

Scientific & Technical Review Panel Final Report for 2021-S-0011 Standards for the Technical Review of Bloodstain Pattern Analysis Reporting

Organization of Scientific Area Committees (OSAC) for Forensic Science





STRP Final Report 2021-S-0011

Standard for the Technical Review of Bloodstain Pattern Analysis Reporting

Organization of Scientific Area Committees (OSAC) for Forensics Science
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Scientific & Technical Review Panel Members

- Tasha Bauman, Wyoming Game and Fish Department
- Barbara Hervey, Texas Court of Criminal Appeals
- Leah Innocci, Wyoming State Crime Lab
- Rick Lempert, University of Michigan (emeritus)
- Kenneth Martin, Bevel, Gardner and Associates, Inc.
- Michael Van Stratton, Kansas Bureau of Investigation Forensic Science Laboratory

Report Summary:

The Scientific and Technical Review Panel (STRP) for “Standard for the Technical Review of Bloodstain Pattern Analysis Reporting” is an independent panel appointed by the National Institute of Standards and Technology (NIST). A STRP is established with a range of experts to consider how well a standard meets the needs of the forensic science, law enforcement, and legal communities, and to recommend improvements to the standards under review. The STRP appreciates the efforts of LeeAnn Singley, Bloodstain Pattern Analysis Subcommittee member, while serving as the subcommittee liaison to this STRP during the review process.

The STRP began its review process with a kickoff meeting on May 4, 2021 and concluded with this STRP final report. The panel reviewed the draft and prepared our written responses for the OSAC [Bloodstain Pattern Analysis Subcommittee](#). All comments by the STRP were the result of a consensus among its members. The draft standard and STRP comments were returned to the Bloodstain Pattern Subcommittee for consideration.

Report Components:

The STRP reviewed this draft standard against OSAC’s *STRP Instructions for Review* which include the following content areas: scientific and technical merit, human factors, quality assurance, scope and purpose, terminology, method description and reporting results. The details below contain a brief description of each reviewed content area and the STRP’s assessment of how that content was addressed in the Draft OSAC Proposed Standard.

1. **Scientific and Technical Merit:** OSAC-approved standards must have strong scientific foundations so that the methods practitioners employ are scientifically valid, and the resulting claims are trustworthy. In addition, standards for methods or interpretation of results must include the expression and communication of the uncertainties in measurements or other results.
 - 1.1 Consensus View – The STRP finds this standard to be technically sound and believes, upon consideration and adoption of the final few recommendations below, this document will be a valuable tool to the BPA community. The STRP is pleased that a number of earlier suggestions made to the BPA Subcommittee were considered and are reflected in the final document.
2. **Human Factors:** All forensic science methods rely on human performance in acquiring, examining, reporting, and testifying to the results. In the examination phase, some standards rely heavily on human judgment, whereas others rely more on properly maintained and calibrated instruments and statistical analysis of data.
 - 2.1. Consensus View – The STRP noted that the subcommittee’s standards sought to address human factors concerns. Approving of this effort, the STRP suggested, without dissent, refinements in language relating to the need for objectivity in

selecting reviewers and the insulation of reviewers from analysts to avoid potentially biasing communications.

2.2. The STRP recommends that the term “discrepancies” be defined in Section 4 Terms and Definitions to avoid confusion.

3. **Quality Assurance:** Quality assurance covers a broad range of topics. For example, a method must include quality assurance procedures to ensure that sufficiently similar results will be obtained when the methodology is properly followed by different users in different facilities.

3.1. Consensus View – The STRP finds the quality assurance measures of the proposed draft standard are sufficient for promoting consistent application of the technical review process across forensic science service providers.

4. **Scope and Purpose:** Standards should have a short statement of their scope and purpose. They should list the topics that they address and the related topics that they do not address. Requirements, recommendations, or statements of what is permitted or prohibited do not belong in this section.

4.1. Consensus View – Transparency in both the reporting and technical review is paramount. The STRP believes the scope and purpose of this document meets the criteria for this requirement. This standard seeks to ensure the unbiased independence of the technical review and to make certain that reports generated by Bloodstain Pattern Analysts are based on validated methods and reliable qualitative measures.

5. **Terminology:** Standards should define terms that have specialized meanings. Only rarely should they give a highly restricted or specialized meaning to a term in common use among the general public.

5.1. Consensus View – The STRP believes that all technical terms should be consistent with the [OSAC Lexicon](#), especially “Administrative Review” and “Technical Review” which are listed as [OSAC Preferred Terms](#). “Administrative Review” needs a few small wording changes to mirror the OSAC Preferred Term definition. Consideration should also be given to the National Commission on Forensic Science, *Views of the Commission Defining Forensic Science and Related Terms* [Defining Forensic Science and Related Terms \(justice.gov\)](#).

5.2. In Section 4.2.1 “Agency” should be replaced with “Forensic Science Service Provider” (FSSP) for consistency with definition 4.2.2.

5.3. Under Section 4.2.3 should be stated “as defined in the OSAC Lexicon.”

6. **Method Description:** There is no rule as to the level of detail needed in the description of the method. Some parts of the method may be performed in alternative ways without affecting the quality and consistency of the results. Standards should focus on standardizing steps that must be performed consistently across organizations to ensure equivalent results.

Alternatively, standards can define specific performance criteria that are required to be demonstrated and met rather than specifying the exact way a task must be done. For example, it may be enough to specify the lower limit for detecting a substance without specifying the equipment or method for achieving this limit of detection.

- 6.1. Consensus View – The STRP believes this document clearly describes a minimum framework and performance criteria for the technical review of bloodstain pattern analysis reports. The STRP found the method description in general to be clearly defined, although there were proposed modifications that were accepted by the BPA Subcommittee.
 - 6.2. In section 5.2 delete “any issues which affect”. Replace “considered” with “essential”.
 - 6.3. Under section 6, prior to the last sentence which begins with “Deviations”, insert the following sentence “Communications between the technical reviewer and the analyst should be limited to promote the independence of the review.” In the last sentence as described above, delete “and explained” at the end of the sentence. The standard already requires deviations to be documented, and as part of the documentation process, the reasoning be recorded.
7. **Reporting Results:** Methods must be well described, scientifically sound, and comprehensive. They must also lead to reported results that are within the scope of the standard, appropriately caveated, and not overreaching.
- 7.1 Consensus View – The STRP believes the statements for the *Standards for the Technical Review of Bloodstain Pattern Analysis Reporting* are consistent with the scope and purpose of the draft standard. The STRP noted under section 8 (Conflict Resolution), the last sentence states the consultation shall be documented, but it neglects to state where. The consensus of the STRP was to add, “in the original case file.” to the end of this sentence.