

Scientific & Technical Review Panel Final Report for 2020-S-0004 Standard for Interpreting, Comparing, and Reporting DNA Test Results Associated with Failed Controls and Contamination Events

Organization of Scientific Area Committees (OSAC) for Forensic Science





STRP Final Report 2020-S-0004 Standard for Interpreting, Comparing, and Reporting DNA Test Results Associated with Failed Controls and Contamination Events

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

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- Erin Forry, Boston Police Department
- Lynn Garcia, Texas Forensic Science Commission
- Kevin Kiesler, National Institute of Standards and Technology (NIST)
- Carl Sobieralski, Indiana State Police Laboratory
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Report Summary:

The Scientific and Technical Review Panel (STRP) for “Standard for Interpreting, Comparing, and Reporting DNA Test Results Associated with Failed Controls and Contamination Events” 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 Charlotte Word, Human Forensic Biology Subcommittee Member that managed the development of this document, while serving as the subcommittee liaison to this STRP during the review process.

The STRP began its review process with a kickoff meeting on 10/02/2020 and concluded with this STRP final report. The panel reviewed the draft standard and prepared comments for the [OSAC Human Forensic Biology Subcommittee](#). After a rigorous review process and discussion between STRP members and the Human Forensic Biology Subcommittee, the subcommittee revised the draft standard in accordance with the panel’s comments. The panel believes that sections below have been appropriately addressed and provided one recommendation to provide a model protocol sample to support implementation of this draft standard. The STRP also noted that there are limitations with respect to references to other standards that should be included, but have not been finalized at this time. These standards are referred to in the body of the document.

Report Components:

The STRP reviewed this draft standard using 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.

- I. **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.

The STRP believes this standard has scientific and technical merit. It provides a structure to address failed standards and contamination events if they occur and will ensure these events are appropriately documented, addressed, and provide the foundation for continuous improvement.

The STRP recommends that subcommittees consider providing a model protocol sample to implement principles set forth in the standard.

- II. **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.

The STRP believes that the standard has appropriate wording to address human factors concerns, which are part of a larger program to prevent bias. There was a minority opinion in the STRP that the following wording be included in the Foreword: “To the extent determination of contamination may be influenced by judgmental bias, persons making that determination should be shielded from irrelevant information and should be assessed for the accuracy of that determination as part of performance monitoring.”

- III. **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.

The STRP believes the standard includes appropriate quality assurance framework and documentation to address potential failed controls and contamination events, and that a planned approach in advance of these events will provide a reasoned and consistent guidance when events occur.

- IV. **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.

The STRP believes the stated scope and purpose are appropriate for this standard.

- V. **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.

The STRP believes the terminology appropriate for this standard’s scope and purpose are indicated and defined.

- VI. **Method Description:** There is no rule as to the necessary level of detail 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.

The STRP noted the method description includes criteria which should be included to address failed controls and contamination events in a proactive manner, directing appropriate documentation.

- VII. **Reporting Results:** Methods must not only be well described, scientifically sound, and comprehensive but also lead to reported results that are within the scope of the standard, appropriately caveated, and not overreaching.

The STRP believes the standard provides the appropriate direction when reporting results where there is a failed control or contamination event. This section has been appropriately addressed in the standard.