NATIONAL COMMISSION ON FORENSIC SCIENCE

NIST National Institute of Standards and Technology U.S. Department of Commerce

Views of the Commission
Report and Case Record Contents

Subcommittee
Reporting and Testimony
Status
Initial Draft

Date of Current Version	09/02/17
Approved by Subcommittee	10/02/17
Approved by Commission	[*dd/mm/yy*]
Action by Attorney General	[*dd/mm/yy*]

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Views of the Commission

It is the view of the National Commission on Forensic Science (NCFS) that a report and case record describing the results of forensic testing should, at a minimum, contain the information identified in Appendix A.

Background

The NCFS previously expressed its view that forensic science service providers (FSSPs) should have written policies for documenting the examination, testing, or interpretation of evidence and for reporting results, interpretations, and conclusions.[1] NCFS concluded that "records should be created during the examination of evidence and during the technical review that would allow

[1] National Commission on Forensic Science Views document on Documentation, Case Record and Report Contents, adopted December 7, 2015. https://www.justice.gov/ncfs/file/818191/download

another analyst or scientist with proper training and experience to understand and evaluate all the work performed and to independently analyze and interpret the data and draw conclusions."[2]

Although this level of documentation is appropriate for the case record, NCFS recognized that currently it is impractical to require this level of documentation in a report for every case, for every forensic discipline, and for every type of test. Instead, NCFS balanced the burden on FSSPs with the needs of the criminal justice system, where significant decisions are made by prosecutors and defense attorneys based on reports alone. The December 7 Views document concluded, "Reports should accurately and clearly convey a statement of the purpose of the examination, testing, and interpretation of the evidence; the method and materials used; a summary or a description of the data or results obtained; any conclusions or interpretations derived from the data or results; any discordant results, interpretations, or conclusions; and, where necessary for the interpretation of test results, sources of uncertainty in the procedure and conclusions along with estimates of their scale."[3] It also concluded, "Every report should include a statement that the report does not contain all of the documentation associated with the work performed and that to understand and evaluate all the work performed, and to independently analyze and interpret the data and draw conclusions requires a review of the case record."[4]

To provide further guidance on report and case record contents, NCFS reviewed the work and recommendation developed by the White House Office of Science and Technology Policy, Subcommittee on Forensic Science (SOFS). SOFS reviewed 19 existing standards and other source material (see Appendix B) and consulted subject matter experts. SOFS then compiled existing standards and issued a draft recommendation for report contents. NCFS guidance provided in Appendix A builds on the work of SOFS. This guidance sets forth the minimum information that should appear in a report and case record. This guidance should not be read to suggest that FSSPs should not provide more information in reports or case records, or that standard-setting entities should not adopt standards requiring that more information be provided in a report.[5] In the December 7 Views document and here, NCFS has tried to balance the needs of the various stakeholders at this time. Future technology may make report generation and the exchange of information simpler.

The NCFS recognizes that definitions relating to method performance (e.g., accuracy, sensitivity, error rate, measurement uncertainty) vary among disciplines and FSSPs. Instead of imposing definitions, this document simply requires that FSSPs define the terms used in its reports. For purposes of stating that information on method performance must be in the report we use the term "figures of merit" to cover the range of approaches used in method development and validation for describing a method or test's performance. The importance of including "figures of merit" in a report is to fully inform the reader of the value and limitations of the results. As with any item listed in Appendix A, if the information is already available (for example in a SOP posted on line or separate reports) the information need not be repeated and can instead simply be referenced by providing the web address or by identifying the other report.

[2] *Id.*
[3] *Id.*
[4] *Id.*
[5] This view does not address whether an additional report should be created by a testifying expert. NCFS is addressing that issue separately.

This guidance on report contents should be viewed in the context of other NCFS recommendations, including recommendations on pretrial discovery. Two assumptions informed the development of this guidance. First, the case record will be readily available to the government and the defense in all criminal cases. Second, many, if not most, criminal cases will still be resolved without either the defense or the prosecution reviewing the case record as a result of structural incentives for early resolution of criminal cases (e.g., plea offers, resources limitations).

NCFS has provided a structure to the report but offers this only as one of many ways in which the information can be organized. The focus of this effort is on the content and what information must appear in a report and case record.

