Forensic Science Standards Board – Standards and Technical Guidance Documents
Review Rubric Questions

Subcommittee, SAC, and Standards Review Panel Questions Included Below.

RUBRIC SCORING SCALE:

5 - Meets or exceeds all elements of the requirement with excellent detail and support.

3 - Meets most of the elements of the requirement with adequate/sufficient detail and support.

1 - The topic is addressed; does not meet the majority of the elements of the requirement; lacks adequate/sufficient detail & support.

0 - An applicable topic has not been addressed, was not addressed appropriately, or does not contain any detail or support.

SUBCOMMITTEE RUBRIC - In Section 1 [1]

SAC and SRP RUBRIC - In Section 2 [2]

SUBCOMMITTEE RUBRIC [3]

Evidence Collection and Handling Standards
Which section(s) of the document addresses recognition and collection of evidence?
Which section(s) of the document addresses considerations to protect the evidence from change, loss, or deleterious change?
Which section(s) of the document addresses procedures and requirements for any labeling, handling, transporting, storing, and preparation of items?
Which section(s) of the document addresses requirements for sample handling, preparation, and storage?
Which section(s) of the document addresses requirements for receipt, chain of custody, and disposition by the FSP?
Which section(s) of the document addresses requirements for the preservation of evidence for re-analysis or future analysis?
Which section(s) of the document addresses requirements for safety measures to be observed?
Instrumental Test Method Development Standards
Which section(s) of the document addresses the minimum requirements and recommendations for addressing development of laboratory-developed instrumental test methods?
Which section(s) of the document addresses requirements for a method development plan to be established, approved, and authorized before initiating method development activities?
Which section(s) of the document addresses requirements for the method development plan to have a statement that defines the question(s) the method is intended to answer (e.g., type(s) of item(s) tested or calibrated, specific analytes included)?
Which section(s) of the document addresses requirements for the method development plan to define any customer needs of the method?
Which section(s) of the document addresses requirements for the method development plan to specify the equipment and basic parameters that will be used?
Which section(s) of the document addresses requirements for the method development plan to define automation that will be evaluated?
Which section(s) of the document addresses requirements for the method development plan to indicate the sample preparation approaches that will be evaluated?
Which section(s) of the document addresses requirements for the method development plan to address how interpretation of observations, data, and calculations will be performed?
Which section(s) of the document addresses requirements for identification of individuals assigned to conduct the method development activities?
Which section(s) of the document addresses requirements for the results of method development activities to be expressed in a written procedure for validation activities?
Which section(s) of the document addresses requirements for the data from method development activities to be retained for a defined period of time?
If a quantitative method:
Which section(s) of the document addresses requirements for the method development plan to state how metrological traceability will be established (e.g., equipment calibration, certified reference materials)?
Which section(s) of the document addresses requirements for the method development plan to indicate the concentration ranges and the calibration models that will be evaluated?
Non-Scale Opinion Standards
What section(s) of the document addresses the factors and external information an examiner may or should consider when determining an opinion?

What section(s) of the document addresses the basis for the opinion, including what, if any, information beyond the observations, data, calculations, and interpretations that may be considered in forming the opinion?
What section(s) of the document addresses the steps to assure that the opinion is supported by the observations, data, calculations, interpretations, and task-relevant contextual information?
What section(s) of the document requires that opinions be clearly identified?
Opinion Scale Standards
Which section(s) of the document addresses the normative references, if applicable, including any examination-method standard that references the opinion-scale standard?
Which section(s) of the document addresses the type of scale?
Which section(s) of the document defines the scale?
Which section(s) of the document defines objective criteria distinguishing between the steps of the scale?
Which section(s) of the document addresses limitations of cautions in presenting the opinion on the selected scale?
Which section(s) of the document provides either:
-- performance data supporting the type of scale
-- references to other documents containing performance data
-- a statement disclosing the current lack of performance data supporting the scale?
Which section(s) of the document addresses the factors an examiner should consider when using the scale?
Which section(s) of the document addresses the presentation of the entire scale in reports?
Which section(s) of the document addresses the meaning of each level of verbal expression in the scale?
For documents that are evaluative opinion scale standards for comparative examinations addressing the question of source:
Which section(s) of the document addresses the guidance on how to communicate scale information to factfinders, such as judges or jurors?
Which section(s) of the document addresses the use, if applicable, of the categorical source opinion of exclusion?
Which section(s) of the document addresses the separation of the categorical source opinion of exclusion from the evaluative opinion scales?
Which section(s) of the document addresses the examples of using the scale in reporting?
Which section(s) of the document addresses suitability of the items, if applicable?
Performance Monitoring Standards
Which section(s) of the document addresses requirements for details on the the scope, nature, and frequency of performance monitoring?
Which section(s) of the document addresses limitations of performance monitoring for the discipline?
Which section(s) of the document addresses different methods of performance monitoring (e.g, proficiency testing, inter/intralaboratory testing) and their application to the discipli
Which section(s) of the document addresses the types of performance monitoring activities (PMA) and how they are applied to the discipline?
Which section(s) of the document addresses how results, interpretations, or opinions are reported (e.g., qualitative, quantitative, binary, use of opinion/interpretation scales, or repo
Which section(s) of the document addresses the scope of the monitoring activity to include:
-- Written acknowledgement that PMAs are only a single part of a quality system
-- The limitations of the PMA program inherent to the discipline
-- List common discipline-specific knowledge, skills and abilities, methods, equipment, technology, and item types that are expected to be monitored for performance.
-- Discuss the acceptable level of diversity of these items to achieve comprehensive performance monitoring.
-- Require FSPs to conduct PMAs on the types of testing they perform or are accredited to perform as listed on their Scope of Accreditation (or however named).
-- Direct FSPs to conduct PMAs only on activities for which they have validated methods and procedures
Which section(s) of the document addresses the appropriate selection or creation of materials used in non-observation-based PMAs to include:
-- A statement that selected or created materials should be verified against the preliminary assigned value and maintain homogeneity and stability throughout the PMA
-- Guidance on acceptable digitization or duplication methods in the production of materials for the PMA (e.g., photographic reproductions)
-- Discipline-specific guidance for the selection of appropriate components to be monitored during observation-based PMAs, both staged and casework
-- Description of the intended participants (e.g., supervisors, technical leaders, and active examiners), their roles, and discipline-specific expectations in the PMA
-- Guidance that PMAs are performed following case-like or prescribed conditions relevant to the FSP level, analysis type, or individual as the focus of the PMA
-- Guidance on the incorporation of consultation, verification, and technical review in the PMA
Which section(s) of the document addresses the expected frequency of performance of PMAs to include:
-- Define a period of time over which the PMA would include a representative sample of routine case and item types
-- Define the type of activities and number of examinations to be completed by a single FSP or individual within a defined period of time for comprehensive performance monitoring
Which section(s) of the document addresses the administrative expectations for PMAs to include:
-- Methods to ensure that PMAs are conducted with strict impartiality and confidentiality
-- Requirement that PMAs have a defined timeline of events that is communicated to the participants
-- Address any specific topics that are required or inherent limitations for the administration of a blind PMA
-- Require that PMA programs be reviewed annually to determine effectiveness, consistency in application, validity, and the capability or resources to meet the needs of the FSP

