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
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Views of the Commission

It is the view of the National Commission on Forensic Science 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 National Commission on Forensic Science (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 another analyst or scientist with proper training and

[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

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 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.

This guidance 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.

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[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.

Appendix A
Documentation and Reporting of Forensic Science Analyses

Categories	Report	Case Record
ADMIN DATA	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 and the full name of the person performing the verification. When the test report contains results of tests performed by subcontractors, these results should	Include the name, address, and affiliation of each person who generated data used to render an opinion contained in the report. Add the name, address, and affiliation of each person performing the verification.

Categories	Report	Case Record
	be clearly identified along with the full name of the person performing the testing. Include the manner of receipt of items (e.g., FedEx). Include the list of items received by the FSSP, whether or not they were tested. Include the date of receipt of the test or calibration item(s). Include disposition of the evidence by the report author.	The case record should contain all the corresponding administrative data and a statement explaining why the evidence was sent for external testing. Provide date of testing and date of verification, if any. 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. Provide chain-of-custody information, including the FSSP's final disposition of the evidence, whether through consumption or delivery to another entity.
SUMMARY	Include the purpose and nature of the activities performed (i.e., the request made to the FSSP). Provide a brief statement of the examination(s) conducted and results. Where applicable, include a statement to the effect that suitable items were not compared, the examinations were limited, and the results relate only to the items tested.	The case record should contain an itemized list of items that were not compared or tested and an explanation of why no comparison or testing was conducted.
BACKGROUND	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.	

Categories	Report	Case Record
MATERIALS & METHODS	Identify the method(s) and process(es) used. 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 of the method(s) or process(es), validated range(s), and limits in forensic application. 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). All deviations from, additions to, or exclusions from the test method should be noted or a statement of compliance should be made. Information of specific test conditions, such as environmental conditions that may affect the results or an interpretation of the results, should be noted. 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 (including private, *ad hoc*, or government databases), describe those databases (size, provenance), and provide a summary of the results (number of searches, number of candidates). When sampling is done, the report should contain the results of sampling, including: description of the population from which items were sampled (size, subgroups, provenance); reference to the sampling plan or procedure used;	Provide a detailed description of the condition of the item(s) tested or compared. All deviations should be explained in detail 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. Details of test conditions should be documented. All noncompliance with requirements and specifications should be explained in detail in the case record. List details on which databases were searched and the results. Include details on which reference collections were searched and the results. Information relating to the date(s) and location(s) of sampling should be maintained. Provide justification for the sampling plan or procedure.

Categories	Report	Case Record
	an unambiguous identification and description of the items sampled; details of the environmental conditions during sampling that might affect the interpretation of the test results; and deviations, additions, or exclusions from the plan or procedures concerned.	
DATA, OBSERVATION , & RESULTS	Provide information on examination(s) conducted and the results. This should include a description of results, including the underlying data or a description of the underlying data and observations that form the bases of any conclusions, opinions, or interpretations reported.	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 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.
CONCLUSIONS ,OPINIONS, INTERPRETAT IONS, & DISCUSSION	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. All results should include known limitations and potential sources of error in the measurement and analysis methods. Interpretations, opinions, and conclusions, should include an estimate of uncertainty (e.g., a confidence interval, if available). All statistical analysis and conclusions, including statements of relationship (e.g., the known and the latent print have seven	

Categories	Report	Case Record
	points of similarity), must include known potential sources of error and estimated uncertainty (e.g., estimated probabilities of false positives, false negatives, and standard error). If the uncertainty cannot accurately be estimated on the basis of existing knowledge, the report must clearly state this fact and state that all measurement methods have measurement error greater than zero and that all analysis methods have an error probability greater than zero. 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 an analyst's or expert's training and experience should be so identified and should not include any implicit or explicit statistical statements. [6]	All calculations used should be documented and maintained in the case record. Details concerning limitations, potential sources of error, and estimated uncertainty can be maintained in SOPs or other readily available quality-management documents and referenced in the report.
	When no conclusions can be reached, the report shall clearly communicate the reason(s). "Inconclusive" or "no value" judgments must be accompanied by an explanation of why no further determination could be made.	Include all supporting data for the determination that no conclusions can be reached.
	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., no disagreements, 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

[6] For example, a hair examiner, based on training and experience, may state that the known hair and the questioned hair are consistent and can describe the consistent features but cannot state or imply a probability for the conclusion that they came from the same individual. Neither, in the absence of an applicable database, can the examiner state, based on training and experience, that finding such consistency is rare when the two sources are not the same. Likewise, a glass analyst can state that a questioned fragment and a known piece of broken glass share common elemental chemical composition, but the analyst cannot state or imply that the chemical composition identified is rare based on personal experience alone. Instead, probabilities and frequencies, numerical or implied, can only be estimated using appropriate databases.

Categories	Report	Case Record
		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.
LITERATURE CITED		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.