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Approval of ASB 022
 19-Mar-18
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 ASB Std 0221
 ASB Standard 022, Standard for Forensic DNA Analysis Training Programs, First Edition

Note: a specific Proposed Resolution must accompany each comment or it cannot be considered.

#	Section	Type of Comment (E-Editorial, T-Technical)	Comments	Proposed Resolution	Final Resolution
CB	?	?	This document is incomplete and vague, and will allow the implementation of substandard training programs	No proposed resolution	CB has voted in favor of the document.
7	all sections	E	First letters of all sections and subsections should be capitalized	Capitalise first letter of subsections in the document	ASB Staff will confirm the document complies with the ASB Manual for the formatting of documents.
96	Foreword	E	Misspelled	change to "Foreword"	Fixed
97	Foreword	E	Provide more information, especially given that the Scope is so limited	Some possible suggestions: A quality training program is critical for a forensic DNA testing laboratory to ensure that the DNA testing procedures are correctly performed, the DNA data obtained are appropriately analyzed, interpreted, and compared to DNA data from other samples, and properly reported with suitable statistical calculations, as needed, and that all communications regarding the testing, including testimony, are fairly and accurately communicated. This standard provides general requirements for training of (who? Analysts, technicians, TRs, TLs, etc.) in all DNA methods and technologies [if correct]. This document will serve as the initial structure for a quality training program in a DNA testing laboratory. Additional requirements are needed to provide more detail and specificity for individual test methods and technologies.	Partial Accept: Foreword revised
25	Table of Contents	E	Table of Contents states: "Annex A (informative) Foundational Principles.....9 Annex B (normative) Requirements – Supporting Information.....10 Annex C (informative) Bibliography11" But then body of the document does not match Table of Contents... "Annex B (informative) Bibliography" is on page 10, and there is no Annex C	Fix Table of Contents to match the document. (pretty sure it is Table of Contents that is incorrect (instead of missing a true 'Normative references' since "2 Normative References The document contains no normative references. See Annex B, Bibliography for other references."	TOC will be updated prior to final publication
CB	Table of Contents	E	The Table of Contents needs to be updated to reflect correct numbering.	No proposed resolution	TOC will be updated prior to final publication
CB	Table of Contents	E	The table of contents needs to be updated	No proposed resolution	TOC will be updated prior to final publication
CB	Table of Contents and Definitions	E	The table of contents will need updating. The definition for "validation" does not match what is in the Lexicon. It's close though. There appears to be a font difference under 4.2.2 m)	No proposed resolution	TOC will be updated prior to final publication. Terms do not need to match those in the OSAC lexicon. Validation definition here was agreed upon by the CB.
57	Terms and Definitions	E	Style Guide requires terms to be in alphabetical order	Move 3.5, DNA analysis, prior to the definition for DNA Technical Leader	Accept - ASB Staff
19	TOC	E	TOC lists Annexes A, B, C but document only contains Annexes A and B	Perhaps add a page with Annex B: Requirements - Supporting Information with text stating that no additional requirements or information provided.	TOC will be updated prior to final publication

74	1 scope	T	This scope of this standard should reflect that it is an umbrella document and is to be considered in conjunction with standards governing training for specific parts of the DNA analysis and reporting processes, such as statistical analysis, etc.	Add statement (took this from the New Work Proposal); "This standard is intended to be a foundational training program standard upon which more specific standards can be created. Additional standards provide more specific requirements for training in various stages of the DNA analysis and reporting process, such as training in DNA isolation and purification methods, statistical analysis, report writing, and courtroom testimony."	Reject for the Scope, statement added to document Foreword.
75	1 Scope	T	Need to note that it applies to various types of DNA testing? Mito, STR, SNPs, next gen?	Clarify that it applies to "mitochondrial, Y-STR, sequencing, and SNPs"	Reject: See text added to forward for clarification See comment #75
76	1 Scope	T	Need to add comparison, report writing and testimony to scope	Add onto existing scope sentence "...comparison, report writing, and testimony."	Reject: See text added to forward for clarification See comment #75
17	3.1	?	My comment regards the use of the words "competent" and "qualified". Are these one-in-the-same? Competency The demonstration of technical skills and knowledge necessary to perform forensic DNA analysis... The word The assumption is that through competency, individuals will become competent? Should this be defined?	No proposed resolution	Accept. Definition of "qualified" added to provide clarification.