Which section(s) of the document criteria to establish successful performance criteria and methods for the evaluation of the results received during the PMAs to include:
-- Require that the criteria for successful performance be established and communicated prior to conducting the PMA
-- Require the PMAs assigned value be determined prior to the evaluation of participant performance
-- Define how PMA results are evaluated, to include external criteria and the FSP's internal policies and procedures
-- Direction to the FSP for when a participant result does not meet the criteria for successful performance on how to evaluate how that result was achieved and to document the eva
-- Direction to the FSPs to consider differences in different requirements regarding reporting, training, and competency when evaluating results of interlaboratory comparisons or sim
Which section(s) of the document addresses common human factors considerations in PMAs to include:
-- Define the discipline-specific contextual information necessary for the determination of what methods and instruments to use during a PMA
-- Provide guidance on the design and use of blind PMAs
Which section(s) of the document addresses requirements for the documentation and retention of PMA records to include:
-- Requirements for all documentation to be generated and retained following FSP policies and any applicable laws, contractual agreements, or regulation activities
-- The proficiency test plan, to include how they meet the scope and frequency requirements of the available discipline-specific standard(s)
-- If a PMA is sourced internally or externally
-- Notification to participants of results
-- Evaluation of PMA selection and administration
-- Information documented by the participant during the PMA regarding the method or procedures used during the PMA, data generated from those actions, as well as the results, in
-- Information documented by the participant during the PMA regarding any methods or procedures required to be used during the PMA are clearly stated and the PMA results form
-- Information documented by the participant during the PMA regarding any deviations from established procedures
Quality Management Systems Standards
Which section(s) of the document addresses the quality system attributes (e.g., responsible person(s), documentation, retention)?
Which section(s) of the document addresses the quality system review procedures?
Which section(s) of the document addresses requirements for maintenance of metrological traceability?
Which section(s) of the document addresses quality control (e.g., the type of control, criteria for acceptability, or frequency for maintaining quality)?
Which section(s) of the document addresses frequency of calibration?
Which section(s) of the document addresses any concerns for calibrations of equipment that need to be employed as part of quality assurance?
Which section(s) of the document addresses any concerns for checks of equipment that need to be employed as part of quality assurance?
Which section(s) of the document addresses calibrations to be conducted before equipment is placed into or returned to service before the initial work is started?
Which section(s) of the document addresses function checks to be conducted before equipment is placed into or returned to service before the initial work is started?
Which section(s) of the document addresses the review of results (e.g., technical review, administrative review, verification)?
Which section(s) of the document addresses requirements for risk management?
Which section(s) of the document addresses requirements for nonconforming casework?
Which section(s) of the document addresses requirements for internal audits?
Which section(s) of the document addresses: a) Blind verification or b) Documentation to clearly indicate that blind verification was not used?
Reporting Results and Testimony Standards
Which section(s) of the document addresses requirements to ensure that laboratory reports are clearly written, accurate, unambiguous, and objective?
Where does the document address the inclusion of the following administrative information in Reports, in the Case File, or available through some other means:
-- Manner of receipt of test items (e.g., FedEx, hand delivery)
-- Descriptive identification of all items received
-- Any abnormal conditions of test item(s) upon receipt
-- Name(s) of person(s) responsible for observations, data, calculations, and interpretations in the report
-- Name, address, and affiliation of each person who generated data contained in the report
-- Dates that observations, data, calculations, and interpretations were made
-- Chain-of-Custody
-- Log of communications related to the case
-- Name of verifier and date of verification of results, if applicable
-- Name of all reviewers and dates of review. Otherwise indicate "none" or provide an explanation as to why a review was not done
-- Final disposition of evidence (*e.g., evidence consumed, returned to contributor, retained*)
Where does the document address the inclusion of the following results-related information in Reports, in the Case File, or available through some other means:
-- Description of all pertinent data, observations, statistics, or results, including measurement uncertainty or error rates in sufficient detail for independent expert review
-- Description of assumptions underlying statistical analysis
-- Documentation of all features relied upon when making an association