Appendix A
Documentation and Reporting of Forensic Science Analyses

Report	Case Record
The report title should include whether the report is preliminary, supplemental, or amended, as applicable. Include the following or a similar statement conveying the same message: "This report does not contain all of the information needed to independently evaluate the work performed or independently interpret the data. Such an evaluation requires a review of the case record." To the extent possible, this statement should be formatted to make it stand out. Include the FSSP's name and address and the location where the tests and calibrations were carried out, if different from the FSSP's address. Provide a unique identification of the test report or calibration certificate (such as the serial number); add to each page a page number and an identification to ensure that the page is a part of the test report or calibration certificate; include a clear identification of the end of the report or calibration certificate. Include the customer's name and address. Include the report's date, as defined by the laboratory (e.g., date of the last edit, date the testing was completed), and add this information in the report or in the glossary (see discussion of definitions below).	
Provide the report authors' full name(s), title(s), functions(s), and signature(s), or this equivalent identification. Include the name, signature, address, and affiliation of each person who rendered a conclusion, opinion, or interpretation contained in the report. Include the full name of the person performing the verification or the technical review.	Include the name, address, and affiliation of each person who generated data used to render an opinion contained in the report. Include the name, address, and affiliation of each person performing the verification or the technical review.

Report	Case Record
When the test report contains results of tests performed by subcontractors, these results should be clearly identified along with the full name of the person performing the testing.	The case record should contain all the corresponding administrative data and a statement explaining why the evidence was sent for external testing.
Include the manner of receipt of items (e.g., FedEx). Include the date of receipt of the test or calibration item(s). Where applicable, include a statement to the effect that: other items were received but not compared or tested; the examinations were limited; and the results relate only to the items tested.	The case record should contain a list of all items received by the FSSP whether or not they were tested or compared. The date(s) of testing and date(s) of verification, if any, should be documented. If a request for analysis on evidence received was made to the FSSP, the FSSP should document the request, even if the evidence was not analyzed or the testing was halted at the customer's request.
Include disposition of the evidence by the report author.	Provide chain-of-custody information, including the FSSP's final disposition of the evidence, whether through consumption or delivery to another entity.
Include the purpose and nature of the activities performed (i.e., the request made to the FSSP). A brief summary may be provided of the examination(s) conducted and results for a complicated report.	.
Provide a glossary or explanation of technical terms necessary for stakeholder understanding. This glossary should also contain definitions for the following if the FSSP used the term: "result," "opinion," "conclusion," and "interpretation." This glossary should be included in the report or posted on the Internet with a link to it in the report. The applicable standard operating procedures (SOPs) should be referenced and readily available either electronically upon request or on the Internet.	
Identify the method(s) and process(es) used.	

Report	Case Record
Identification of methods and processes must include: identification of published test methods used (e.g., ASTM E1967, SWGFAST Standard for Friction Ridge Detail Imaging [Latent/Tenprint], ver. 1.1) and type of instrumentation used (e.g., elemental analysis by inductively coupled plasma mass spectrometry [ICP-MS]). Include a brief description or table of the method(s) or process(es) relevant figures of merit.	All noncompliance with requirements and specifications should be explained in the case record
Provide a description and unambiguous identification of the item(s) tested, compared, or calibrated.	
Include a brief description of the condition of item(s) tested or compared (e.g., wet, dry, clumped, faded).	Provide a detailed description of the condition of the item(s) tested or compared.
All deviations from, additions to, or exclusions from the test method should be noted.	All deviations should be explained in the case record. Any steps that were repeated or samples that were redone should be stated. All data derived from the initial steps or samples should be maintained.
Information of specific test conditions, such as environmental conditions that may affect the results or an interpretation of the results, should be noted.	Details of test conditions should be documented.
If any database searches were conducted to identify a possible source of an item or a list of candidate matches (e.g., searches of DNA or fingerprint databases), the report should list which databases were searched and provide the results of the search.	List the databases that were searched (including private, ad hoc, and government databases and the results. Include details on which reference collections were searched and the results.
When sampling is done, the report should state the results including: what sampling plan was used; an unambiguous identification and description of the items sampled; and details of the environmental conditions during sampling that might affect the interpretation of the test results.	Information relating to the date(s) and location(s) of sampling should be maintained. Any deviations, additions or exclusions from the sampling plan should be documented in the case record.
Provide information on examination(s) conducted and the results. Describe the results, including the underlying data or a description of the underlying data and observations that form	The laboratory should retain records of original observations, derived data, and sufficient information to establish an audit trail; calibration records; staff records; and a copy of