99	3.1 Competency test	E	The term "minimum standards of knowledge" is unclear language. We are aiming for high levels of knowledge rather than minimum. Unclear what standards of knowledge are being referred to.	Delete minimum. Maybe add something like: "...achievement of technical skills with the relevant and critical knowledge to successfully perform the testing procedures; interpretation, comparison, statistical calculations and reporting of DNA data; and communicate/testify to the findings.	Reject. Industry accepted definition taken from FBI QAS (reference added).
100	3.4 DNA Analysis	E	Unclear what is meant by "separation" and "designation" and definition seems incomplete	Please clarify the definition and suggest adding comparison, statistical calculations, and reporting.	Partial Accept. "data interpretation" used instead of "comparison"
27	3.5	T	"DNA analysis The processes of DNA recovery (includes evidence examination, sampling and extraction), ..." I disagree that 'DNA analysis' necessarily starts with 'evidence examination'. Many labs have separate serologists who simply screen the evidence for the presence of blood/semen/etc. Per the FBI QAS, they are not 'DNA analysts' and are not subject to the same required proficiency testing as a DNA analyst. The DRAFT Forensic FBI QAS defines "Forensic DNA analysis (also referred to as Forensic DNA testing) is the process of isolation, detection, identification, and evaluation of biological evidence in criminal matters using DNA technologies." So, the DRAFT QAS defines this as starting with isolation of DNA, <i>NOT</i> 'evidence examination'.	3.5 DNA analysis The processes of DNA recovery (starting at extraction), ...	Partial accept: definition revised to "The process of identification and evaluation of biological evidence in criminal matters using DNA technologies." This is the definition more in line with the current QAS
88	3.5	T	DNA analysis does not always include evidence examination and sampling	Remove "recovery (includes evidence examination, sampling and extraction)" and replace with "extraction" so that the definition is in line with proposed 2018 Quality Assurance Standards for Forensic DNA Testing Laboratories which states "forensic DNA testing begins at sample extraction or direct amplification."	Partial accept: see comment #28

78	3.5 Definition	E	Sometimes the document says "DNA analysis and interpretation" and sometimes just DNA analysis (which includes interpretation): this should be kept consistent to avoid confusion (if the definition of DNA analysis includes interpretation, then it shouldn't need to be separated out....)	Keep phrasing consistent or make clear why interpretation is listed in addition to DNA analysis	Partial Accept: Scope modified to: DNA analysis including data interpretation. And Definition for DNA Analysis expanded to make clear what is included in DNA Analysis.
77	3.5 Definition	T	Need to add statistical analysis for clarity	add adter interpretation under 3.5, "...including statistical analysis"	Reject. Industry accepted definition taken from FBI QAS (reference added).
101	3.5 Method	E	Typing kits and platforms are neither methods or analytical processes	Consider using SWGDAM, QAS or other adjudicated definition, or clarify the definition	Accept: Definition from FBI QAS used. See comment #29 (note that comment is for 3.6 not 3.5)
28	3.6	E	"The analytical processes and procedures ..." what is the difference between a 'process' and a 'procedure'? Is there a need for both of these words in this sentence? Dictionary.com: Process: a systematic series of actions directed to some end. Procedure: (2nd definition) a particular course or mode of action	The analytical procedures ...	Reject: Definition from FBI QAS used. See comment #29
29	3.6	T	typing test kits and platforms' are not 'methods'. These are items (nouns). Methods may specify which typing test kits and platforms to be used. An analyst cannot be presented with a 3500 CE instrument and know how to use it without having proper instructions (the instructions[how much amplified product, how long of an injection time, injection voltage, etc.] being the 'method'). DRAFT FBI QAS definition: Method is a combination of procedural steps used to perform a specific technical process. The method includes the validated steps, reagents, and critical instruments needed to perform the process or portion of a process. The same method may be conducted using different equipment (automated vs manual) when appropriately validated.	See FBI QAS definition	Accept
79	3.6 Definition	T	add statistical and interpretation	add after e.g., "intepretation and statistical methods"	Reject: Definition from FBI QAS used. See comment #30
30	3.7	E	placement of comma: "... the resistance to degradation and ,presence of multiple copies ..." Comma should be adjacent to 'and', not adjacent to 'presence'.	... the resistance to degradation and, presence of multiple copies ...	Accept
31	3.7	E	placement of footnote superscript: "... material. 2" Should be no space between period and numeral.	... material. ²	Accept

89	3.7	E	unnecessary comma between "degradation and" and "presence of multiple copies"	replace comma with "the" - " <i>the resistance to degradation and the presence of multiple copies ...</i> "	Accept
69	3.7	E	extra comma between 'and' and 'presence'	remove comma	Accept
CB	3.7	E	3.7 comma in second segment needs to be deleted font issue under 4.3.2 a) 7)	3.7 comma in second segment needs to be deleted font issue under 4.3.2 a) 7)	Accept.