-- Documentation of substantive consultations (as defined by subcommittees) and disagreements between analysts occurring during verification and review regarding the reported results/opinions that were resolved between the disagreeing parties without mediation
-- Description and justification for any re-analysis, changes to data, or changes to interpretations for evidence items made after initial testing of the evidence and comparison of data or features to a known or reference
-- Record of any features that were not identified in the initial examination of evidence that are subsequently identified after comparison to a reference sample
-- All calculations
Where does the document address the inclusion of the following limitation-related information in Reports, in the Case File, or available through some other means?
-- Explanation of or justification for any deviations
-- Any other common discipline-specific limitations that are likely to impact the data, observations, or results?
Where does the document address the inclusion of the following information related to the underlying information relied upon to form an opinion in Reports, in the Case File, or available through some other means?
-- References consulted in forming the opinion
-- Relevant internal validation summaries
Reporting Results and Testimony Standards: Reports of Observations, Data, Calculations, and Interpretations
Where does the document address the inclusion of the following administrative information in reports of observations, data, calculations, and interpretations:
-- Name, address, and contact information of the FSP
-- Requester's name, if applicable
-- Any unique case identifier assigned (*e.g., requester case number*)
-- Unique identification of the test report (*e.g., laboratory number*)
-- Location where the tests were carried out, if different from the FSP's address
-- Date of report
-- Date of receipt of test items
-- Unambiguous descriptive identification of all items sampled, examined, or tested
-- All relevant requests made to the unit within a FSP, including those that were not conducted or completed;
-- Indication when the report contains results performed by subcontractors
-- Indication when the report contains preliminary results, supplemental results, or amends an earlier report
-- Statement that makes it clear that the report does not contain all documentation associated with the work performed (e.g., "Supporting documentation is maintained separate from this report and is necessary for independent evaluation of the work, interpretation of the data, and drawing of conclusions.")
-- Disposition of evidence (*e.g., additional examinations pending, evidence transferred, evidence consumed, returned to contributor, retained*)
-- Disclosure statement in the event the FSP is not accredited in the discipline reported on, or the procedure used is outside their scope of accreditation
-- Page numbers on each page with an indication of the total number of pages for the report
-- Printed name, title, and signature of author of report and date of signature
-- Printed name of verifier, if applicable
-- Printed name of technical reviewer. Otherwise indicate "none" or provide an explanation as to why a technical review was not done.
Where does the document address the inclusion of the following results-related information in reports of observations, data, calculations, and interpretations:
-- Scope or purpose of the work being reported
-- Statement of what was tested or observed
-- Summary of method(s) used
-- Disclosure statement in the event of non-conformities in the performance of the analysis that includes an indication of how the nonconformities were resolved or, if in progress, provide the status
-- Summary of pertinent equipment used to include measuring instruments
-- Summary of pertinent (as defined by subcommittees) computing hardware; operating system; databases; and software used
-- Description of sampling plans used, if applicable
-- Documentation of disagreements between analysts occurring during verification and review that require mediation through laboratory protocols regarding the final reported results
-- Interpretations of data, observations, and calculations reported in accordance with discipline-defined language
-- Clear description of what is meant when the results are deemed unsuitable for comparison, inconclusive, or uninterpretable
Where does the document address the inclusion of the following limitation-related information in reports of observations, data, calculations, and interpretations:
-- Method performance limitations (*e.g., uncertainty of all reported quantitative measurements, established repeatability and reproducibility metrics, accuracy metrics, error rates*) with references. The subcommittees are expected to determine which performance characteristics best describe each method and technique.
-- Disclosure of the absence of citable empirical measures of performance
-- Disclosure of deviations in the FSP's analytical SOP, normal test procedure, quality assurance procedures, or from a published method;
-- Disclosure of any abnormal environmental or sample conditions that may impact the results
-- Limitations of databases (*e.g., size, representation*), if used