Report	Case Record
the bases of any conclusions, opinions, or interpretations reported. Relevant figures of merit should be referenced. References to electronically available quality management documents containing the information will suffice.	each test report or calibration certificate issued for a defined period. The records for each test or calibration should contain sufficient information to facilitate, if possible, identification of factors affecting the uncertainty and to enable the test or calibration to be repeated under conditions as close as possible to the original. Specific features relied upon when making an association should be documented. All work products—including notes produced during the examination, testing, or comparison—should be maintained along with all data, electronic images, and observations resulting from the examination. Include case-specific calibration and quality assurance data.
Include all conclusions, opinions, and interpretations. Conclusions, opinions, and interpretations should be clearly marked as such. All conclusions, opinions, and interpretations should be attributed to the individual who generated them. Include the estimation of uncertainty for quantitative results or a reference to electronically available quality management documents containing the information. If the interpretation, opinion, or conclusion relied on a database, the report should include any known limitations in the database (e.g., whether there are reasons to think that it might not be representative of the relevant population). Conclusions, opinions, and interpretations that are based on training and experience of an analyst or expert should be so identified. When no conclusions can be reached, the report shall clearly communicate the reason(s). "Inconclusive" or "no value" judgments must be	All calculations, including those relating to the estimation of measurement uncertainty, used should be documented and maintained in the case record. Full records of measurement uncertainty, method validation procedures, selection and definition of figures or merit, and determination of these figures of merit can be maintained in SOPs or other readily available quality-management documents and referenced in the report. Include all supporting data for the determination that no conclusions can be reached.

Report	Case Record
accompanied by an explanation of why no further determination could be made. Disagreements between examiners occurring during verification (however named) and review regarding the reported conclusion(s) should be noted in the report. Disagreements that end in a "no resolution" should be detailed in the report. Disagreements that end in a "resolution" should be noted in the report and documented in the case record (e.g., disagreement resolved, disagreement resolved after arbitration, unresolved disagreement over whether there are sufficient points of comparison of sufficient quality to allow for a comparison between the known and the latent print).	All disagreements should be documented, and all documentation relating to a disagreement and the resolution should be maintained in the case record. All information (data, results, or facts) relating to the investigation known to the examiner that are not based on the examiner's observation(s) should be identified and maintained in the case record (e.g., eyewitness descriptions of suspects, results of other testing). All communications with investigators or parties should be documented and maintained in the case record.
	Include citations to references used to augment the examiner's knowledge or to render opinions (unless cited in the report).

Appendix B
Standards and Source Materials Considered by the White House Office of Science and Technology Policy, Subcommittee on Forensic Science

- National Research Council of the National Academy of Science, Strengthening Forensic Science in the United States: A Path Forward.
- International Organization for Standardization and International Electrotechnical Commission (ISO/IEC) ISC/IEC 17025:2005(E), General requirements for the competence of testing and calibration laboratories.
- ISO/IEC 17020:2012(E), Conformity assessment–Requirements for the operation of various types of bodies performing inspection.
- International Laboratory Accreditation Cooperation (ILAC) ILAC-G19: 2002, Guide 19, Guidelines for Forensic Science Laboratories.
- American Association for Laboratory Accreditation (A2LA), R221: Specific Requirements: Forensic Examination Accreditation Program–Testing.
- American Society of Crime Lab Directors/ Laboratory Accreditation Board (ASCLD/LAB-International), Supplemental Requirements for the Accreditation of Forensic Science Testing Laboratories.
- Forensic Quality Services, American National Standards Institute–American Society for Quality (FQS ANSI-ASQ) FQS ANSI-ASQ Document 11, ISO/IEC 17025, Accreditation and Supplemental Requirements for Forensic Testing, including FBI QAS.
- Laboratory Accreditation Bureau (LAB), Program Requirements Forensic Science Laboratory Accreditation Program, LABRP 413.
- American Society for Testing and Materials (ASTM) International, Standard Practice for Reporting Opinions of Scientific or Technical Experts, E620-11.
- ASTM International, Standard Practice for Quality Assurance of Laboratories Performing Seized-Drug Analysis, E2327–10.
- Federal Bureau of Investigation (FBI) Quality Assurance Standards for Forensic DNA Testing Laboratories.
- Scientific Working Group for Anthropology (SWGANTH), Documentation, Reporting, and Testimony.
- Scientific Working Group for the Analysis of Seized Drugs (SWGDRUG), Recommendations.
- Scientific Working Group on Friction Ridge Analysis, Study, and Technology (SWGFAST), Standard for Reporting Friction Ridge Examinations (Latent/Tenprint).
- Technical Working Group for Fire and Explosions (TWGFEX), Standard Guide for Fire Debris Report Writing.
- Scientific Working Group for Materials Analysis (SWGMAT), Expert Reporting Guideline.
- National Institute of Standards and Technology (NIST) and National Institute of Justice (NIJ) Expert Working Group on Human Factors in Latent Print Analysis, Latent Print Examination, and Human Factors: Improving the Practice through a Systems Approach.
- National Association of Medical Examiners (NAME), NAME Inspection and Accreditation Checklist, Second Revision.
- NAME, Forensic Autopsy Performance Standards.