102	3.7 mtDNA	E	delete comma	delete extra comma	Accept
8	3.12	E	i think 'STR' is best placed after the title of the subsection	move 'STR' after the title of the subsection	Reject: This is ASB required formatting
32	3.13	E	"... these variations may be used for distinguishing individuals, and in biological relationship and ancestry testing." RFLP, mtDNA, and STR's all could also be used 'for distinguishing individuals, and in biological relationship and ancestry testing', but none of these definitions include this information. Why is this extra information included only for SNP (and also uses given for Y-STR);	Add statement to all other types of DNA testing methods (RFLP, mtDNA, STR) as to their uses.	Accept: Modification changed to include mtDNA, STR, Y-STR, but not RFLP (technology no longer in use since 1998).
9	3.13	E	i think 'SNP' is best placed after the title of the subsection	move 'SNP' after the title of the subsection	Reject: This is ASB required formatting
34	3.14	E	"... an FBI sponsored group ..." This could be read as an FBI group that is sponsored, or a group that is sponsored by the FBI. Only the latter is correct.	... an FBI-sponsored group ...	Term and definition removed.
35	3.15	E	Is there a difference between "methodology" and "process"? Why use both words in this sentence? Per definition used within this document, a method is a "process", so 3.15 essentially states 'the application of a particular type of process or process to generate results.' Also, this document used 'method' to differentiate between extraction methods and quant methods. Multiple different extraction methods and multiple different quant methods can be applied to different amplification technologies. So... a 'technology' is not simply the application of a particular type of methodology - applying a phenol/chloroform extraction versus applying a Chelex extraction does not make for a different technology.	Just stick with the QAS definition.	Partial accept. Part (1) of the definition removed to more closely align it with the QAS definition.
36	3.16	E	Do not use 'program' to define 'training program'.	A documented plan designed to teach ...	Partial accept: see comment #10
37	3.16	E	"The purpose the program ..." Needs word 'of'	The purpose of the program ...	Partial accept: see comment #10

38	3.16	E	Is there a difference between "skills" and "abilities"? Dictionary.com: Skill is defined as 'the ability to do something well'. Note: other websites distinguish the difference between skills and abilities is whether the thing in question is learned (skill) or innate (ability)	If there are innate 'abilities' that a training program can enhance (maybe deductive reasoning?) then keep statement as written. If the training program is to enhance learned techniques (skills), then "The purpose of the program is to enhance their job-related knowledge and skills."	Partial accept: see comment #10
10	3.16	E	Confusing statement and I also think that training of personnel is to get the to them to a level of competency so that they can efficiently and effectively perform their duties rather than get them competency test ready.	'training program A program designed to teach employee (s) in specific skills that are necessary to perform duties for which they were employed. The purpose '	Partial accept. Definition revise to read: "A written description of activities to be performed for the purpose of establishing and maintaining competency and job-related knowledge, skills or abilities."
90	3.16	E	"of" needed between the words "purpose" and "the program"	add the word of - " <i>The purpose of the program</i> ..."	Partial accept: see comment #10
80	3.16 Definition	E	enhance isnt really the point of the standard	substitute "ensure"	Partial accept: See comment #10
103	3.16 Training Program	E	minor typo and grammatical error; change "or" to "and" since all are critical	change the end of the last sentence to: The purpose of the program is to enhance the employee's job-related knowledge, skills and abilities.	Partial accept: See comment #10
58	Terms and Definitions	E	The FBI QAS is referenced as a footnote for several definitions. This raises two questions: 1-Does this now make the document a normative reference? And 2-Does the footnote need a full citation (it currently is not), or is it sufficient that the full cite is in Annex B?	The Style Guide does not seem to have the answers here-check with the ASB Board and amend as appropriate?	The footnote is a citation, not a normative reference. It is acceptable that the full citation is in the Bibliography
59	Terms and Definitions	E	Footnote 2-John Butler is listed twice as an author, and same question regarding whether this is now a normative text	Only list John Butler once, and see above for other issue	Accept. And see answer to comment #58
60	Terms and Definitions	E	There is a stray comma in the definition of mitochondrial DNA	Remove comma from second line of definiion	Accept
61	Terms and Definitions	E	It does not seem relevant to include RFLP technology	Delete RFLP definition, and the reference to RFLP in the definition for Technology	Accept
62	Terms and Definitions	E	Definitions are provided for QAS and SWGDAM, but those terms do not appear anywhere in the Standard	Delete QAS and SWGDAM definitions	Accept
63	Terms and Definitions	E	The definition of Y-STR has a hyphen, there is no hyphen for Y-STR in the definition for Technology	Add hyphen to Y-STR in the definition for Technology	Accept
98	Definitions - Competency (unnumbered)	T	Based on the definition of "DNA analysis", the definition is incomplete.	In addition to the technical/mechanical aspects of DNA testing, please include comparison, statistical calculations, reporting and testimony as areas for demonstrating competency. Depending on the scope of this document, may also change "profile" to "data".	Accept

39	4.1.1	T	"All DNA laboratory personnel shall have training prior to participating in DNA analysis and data interpretation." Since part of training is to actually perform DNA analysis and interpretation (on training samples!), maybe clarify that training shall be done prior to casework analysis and interpretation. Also, they shall have completed their training - not just have had some training	All DNA laboratory personnel shall have completed appropriate training prior to participating in DNA analysis and interpretation on casework samples.	Accept: Refer to 4.3.6 . Added language the trainee must successfully complete the training program with and the competency test with DNA technical lead documentation before performing casework or databasing.