Reporting Results and Testimony Standards: Reports of Specialist/Diagnostic Opinions
Where does the document address the inclusion of the following administrative information in reports of specialist/diagnostic opinions:
-- Name, address, and contact information of the FSP
-- Requester's name, if applicable
-- Any unique case identifier assigned (*e.g., requester case number*)
-- Unique identification of the opinion report (*e.g., laboratory number*)
-- Date of report
-- Indication when the report contains results performed by subcontractors or consultant
-- Indication when the report supplements or amends an earlier report
-- Page numbers on each page with an indication of the total number of pages for the report
-- Names of person(s) responsible for the opinions
-- Printed name of verifier, if applicable
-- Printed name of technical reviewer. Otherwise indicate "none" or provide an explanation as to why a technical review was not done.
Where does the document address the inclusion of the following opinion-related information in Reports of Specialist/Diagnostic Opinions:
-- Statement clearly explaining that the report is an opinion report
-- Specialist/diagnostic opinion statement
-- Documentation of disagreements between analysts occurring during verification and review that require mediation through laboratory protocols regarding the final reported
Where does the document address the inclusion of the following information related to the underlying information relied upon to form an opinion in Reports of
-- Summary of data, observations, calculations, interpretation, investigative activities performed, and other information reviewed to develop the reported opinion
-- Statement that makes it clear that the opinion report may be subject to change based upon new information that becomes available
Where does the document address the inclusion of the following administrative information in Reports, in the Case File, or available through some other means:
-- Manner of receipt of test items (e.g., FedEx, hand delivery)
-- Descriptive identification of all items received
-- Any abnormal conditions of test item(s) upon receipt
-- Name(s) of person(s) responsible for observations, data, calculations, and interpretations in the report
-- Name, address, and affiliation of each person who generated data contained in the report
-- Dates that observations, data, calculations, and interpretations were made
-- Chain-of-Custody
-- Log of communications related to the case
-- Name of verifier and date of verification of results, if applicable
-- Name of all reviewers and dates of review. Otherwise indicate "none" or provide an explanation as to why a review was not done
-- Final disposition of evidence (*e.g., evidence consumed, returned to contributor, retained*)
Where does the document address the inclusion of the following results-related information in Reports, in the Case File, or available through some other means:
-- Description of all pertinent data, observations, statistics, or results, including measurement uncertainty or error rates in sufficient detail for independent expert review
-- Description of assumptions underlying statistical analysis
-- Documentation of all features relied upon when making an association
-- Documentation of substantive consultations (as defined by subcommittees) and disagreements between analysts occurring during verification and review regarding the reported results/opinions that were resolved between the disagreeing parties without mediation
-- Description and justification for any re-analysis, changes to data, or changes to interpretations for evidence items made after initial testing of the evidence and comparison of data or features to a known or reference
-- Record of any features that were not identified in the initial examination of evidence that are subsequently identified after comparison to a reference sample
-- All calculations
Where does the document address the inclusion of the following limitation-related information in Reports, in the Case File, or available through some other means?
-- Explanation of or justification for any deviations
-- Any other common discipline-specific limitations that are likely to impact the data, observations, or results
Where does the document address the inclusion of the following information related to the underlying information relied upon to form an opinion in Reports, in the Case File, or available through some other means?
-- References consulted in forming the opinion
-- Relevant internal validation summaries
Test Method Validation and Verification Standards
For a method VALIDATION of a non-SDO published standard test method:

Which section(s) of the document addresses requirements for a development of a method validation plan to be established, approved, and authorized before initiating method validation activities?
Which section(s) of the document addresses the scope of the method verification (factors/variables)?
Which section(s) of the document addresses where the experiment is to be conducted?
Which section(s) of the document addresses requirements for method validation activities to use the same sample preparation and instrumental parameters throughout the entire validation?
Which section(s) of the document defines the method validation parameters to be evaluated and the minimum sample size required to evaluate each parameter? *(Note: minimum sample size could mean an actual number OR a description of the approach of calculating an appropriate sample size)*
Which section(s) of the document addresses requirements for method validation to use known materials (e.g., known source, known identity, known concentration) that represent the range of materials for which the method will be used?
Which section(s) of the document addresses requirements for method validation to address method performance and limitations (*e.g., sensitivity, specificity, selectivity, measurement bias, precision*)
Which section(s) of the document addresses requirements for evaluation of modifications made to a previously validated method?
Which section(s) of the document addresses how measurement uncertainty is estimated for quantitative methods?
Which section(s) of the document addresses how error rates are estimated for qualitative methods?
For a method VERIFICATION of an SDO published standard test method:
Which section(s) of the document addresses requirements for a development of a method verification plan to be established, approved, and authorized before initiating method verification activities?
Which section(s) of the document states the title and source of the standard test method to be verified?
Which section(s) of the document addresses the scope of the method verification?
Which section(s) of the document addresses where the experiment is to be conducted?
Which section(s) of the document addresses the minimal sample size for evaluation of each verification parameter?
Which section(s) of the document addresses requirements for method verification activities to use the same sample preparation and instrumental parameters throughout the entire verification?
Which section(s) of the document addresses requirements for method verification to use known materials (e.g., known source, known identity, known concentration)?
Which section(s) of the document addresses requirements for method verification to address method performance and limitations (e.g., sensitivity, specificity, selectivity, measurement bias, precision)?
Which section(s) of the document addresses how measurement uncertainty is estimated for quantitative methods?
Which section(s) of the document addresses how error rates are estimated for qualitative methods?
Testing, Examination, or Analysis Standards
Which section(s) of the document addresses the suitable sample types for the method described?
Which section(s) of the document addresses the sampling protocol for the method described?
Which section(s) of the document addresses the necessary equipment required to perform the method?
Which section(s) of the document addresses the operating parameters of the equipment used in the method?
Which section(s) of the document addresses any calibrations that need to be employed before or during sample analysis?
Which section(s) of the document addresses the frequency of calibration?
Which section(s) of the document addresses the type and range of standards used?
Which section(s) of the document defines specific criteria for controls to ensure the quality of test results?
Which section(s) of the document addresses how metrological traceability is established or maintained ?
Which section(s) of the document addresses controls that must be present for the results to be accepted?
Which section(s) of the document addresses frequency of control measurements?
Which section(s) of the document addresses acceptance limits of controls?
Which section(s) of the document addresses equipment checks (initial, periodical) that must be present for the method to be performed?
Which section(s) of the document addresses environmental conditions that must be present for the method to be performed?
Which section(s) of the document addresses criteria for acceptance/rejection of results?
Which section of the document addresses the steps for performing the method?
Which section of the document addresses the observations, data, or calculations that are to be made or recorded to promote reproducibility?
Which section of the document addresses the steps for interpretation of observations, data, or calculations?
Which section(s) of the document addresses any limitations to the method and interpretation?
Which section(s) of the document addresses any limitations to the method for factors and conditions impacting the nature of the features, the ability to observe them, or both?
Which section(s) of the document addresses any limitations to the method for sensitivity?
Which section(s) of the document addresses any limitations to the method for specificity/selectivity?
Which section of the document addresses the steps to minimize or mitigate potential contamination?
Which section(s) of the document addresses health and safety measures to be observed?

