., McDermott, S., O’Donell, G., Barrett, A., Rasmusson, B., Nordgaard, A., Berger, C.E.H., Sjerps, M.J., Lucena-Molina, J., Zadora, G., Aitken, C.C.G., Lunt, L., Champod, C., Biedermann, A., Hicks, T.N., Taroni, F. (2015). *ENFSI guideline for evaluative reporting in forensic science*. European Network of Forensic Science Institutes.