104	4.1.1	T	suggested additional language	add the following to the end of the statement: on case samples in the laboratory. The elements stated below shall be included in the general training program.	Reject: 4.1.1 is an introduction
81	4.1.1	T	Analysts should be required to complete training before performing DNA analysis on actual casework	Add requirement that analysis successfully complete the training program or are exempted under 4.1.3 before performing DNA analysis on case samples	Accept: Refer to 4.3.6 . Added language the trainee must successfully complete the training program with and the competency test with DNA technical lead documentation before performing casework or databasing.
1	4.1.1	E	Harmonize with other related clauses (e.g., 4.1.4)	Participating in DNA analysis and data interpretation "prior to independent casework analysis".	Reject: All occurrences of the word "independent" were removed.
64	Requirements	T	Section 4.1.2 describes the designation of a training program administrator, which apparently could be someone other than the technical leader. However, section 4.2.4 states that the technical leader is responsible for administration of the training program, and sections 4.3.3 and 4.3.4 reinforce that the technical leader seems to bear the full responsibility for administering the training program. The "training program administrator" has no responsibilities in the document past being designated in section 4.1.2.	Determine whether the lab can have a training program administrator other than the technical leader. If so, clearly designate the role of that person vs. the role of the technical leader in the program throughout the document, or specify which duties the tech lead could delegate to a training administrator and which must be done only by the tech lead. In particular the verbiage in 4.2.4 seems to be in direct contradiction with having someone other than the tech lead administer training.	Partial Accept - changed 4.1.2.
40	4.1.2	E	extra space present after hyphen: "multi- laboratory"	multi-laboratory	Accept: Edited
105	4.1.2	T	suggested modified language	The laboratory or multi-laboratory system shall have a designated individual responsible for the administration of the DNA training program	Partial Accept: See #16
16	4.1.2	T	This section makes it sound as if anyone can be designated as the training program administrator but later in section 4.2.4 it specifically states that the training program SHALL be administered by the technical leader.	change "an individual" to "the DNA technical leader"	Partial Accept: clarified 4.1.2 to read: "The laboratory or multi-laboratory system may have an individual to oversee the DNA training program under the direction of the DNA technical leader. The DNA technical leader is responsible for the administration of the training program."
45	4.1.2 and 4.2.4	T	"4.1.2 Training Program Administrator The laboratory or multi- laboratory system shall have an individual designated as being accountable for the administration of the DNA training program." "4.2.4 The training program shall be administered by the DNA technical leader." Why does 4.1.2 not specify that the TL must be the administrator if this is specified in 4.2.4? Or, why must the TL be the administrator if 4.1.2 allows for the lab to designate anyone (appropriate) to be the administrator?	Be consistent between 4.1.2 and 4.2.4 in either allowing anyone to be the administrator, or requiring the TL to be the administrator (I vote for "anyone").	Partial Accept: See #17
106	4.1.3	E	change "or" to "and" since training and experience should have occurred together	change "or" to "and"	Accept
107	4.1.3	T	some laboratories using this standard may not have anyone defined as a technical leader since that is a US QAS specific requirement; suggest using more general/applicable language	suggest adding "or other appropriate personnel" after technical leader or substitute something like "the appropriate individual as defined by the laboratory policies"	Reject - refer to the definition of DNA technical leader - section 3.4
108	4.1.4	T	Wording changes suggested for clarity and completeness.	Consider changing to "Prior to performing independent testing on casework, ..." and ending the sentence after "as applicable to job responsibilities." Alternatively, add comparison, stats, reporting, testimony at the end.	Partial Accept: refer to 4.3.1 - Section 4.1.4 has been deleted.