Which section(s) of the document address the effects of operator skill and other human factors on measurements, analysis, or interpretation?
Which section(s) of the document addresses the identification of task relevant vs. task-irrelevant information, with examples of each?
Which section(s) of the document addresses any special factors an examiner should consider when determining results, both as part of the evidence and beyond the characteristics of the evidence?
Which section of the document addresses the steps to minimize or mitigate cognitive bias?
Terminology
Terminology topics have been addressed in the Overall General Document section.
Training, Competency, and Continuing Education Standards
Which sections(s) of the document addresses entry qualifications that include any minimum academic credentials/requirements or if no academic credentials are required, does the
Which section(s) of the document addresses the discipline-specific elements as appropriate, including but not limited to:
-- History and basic theory of the discipline
-- Relevant literature
-- Nature and properties of examined evidence type and forms in which it may be submitted
-- Evidence handling techniques
-- Methodologies and validation studies, to include method limitations
-- Instrumentation and performance monitoring
-- Statistics and probability (including uncertainty, population inferences, etc.)
-- Interpretation (including documenting observations, data, and calculations)
-- Knowledge of related fields
-- Reporting (including minimum requirements as established in relevant standards and guidance documents.
-- Testimony (including minimum requirements as established in relevant standards and guidance documents.
Which section(s) of the document addresses how to remain current in the respective field via professional development and continuing education including an annual average of at least 16 hours over a three-year period?
Which section(s) of the document addresses information on licensing for the discipline?
Which section(s) of the document addresses information on certification for the discipline?
Which section(s) of the document addresses details on competency testing to include methods of testing and criteria for assessment?
SAC and SRP RUBRIC [4]
Evidence Collection and Handling Standards
How well does the document address recognition and collection of evidence?
How well does the document address considerations to protect the evidence from change, loss, or deleterious change?
How well does the document address procedures and requirements for any labeling, handling, transporting, storing, and preparation of items?
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How well does the document address the minimum requirements and recommendations for addressing development of laboratory-developed instrumental test methods?
How well does the document address requirements for a method development plan to be established, approved, and authorized before initiating method development activities?
How well does the document address requirements for the method development plan to have a statement that defines the question(s) the method is intended to answer (e.g., type(s) of item(s) tested or calibrated, specific analytes included)?
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If a quantitative method:

document specify alternative requirements (i.e., for example, bachelor's degree in a relevant program, coursework, or certification)?

How well does the document address requirements for the method development plan to state how metrological traceability will be established (e.g., equipment calibration, certified reference materials)?
How well does the document address requirements for the method development plan to indicate the concentration ranges and the calibration models that will be evaluated?
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How well does the document address the presentation of the entire scale in reports?
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How well does the document address the guidance on how to communicate scale information to factfinders, such as judges or jurors?
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-- Written acknowledgement that PMAs are only a single part of a quality system
-- The limitations of the PMA program inherent to the discipline
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-- Discuss the acceptable level of diversity of these items to achieve comprehensive performance monitoring.
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-- Direct FSPs to conduct PMAs only on activities for which they have validated methods and procedures
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-- A statement that selected or created materials should be verified against the preliminary assigned value and maintain homogeneity and stability throughout the PMA
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-- Discipline-specific guidance for the selection of appropriate components to be monitored during observation-based PMAs, both staged and casework
-- Description of the intended participants (e.g., supervisors, technical leaders, and active examiners), their roles, and discipline-specific expectations in the PMA
-- Guidance that PMAs are performed following case-like or prescribed conditions relevant to the FSP level, analysis type, or individual as the focus of the PMA
-- Guidance on the incorporation of consultation, verification, and technical review in the PMA
How well does the document address the expected frequency of performance of PMAs to include:
-- Define a period of time over which the PMA would include a representative sample of routine case and item types

