Proposed Testimony for National Commission on Forensic Science meeting, February 3-4, 2014

Thomas L. Bohan, Ph.D., D-IBFES, F-AAFS,

Treasurer, Forensic Sciences Accreditation Board

I thank the Commission for the opportunity to submit my observations and suggestions regarding needed changes in the practice of forensic science in the United States. As a physicist, I have been engaged in forensic work since the 1970s, in both the civil and criminal arenas. Along with the majority of scientists active in the forensic field, I welcomed the February 2009 Report from the National Research Council of the American Academies of Forensic Sciences (NAS Committee): *Forensic Science in the United States: A Path Forward.* I was at that time the President of the American Academy of Forensic Sciences. Growing out of a panel I appointed under my authority as AAFS President, the AAFS adopted as an official policy a document backing all thirteen of the recommendations of the NAS Committee. I wish at this point to address two or three of those recommendations.

Certification of forensic practitioners offering testimony at trial; Role of the Forensic Specialties Accreditation Board

While recognizing it to be but part of what is necessary to improve the reliability of forensic testimony, the NAS Committee and the AAFS urged the certification of all persons offering expert testimony in the courts of the United States. Given the nature of our judicial system, in particular the independence of both the state and federal judiciary, it is clear that to this recommendation must be appended the qualification "to the extent practical" when proposing moves by the federal government. Given the role of the federal government with respect to the states and with respect to the court systems, it appears clear that the "power of the purse" will be involved with any federal push toward certification. I submit that the push must take place one stage above the forensic practitioners themselves. As has been broadly discussed over the past few yeasrs, this means

that federal agencies that provide support for forensic laboratories, especially those of the law enforcement branches of state governments, the requirement that in exchange for such monetary support, the beneficiary laboratory must (1) be itself accredited by a recognized entity and (2) require that their forensic practitioners be certified. Alternatively, the federal approach may be to accredit laboratory-accrediting boards, but only those boards that impose a universal certification requirement on the laboratories they certify.

A wide of entities exists to provide board-certification to forensic practitioners. I refer to entities such as the American Board of Criminalistics, the International Board of Forensic Engineering Sciences, the American Board of Forensic Document Examiners, the American Board of Medicolegal Death Investigators, and many others. Many though not all of the certifying boards have been formally accredited by the Forensic Specialties Accreditation Board (FSAB), an independent private organization established about 15 years ago with the assistance of the US National Institute of Justice and the AAFS. FSAB-accredited boards now certifying forensic practitioners are listed on the FSAB Website (www.thefsab.org).

The FSAB recommendation is that to the extent possible the boards now doing so be relied upon to continue their service of certifying forensic practitioners. This is in lieu of establishing new government agencies to carry out this task. Also in lieu of establishing a new accrediting agency with the government, the FSAB suggests that any new system regulating forensic practice at the federal level make use of the FSAB in the accrediting role it now plays. It recognizes that part of this continued reliance may require that the FSAB secure its own accreditation, through the International Standards Organization (ISO) or other appropriate group.

Determining the Validity of Forensic Theories and Techniques: Importance of a "go-to" Entity

The NAS Report was very harsh in its treatment of crime laboratory practices currently relied upon by law enforcement agencies. While the Report did not allege that any of these practices was invalid, it did make clear the

importance of the fact that with the exception of forensic DNA *none* of them had been validated scientifically. Addressing this failure and the resulting unreliability of criminal convictions would seem to be the most important item on any agenda seeking to create a federal forensic regulator system.

I have noticed that following the NAS Report publication, most of the "validation" discussions have been directed to forensic *disciplines*. This in my opinion has been misleading. It is not entire disciplines that need to be examined for scientific validity, but rather practices within those disciplines. For example, the National Academy of Science over the last couple of decades has looked as such practices as polygraph screening of employees, the use of trace-metal profiles for identifying the provenance of bullets, etc. None of these practices could be considered a discipline. Similarly, when the NAS Report criticized the lack of validation of fingerprint identification, it was not criticizing criminology, but rather the uncertainty in the range of validity of that particular practice.

Unlike most judges and the general public, most scientists engaged in forensic work were not surprised, let alone shocked, at the NAS Report's harsh treatment of crime laboratory practices. The scientists were fully aware of the shortcomings and have welcomed the opportunity provided by the NAS Report to finally examine the validity and range of validity of those practices.

It is likely that most forensic scientists do not doubt the validity of most crime laboratory techniques, but see the lack of validation studies as primarily depriving us of knowledge of the breadth with which these techniques can be applied. At the same time, there are theories and techniques that may be completely invalid. A past example of such a technique shown to be invalid without qualification is that of the trace metal analysis for identifying bullets referred to above. A current example that cries out for study by a broad-based scientific group is the so-called "shaken baby syndrome" theory.

After 40 years, I am at the end of my forensic career. However, in terms of hungering after justice in our legal system, I fervently hope that coming out of the deliberations of this Commission will be an array of substantively based science groups available to the public as standing "go-to" agencies in the sense that they,

rather than the adversary system, will provide the arena in which scientific questions regarding validity of forensic techniques and theories are resolved.

Thank you.