6	4.1.4	E	Competency Testing requirements in this clause appear to be covered by 4.3.1.	I would suggest keeping 4.3.1 and deleting 4.1.4. since 4.3.1 is more comprehensive.	Accept

42	4.1.5	E	suggest adding a comma after 'validation'	For DNA personnel who had an integral role in the validation, sufficient to master the technical skills, ...	Reject: Comma added after "concepts"
41	4.1.5	T	"When a new DNA processing, data interpretation, or statistical analysis method is incorporated into the laboratory's protocols, all personnel responsible for performing the method shall successfully complete training and competency testing prior to performing DNA analysis or data interpretation." The text specifically notes processing, interpretation, and stats as three different topics for which new methods may be incorporated. However, training and competency must only be completed prior to performing the analysis or interpretation... so, they don't have to complete their training/competency prior to performing the new stat method?	When a new DNA processing, data interpretation, or statistical analysis method is incorporated into the laboratory's protocols, all personnel responsible for performing the method shall successfully complete training and competency testing prior to performing the method on casework samples.	Accept: revised (Note: Section 4.1.5 renumbered as 4.1.4.)
109	4.1.5	T	the end of the last statement is incomplete relative to the first sentence	Suggest adding: prior to performing DNA analysis, data interpretation and/or statistical calculations.	Accept: revised (Note: Section 4.1.5 renumbered as 4.1.4.)
110	4.1.5 Note and throughout document	E	technical leader used (see comment for 4.1.3)	see recommendation for 4.1.3 re: use of technical leader in a standard	Reject. See response to #107
2	4.1.6	E	What is the difference between 4.1.6 and 4.2.7? Verbiage seems duplicative.	Combine into single clause.	Accept: 4.1.6 has been deleted- see revised 4.2.7 (Note: Section 4.1.6 renumbered as 4.15)
46	4.1.6 and 4.2.7	E	How are these different? Why not lump them together into a single Standard? 4.1.6 Re-training In the event that a previously qualified individual requires retraining, the DNA technical leader shall evaluate the knowledge-based or technical areas requiring improvement and determine the appropriate re-training and competency testing to be completed. The individual shall successfully complete the re-training and assigned competency test(s) in order to resume the applicable job responsibilities. 4.2.7 Re-training of Previously Qualified Laboratory Personnel In the event a previously qualified individual who was previously released from a training program requires re-training, the DNA technical leader shall document the re-training program and the required competency test(s) to be successfully completed by the individual in order to resume the applicable job responsibilities.	Suggest combining 4.1.6 and 4.2.7 as they both essentially state the same thing.	Accept: 4.1.6 has been deleted- see revised 4.2.7 (Note: Section 4.1.6 renumbered as 4.15)
82	4.2.1	E/T	1) why does this paragraph spell out DNA processing, data interpretation etc. rather than use phrase DNA analysis whose definition includes all these things? And 2) add report writing and testimony	1) use DNA analysis methods (if definition modified to include comparison and statistical analysis) and 2) add "report writing and testimony"	Accept: Please refer to definition in section 3.3 DNA Analysis.
3	4.2.1	E	What if the lab policy doesn't require approval for the training program? Is the intent that the technical leader always approves the program? If yes, it seems unnecessary to include mgmt. and the reference to lab policy.	Delete management and lab policy since they appear to be outside the purview of this document.	Accept: 4.2.1 has been revised
65	Requirements	E	Font size for 4.2.2(m) is larger than the remainder of the document	Correct font size	Fixed
11	4.2.2	E	The full stop after 'laboratory' is inappropriate as it prefaces a list	Remove full stop and replace with colon	Reject, as the list contains full sentences, a full stop is grammatically correct.

91	4.2.2	T	"Lecture" is too specific a word/type of training for many sub-items in this section (f, g, j, k, l, m, n, o and p). Other methods should suffice (i.e. readings, webinars, discussions or combination) for many of these.	remove "lectures" if deemed appropriate (e.g. "f) <i>Evidence handling and chain of custody</i> ." or "f) <i>Evidence handling and chain of custody, including practical exercises</i> ."	Reject: a leader is needed to impart information verbally and/or with slides and/or via a webinar. Basically going over notes that are explained by a leader in a formal, or informal setting.