-- Define the type of activities and number of examinations to be completed by a single FSP or individual within a defined period of time for comprehensive performance monitoring
How well does the document address the administrative expectations for PMAs to include:
-- Methods to ensure that PMAs are conducted with strict impartiality and confidentiality
-- Requirement that PMAs have a defined timeline of events that is communicated to the participants
-- Address any specific topics that are required or inherent limitations for the administration of a blind PMA
-- Require that PMA programs be reviewed annually to determine effectiveness, consistency in application, validity, and the capability or resources to meet the needs of the FSP
How well does the document address criteria to establish successful performance criteria and methods for the evaluation of the results received during the PMAs to include:
-- Require that the criteria for successful performance be established and communicated prior to conducting the PMA
-- Require the PMAs assigned value be determined prior to the evaluation of participant performance
-- Define how PMA results are evaluated, to include external criteria and the FSP's internal policies and procedures
-- Direction to the FSP for when a participant result does not meet the criteria for successful performance on how to evaluate how that result was achieved and to document the eva
-- Direction to the FSPs to consider differences in different requirements regarding reporting, training, and competency when evaluating results of interlaboratory comparisons or sim
How well does the document address common human factors considerations in PMAs to include:
-- Define the discipline-specific contextual information necessary for the determination of what methods and instruments to use during a PMA
-- Provide guidance on the design and use of blind PMAs
How well does the document address requirements for the documentation and retention of PMA records to include:
-- Requirements for all documentation to be generated and retained following FSP policies and any applicable laws, contractual agreements, or regulation activities
-- The proficiency test plan, to include how they meet the scope and frequency requirements of the available discipline-specific standard(s)
-- If a PMA is sourced internally or externally
-- Notification to participants of results
-- Evaluation of PMA selection and administration
-- Information documented by the participant during the PMA regarding the method or procedures used during the PMA, data generated from those actions, as well as the results, in
-- Information documented by the participant during the PMA regarding any methods or procedures required to be used during the PMA are clearly stated and the PMA results form
-- Information documented by the participant during the PMA regarding any deviations from established procedures
Quality Management Systems Standards
How well does the document addresses the quality system attributes (e.g., responsible person(s), documentation, retention)?
How well does the document addresses the quality system review procedures?
How well does the document addresses requirements for maintenance of metrological traceability?
How well does document addresses quality control (e.g., the type of control, criteria for acceptability, or frequency for maintaining quality)?
How well does the document addresses frequency of calibration?
How well does document addresses any concerns for calibrations of equipment that need to be employed as part of quality assurance?
How well does document addresses any concerns for checks of equipment that need to be employed as part of quality assurance?
How well does document addresses calibration to be conducted before equipment is placed into or returned to service before the initial work is started?
How well does document addresses function checks to be conducted before equipment is placed into or returned to service before the initial work is started?
How well does document addresses the review of results (e.g., technical review, administrative review, verification)?
How well does the document addresses requirements for risk management?
How well does document addresses requirements for nonconforming casework?
How well does the document addresses requirements for internal audits?
How well does the document addresses: a) Blind verification or b) Documentation to clearly indicate that blind verification was not used?
Reporting Results and Testimony Standards
How well does the document address requirements to ensure that laboratory reports are clearly written, accurate, unambiguous, and objective?
How well does the document address the inclusion of the following administrative information in Reports, in the Case File, or available through some other means:
-- Manner of receipt of test items (e.g., FedEx, hand delivery)
-- Descriptive identification of all items received
-- Any abnormal conditions of test item(s) upon receipt
-- Name(s) of person(s) responsible for observations, data, calculations, and interpretations in the report
-- Name, address, and affiliation of each person who generated data contained in the report
-- Dates that observations, data, calculations, and interpretations were made
-- Chain-of-Custody
-- Log of communications related to the case
-- Name of verifier and date of verification of results, if applicable

-- Name of all reviewers and dates of review. Otherwise indicate “none” or provide an explanation as to why a review was not done
-- Final disposition of evidence (*e.g., evidence consumed, returned to contributor, retained*)
How well does the document address the inclusion of the following results-related information in Reports, in the Case File, or available through some other means:
-- Description of all pertinent data, observations, statistics, or results, including measurement uncertainty or error rates in sufficient detail for independent expert review
-- Description of assumptions underlying statistical analysis
-- Documentation of all features relied upon when making an association
-- Documentation of substantive consultations (as defined by subcommittees) and disagreements between analysts occurring during verification and review regarding the reported results/opinions that were resolved between the disagreeing parties without mediation
-- Description and justification for any re-analysis, changes to data, or changes to interpretations for evidence items made after initial testing of the evidence and comparison of data or features to a known or reference
-- Record of any features that were not identified in the initial examination of evidence that are subsequently identified after comparison to a reference sample
-- All calculations
How well does the document address the inclusion of the following limitation-related information in Reports, in the Case File, or available through some other means?
-- Explanation of or justification for any deviations
-- Any other common discipline-specific limitations that are likely to impact the data, observations, or results?
How well does the document address the inclusion of the following information related to the underlying information relied upon to form an opinion in Reports, in the Case File, or available through some other means?
-- References consulted in forming the opinion
-- Relevant internal validation summaries
Reporting Results and Testimony Standards: Reports of Observations, Data, Calculations, and Interpretations
How well does the document address the inclusion of the following administrative information in reports of observations, data, calculations, and interpretations:
-- Name, address, and contact information of the FSP
-- Requester’s name, if applicable
-- Any unique case identifier assigned (*e.g., requester case number*)
-- Unique identification of the test report (*e.g., laboratory number*)
-- Location where the tests were carried out, if different from the FSP’s address
-- Date of report
-- Date of receipt of test items
-- Unambiguous descriptive identification of all items sampled, examined, or tested
-- All relevant requests made to the unit within a FSP, including those that were not conducted or completed;
-- Indication when the report contains results performed by subcontractors
-- Indication when the report contains preliminary results, supplemental results, or amends an earlier report
-- Statement that makes it clear that the report does not contain all documentation associated with the work performed (e.g., "Supporting documentation is maintained separate from this report and is necessary for independent evaluation of the work, interpretation of the data, and drawing of conclusions.")
-- Disposition of evidence (*e.g., additional examinations pending, evidence transferred, evidence consumed, returned to contributor, retained*)
-- Disclosure statement in the event the FSP is not accredited in the discipline reported on, or the procedure used is outside their scope of accreditation
-- Page numbers on each page with an indication of the total number of pages for the report
-- Printed name, title, and signature of author of report and date of signature
-- Printed name of verifier, if applicable
-- Printed name of technical reviewer. Otherwise indicate “none” or provide an explanation as to why a technical review was not done.
How well does the document address the inclusion of the following results-related information in reports of observations, data, calculations, and interpretations:
-- Scope or purpose of the work being reported
-- Statement of what was tested or observed
-- Summary of method(s) used
-- Disclosure statement in the event of non-conformities in the performance of the analysis that includes an indication of how the nonconformities were resolved or, if in progress, provide the status
-- Summary of pertinent equipment used to include measuring instruments
-- Summary of pertinent (as defined by subcommittees) computing hardware; operating system; databases; and software used
-- Description of sampling plans used, if applicable
-- Documentation of disagreements between analysts occurring during verification and review that require mediation through laboratory protocols regarding the final reported results
-- Interpretations of data, observations, and calculations reported in accordance with discipline-defined language
-- Clear description of what is meant when the results are deemed unsuitable for comparison, inconclusive, or uninterpretable
How well does the document address the inclusion of the following limitation-related information in reports of observations, data, calculations, and interpretations:

-- Method performance limitations (*e.g., uncertainty of all reported quantitative measurements, established repeatability and reproducibility metrics, accuracy metrics, error rates*) with references. The subcommittees are expected to determine which performance characteristics best describe each method and technique.
-- Disclosure of the absence of citable empirical measures of performance
-- Disclosure of deviations in the FSP's analytical SOP, normal test procedure, quality assurance procedures, or from a published method;
-- Disclosure of any abnormal environmental or sample conditions that may impact the results
-- Limitations of databases (*e.g., size, representation*), if used
Reporting Results and Testimony Standards: Reports of Specialist/Diagnostic Opinions
How well does the document address the inclusion of the following administrative information in reports of specialist/diagnostic opinions:
-- Name, address, and contact information of the FSP
-- Requester's name, if applicable
-- Any unique case identifier assigned (*e.g., requester case number*)
-- Unique identification of the opinion report (*e.g., laboratory number*)
-- Date of report
-- Indication when the report contains results performed by subcontractors or consultant
-- Indication when the report supplements or amends an earlier report
-- Page numbers on each page with an indication of the total number of pages for the report
-- Names of person(s) responsible for the opinions
-- Printed name of verifier, if applicable
-- Printed name of technical reviewer. Otherwise indicate "none" or provide an explanation as to why a technical review was not done.
How well does the document address the inclusion of the following opinion-related information in Reports of Specialist/Diagnostic Opinions:
-- Statement clearly explaining that the report is an opinion report
-- Specialist/diagnostic opinion statement
-- Documentation of disagreements between analysts occurring during verification and review that require mediation through laboratory protocols regarding the final reported
How well does the document address the inclusion of the following information related to the underlying information relied upon to form an opinion in Reports of
-- Summary of data, observations, calculations, interpretation, investigative activities performed, and other information reviewed to develop the reported opinion
-- Statement that makes it clear that the opinion report may be subject to change based upon new information that becomes available
How well does the document address the inclusion of the following administrative information in Reports, in the Case File, or available through some other means:
-- Manner of receipt of test items (e.g., FedEx, hand delivery)
-- Descriptive identification of all items received
-- Any abnormal conditions of test item(s) upon receipt
-- Name(s) of person(s) responsible for observations, data, calculations, and interpretations in the report
-- Name, address, and affiliation of each person who generated data contained in the report
-- Dates that observations, data, calculations, and interpretations were made
-- Chain-of-Custody
-- Log of communications related to the case
-- Name of verifier and date of verification of results, if applicable
-- Name of all reviewers and dates of review. Otherwise indicate "none" or provide an explanation as to why a review was not done
-- Final disposition of evidence (*e.g., evidence consumed, returned to contributor, retained*)
How well does the document address the inclusion of the following results-related information in Reports, in the Case File, or available through some other means:
-- Description of all pertinent data, observations, statistics, or results, including measurement uncertainty or error rates in sufficient detail for independent expert review
-- Description of assumptions underlying statistical analysis
-- Documentation of all features relied upon when making an association
-- Documentation of substantive consultations (as defined by subcommittees) and disagreements between analysts occurring during verification and review regarding the reported results/opinions that were resolved between the disagreeing parties without mediation
-- Description and justification for any re-analysis, changes to data, or changes to interpretations for evidence items made after initial testing of the evidence and comparison of data or features to a known or reference
-- Record of any features that were not identified in the initial examination of evidence that are subsequently identified after comparison to a reference sample
-- All calculations
How well does the document address the inclusion of the following limitation-related information in Reports, in the Case File, or available through some other means?
-- Explanation of or justification for any deviations
-- Any other common discipline-specific limitations that are likely to impact the data, observations, or results