116	4.2.2 g, h, i	T	training in the software used is not included in any of these sections	include training in software in each of the relevant sections	Accept: see revised sentence f) under 4.2.2
117	4.2.2 j	E	consider breaking into 2 parts since the two topics are different and the training may not occur together for the two topics	separate report wording and technical review into different subsections	Accept
112	4.2.2 opening	E	possible extraneous and limiting information at the end of the statement	could stop after "following" or "following topics" to permit training in new techniques not yet on line in the laboratory	Partial Accept: Revised to "At a minimum, the training program shall include the following topics as they apply to the work conducted by the laboratory and by the individual in training."
111	4.2.2 opening	T	provide additional substance to the meaning of the requirement	substitute "include information on and training in" in place of "cover"	Partial Accept: Revised to "At a minimum, the training program shall include the following topics as they apply to the work conducted by the laboratory and by the individual in training."
83	4.2.2(m)	T	applicable laws and limitation/selection of methods are too different to be combined into one	separate out "applicable laws and selection of methods and limitations of methods". Maybe additional clarification is needed in a footnote or annex, e.g., applicable laws could refer to CODIS or genetic privacy statutes	Accept
43	4.2.2.m	E	Looks like the font changed (is larger than rest of document)	fix font	Fixed
44	4.2.2.m	E	Seems odd to mix together "applicable laws" and "limitations of methods and selection of methods."	Separate legal issues from scientific methods.	Accept: refer to line #59
21	4.2.2.m	E	This line appears to be in a bigger font	Check font size.	Fixed
70	4.2.2.m	E	font size appears different	check font size	Fixed
113	4.2.2a	T	provide additional substance to the meaning of the requirement	substitute "required for" in place of "regarding"	Partial Accept: "regarding" replaced with "for"
114	4.2.2e	T	consider breaking into 2 parts since the two topics are different	separate evidence handling and chain of custody into different subsections	Reject: This comment refers to 4.2.2 g. It has been agreed that these topics are linked.
115	4.2.2f	E	improve flow from header sentence	suggest reordering to say "the theoretical and scientific bases of forensic DNA analysis, including lectures and literature review"	Reject: This comment refers to 4.2.2 h. CB determined that this sentence reads fine as it is.
118	4.2.2k	T	additional requirements recommended	delete "awareness of" to follow from header sentence; and add data interpretation, comparison, report wording and testimony	Reject: comments is based on an earlier version of this document
119	last line 4.2.2	E	should the last line be o)?	add o) if appropriate	Fixed.
120	last line 4.2.2	T	For a trainee in a new area, it seems more critical to understand the relevant validation studies done for each section of training rather than have training in how to do a validation study, especially if that is not part of the immediate job description	modify to require training and review of all relevant validation studies	Partial Accept - changed 4.2.2 -e

121	4.2.3	T	first sentence is incomplete	add comparison, reporting, technical review, testimony to the end of the first sentence.	Reject: comments is based on an earlier version of this document
92	4.2.4	T	4.1.2 mandates a "training program administrator," but 4.2.4 mandates that the DNA technical leader will administer the training program.	Remove " <i>The training program shall be administered by the DNA technical leader .</i> " Also, substitute " <i>DNA training program administrator</i> " for " <i>DNA technical leader</i> " in the next sentence.	Partial Accept: see 4.1.3
4	4.2.4	E	Last 2 sentences (training records) would be better in related section.	Move last 2 sentences to 4.2.8 for cohesive approach.	Reject: good to explain the pre-approval.
18	4.2.7	?	Re-training of Previously Qualified("competent"?) Laboratory Personnel, In the event a previously qualified individual...	if "competent" versus "qualified" are one-in-the-same then either use just the word "competent" or just the word "qualified" If competent" versus "qualified" are not one-in-the-same then either use "competent" or "qualified" OR at minimum define "qualified" as being competent.	Partial Accept: defined qualified
122	4.2.7 & 4.1.7	T	unclear what is meant by the phrase at the beginning of the requirement 4.2.7. Unclear how these two requirements are different	Recommend deleting the first line and a half from 4.2.7. Either combine 4.1.7 and 4.2.7 or more clearly distinguish the differences.	Partial Accept: Deleted 4.1.8
84	4.2.8	T	I believe there are QAS requirements regarding record retention; perhaps another OSAC generated standard does as well. So it should be consistent, or this document should lay out the requirement for retention. Courts may order the materials produced as part of discovery , pursuant to a subpoena duces tecum, and an auditor auditing against these standards would require them.	Delete "as specified by laboratory policy." May be necessary to specify "to ensure their production for court proceedings and audits"	Accept. With modification that document retention information moved to Conformance section 5 c).