How well does the document address the inclusion of the following information related to the underlying information relied upon to form an opinion in Reports, in the Case File, or available through some other means?
-- References consulted in forming the opinion
-- Relevant internal validation summaries
Test Method Validation and Verification Standards
For a method VALIDATION of a non-SDO published standard test method:
How well does the document address requirements for a development of a method validation plan to be established, approved, and authorized before initiating method validation activities?
How well does the document address the scope of the method verification (factors/variables)?
How well does the document address where the experiment is to be conducted?
How well does the document address requirements for method validation activities to use the same sample preparation and instrumental parameters throughout the entire validation?
How well does the document define the method validation parameters to be evaluated and the minimum sample size required to evaluate each parameter? (Note: minimum sample size could mean an actual number OR a description of the approach of calculating an appropriate sample size)
How well does the document address requirements for method validation to use known materials (e.g., known source, known identity, known concentration) that represent the range of materials for which the method will be used?
How well does the document address requirements for method validation to address method performance and limitations (e.g., sensitivity, specificity, selectivity, measurement bias, precision)
How well does the document address requirements for evaluation of modifications made to a previously validated method?
How well does the document address how measurement uncertainty is estimated for quantitative methods?
How well does the document address how error rates are estimated for qualitative methods?
For a method VERIFICATION of an SDO published standard test method:
How well does the document address requirements for a development of a method verification plan to be established, approved, and authorized before initiating method verification activities?
How well does the document address the title and source of the standard test method to be verified?
How well does the document address the scope of the method verification?
How well does the document address where the experiment is to be conducted?
How well does the document address the minimal sample size for evaluation of each verification parameter?
How well does the document address requirements for method verification activities to use the same sample preparation and instrumental parameters throughout the entire verification?
How well does the document address requirements for method verification to use known materials (e.g., known source, known identity, known concentration)?
How well does the document address requirements for method verification to address method performance and limitations (e.g., sensitivity, specificity, selectivity, measurement bias, precision)?
How well does the document address how measurement uncertainty is estimated for quantitative methods?
How well does the document address how error rates are estimated for qualitative methods?
Testing, Examination, or Analysis Standards
How well does the document address the suitable sample types for the method described?
How well does the document address the sampling protocol for the method described?
How well does the document address the necessary equipment required to perform the method?
How well does the document address the operating parameters of the equipment used in the method?
How well does the document address any calibrations that need to be employed before or during sample analysis?
How well does the document address the frequency of calibration?
How well does the document address the type and range of standards used?
How well does the document define specific criteria for controls to ensure the quality of test results?
How well does the document address how metrological traceability is established or maintained ?
How well does the document address controls that must be present for the results to be accepted?
How well does the document address frequency of control measurements?
How well does the document address acceptance limits of controls?
How well does the document address equipment checks (initial, periodical) that must be present for the method to be performed?
How well does the document address environmental conditions that must be present for the method to be performed?
How well does the document address criteria for acceptance/rejection of results?
How well does the document address the steps for performing the method?
How well does the document address the observations, data, or calculations that are to be made or recorded to promote reproducibility?
How well does the document address the steps for interpretation of observations, data, or calculations?

How well does the document address any limitations to the method and interpretation?
How well does the document address any limitations to the method for factors and conditions impacting the nature of the features, the ability to observe them, or both?
How well does the document address any limitations to the method for sensitivity?
How well does the document address any limitations to the method for specificity/selectivity?
How well does the document address the steps to minimize or mitigate potential contamination?
How well does the document address health and safety measures to be observed?
How well does the document address the effects of operator skill and other human factors on measurements, analysis, or interpretation?
How well does the document address the identification of task relevant vs. task-irrelevant information, with examples of each?
How well does the document address any special factors an examiner should consider when determining results, both as part of the evidence and beyond the characteristics of the evidence?
How well does the document address the steps to minimize or mitigate cognitive bias?
Terminology
Terminology topics have been addressed in the Overall General Document section.
Training, Competency, and Continuing Education Standards
How well does the document addresses entry qualifications that include any minimum academic credentials/requirements or if no academic credentials are required, does the docur
How well does the document addresses the discipline-specific elements as appropriate, including but not limited to:
-- History and basic theory of the discipline
-- Relevant literature
-- Nature and properties of examined evidence type and forms in which it may be submitted
-- Evidence handling techniques
-- Methodologies and validation studies, to include method limitations
-- Instrumentation and performance monitoring
-- Statistics and probability (including uncertainty, population inferences, etc.)
-- Interpretation (including documenting observations, data, and calculations)
-- Knowledge of related fields
-- Reporting (including minimum requirements as established in relevant standards and guidance documents.
-- Testimony (including minimum requirements as established in relevant standards and guidance documents.
How well does the document addresses how to remain current in the respective field via professional development and continuing education including an annual average of at least 16 hours over a three-year period?
How well does the document addresses information on licensing for the discipline?
How well does the document addresses information on certification for the discipline?
How well does the document addresses details on competency testing to include methods of testing and criteria for assessment?