5	4.2.8	E	What if the lab policy is to discard all training records after a successful competency test? 5c) is a related clause, and is written without mention of retention or lab policy. Without a minimum expectation there is limited value and no standardization.	Set minimum expectations such as--retain during entire tenure with the organization.	Partial Accept. Sentence revised to: "All training activities for each trainee shall be documented and records retained." and moved to Conformance section 5 c)
48	4.3.1	E	Along with prior comment about the difference between 'ability' and 'skill'. "... the trainee has the knowledge, ability, and skill required ..." IF 3.1.6 gets changed, also change here.	... the trainee has the knowledge and skill required ...	Reject. Industry accepted term is KSA (knowledge, skill, ability)
47	4.3.1	T	"... the trainee shall successfully complete the competency test(s) assigned by the DNA technical leader." IF the training administrator need not be the TL, this statement could be revised accordingly.	... the trainee shall successfully complete the competency test(s) assigned by the training administrator.	Partial Accept: removed "assigned by the DNA technical leader" to simplify statement. See comment in # 124
123	4.3.1	T	remove technical leader requirement	replace the second half of the first sentence with "the trainee shall successfully complete the assigned competency test(s)."	Accept
124	4.3.1	T	The last sentence of the requirement would be difficult for an auditor to assess whether a competency test has successfully accomplished this.	Change the language to better state what should be included in the competency test in a way that an auditor could review documentation to assess if the requirement had been met.	Reject. Documentation from Technical Lead regarding passing training program will be what the auditor will evaluate.
93	4.3.1	T	The phrasing of first sentence does not allow anyone other than the DNA technical leader to assign competency tests.	Change language to "...successfully complete the assigned competency test(s)."	Partial Accept: see # 48
73	4.3.2	E	Cognitive bias--written test. What is the purpose here other than to inform the trainee that cognitive bias exists? Other than a technical definition, how does one even give, let alone 'grade' a written test on cognitive bias?	Not have an entire written test on Cognitive bias	Reject. See #71

72	4.3.2	T	Written AND practical tests for each of these components, seems redundant and not a reliable method of determining if the trainee is actually competent in successfully working a case.	Practical tests, in the form of a simulated case would be more useful, especially in areas such as report writing, data interpretation and statistical analysis.	Reject. CB agrees that data interpretation statistical analysis and report writing are best assessed through a written and practical test. Written tests are necessary to ensure the knowledge, skills, and ability are all being met. Practical tests do not cover a wide enough range of topics.
71	4.3.2	T	The specific designations for required testing (written, practical) seem overly prescriptive. There are no references provided to direct a DNA Technical Leader to resources that would guide the construction of an appropriate written test in some of these areas, particularly Cognitive Bias and Ethics. Other areas could clearly be covered by textbook questions, but I would be wary of constructing a test on topics of cognitive bias when that is not my area of professional expertise (e.g. legal issues if there is a challenge to an apparent error). The SWGDAM Training manual appears to accomplish these requirements within the context of conducting a mock case with analysis, data interpretation, and report writing, where these topics are addressed in the trainee's written notes.	Remove the itemized prescriptive requirements for written or practical tests. All of the areas of training can be tested in a practical way that does include written responses - the standard of using a 'Written and/or practical competency test(s)' is clear in 4.3.2 a).	Reject. There is a way to test ethics and cognitive bias and all other areas indicated in a written test. Written tests are necessary to ensure the knowledge, skills, and ability are all being met. Practical tests do not cover a wide enough range of topics.
125	4.3.2 & 4.3.3	T	It seems that both oral and written tests are required to cover some of the same topics as written. Clarification is needed. Also, should the standard mandate whether a test is oral or written or both? Could this not be left up to laboratory training protocols as long as all relevant topics are covered appropriately? The flow of the subsections can be improved with different wording.	Please clarify the specific requirements in a manner such that the trainer, trainee, auditor, etc. understand what is necessary to do.	Reject. The CB feels the requirements are clear and could be implemented into a training program. These are minimum requirements, additional tests can be administered as the technical leader/laboratory deems necessary.
126	4.3.2 b	T	separate testimony from an oral competency test since the responses and format are generally quite different	Separate the requirement for competency test for knowledge and proficiency from the requirement to have mock trial testimony experience.	Reject. An oral competency can be broken apart into oral assessment and mock trial or combined. It is up to the laboratory.
87	4.3.2(a)	E	this list reflects required content of the competency test so wording should reflect this	substitute "must at a minimum cover" for word "covering"	Accept, with minor editorial edits.
22	4.3.2.a.7	E	This line appears to be in a bigger font	Check font size.	Fixed
23	4.3.2.b	T	I think a written test on ethics should suffice. I am not sure if there is an added benefit to having an ethics portion to an oral exam.	Change wording in first sentence. "An oral competency test(s) to demonstrate an understanding of ethics and the scientific basis of forensic DNA analysis."	Reject. Verbal questioning on ethics is an additional method to ensure trainee understands ethics.
49	4.3.3	T	Comment goes along with the issue of who is the training administrator? "The DNA technical leader shall approve all competency tests prior to administration to the trainee." IF the TL must be the administrator, by default aren't they approving all competency tests? IF anyone else could be the administrator, then it makes sense to specify the TL must approve all competency tests.	Resolution depends on the decision of whether the TL must be the training administrator or not.	Reject. Training administrator has been redefined as training coordinator.
127	4.3.3	T	It is unclear when a competency test would be given externally. It seems that the laboratory would need to have internal demonstration of competency.	delete the sentence that starts "When practicable..."	Partial accept -clarified competency tests must be assembled and administered internally.
94	4.3.3	T	The phrasing of last sentence does not allow anyone other than the DNA technical leader to approve competency tests prior to administration to the trainee.	add "or designee" after "DNA technical leader"	Reject. Technical Leader must approve of competency tests prior to administration.
12	4.3.4	E	the word 'satisfactory' should not be capitalised	Replace 'S' with 's'	Accept

95	4.3.4	T	phrasing does not allow anyone other than the DNA technical leader to evaluate the results of all competency tests	add " <i>or designee</i> " after " <i>DNA technical leader</i> "	Reject. Technical Leader must evaluate all competency tests prior to certifying an analyst.
86	4.3.4	T	Competency tests should be required to be maintained in the lab for possible production for court proceedings (or audits)	Add requirement that competency test results be stored in the lab and made readily available for review	Partial accept - retention of competency records was clarified in 4.2.9
85	4.3.4	T	"satisfactory/unsatisfactory" is defined as per laboratory criteria. This criteria should be written and available for review.	Add requirement that the criteria for satisfactorily passing the competency test and completing training be documented in writing.	Accept
128	4.3.5	T	This section seems too similar to 4.1.7 & 4.2.7.	consider consolidating these requirements and providing more clarity	Accept
50	4.3.6	E	Along with prior comment about the difference between 'ability' and 'skill'. "... the trainee has demonstrated the knowledge, skills, and ability ..." IF 3.1.6 gets changed, also change here.	... the trainee has demonstrated the knowledge and skills ...	Reject. Industry accepted term is KSA (knowledge, skill, ability)
129	4.3.6	T	it is unclear how this would be documented: "that the trainee has demonstrated the knowledge, skills, and ability to perform the assigned job responsibilities". It seems more that the standard should require documentation that the trainee has completed all assigned tasks and received a satisfactory rating for all completed assignments.	Modify the requirement to state "document that the trainee has completed all assigned tasks and received a satisfactory rating for all completed assignments.	Partial Accept
51	5 d)	E	Along with prior comment about the difference between 'ability' and 'skill'. "... has demonstrated the knowledge, skills, and ability ..." IF 3.1.6 gets changed, also change here.	... has demonstrated the knowledge and skills ...	Reject. Industry accepted term is KSA (knowledge, skill, ability)
13	5a	E	5a.1 word change	Replace the word 'every' in 5a)1 with 'all'	Accept
14	5a	E	5a.1 word change	Replace 'techonology' with 'technologies'. Replace 'methodology' with 'methodologies'	Accept
15	5a	E	5a 3) singular 'analysis' should be 'analyses'	add 'analyses'	Reject needs to remain 'analysis'.

52	Annex A	E	consistency: Why is "forensic DNA analyst" (lower case) used when discussing the person, but "Forensic DNA Analyst" (capitalized) used when discussing the training program (but "training program" itself is not capitalized)? Additionally, 1st paragraph of Annex A uses "Forensic DNA Analyst training program" while 2nd paragraph uses both "Forensic DNA Analyst training program" and "Forensic DNA Analysis training program".	review use of capitalization and "Analyst" vs. "Analysis" to look for consistency	No longer applicable. Annex A removed.
53	Annex B	E	Typically "all inclusive" is written as "all-inclusive" (use of hyphen)	"all-inclusive"	Accept
54	Annex B	E	I didn't look at all of the references, but what does the 'Manual of Style ...' have to do with "a list of the literature resources that may assist the DNA Technical leader in defining the breadth and scope of the materials to be reviewed by the trainee."?	Review the first three references on the list to determine if they truly "assist the DNA Technical leader in defining the breadth and scope of the materials to be reviewed by the trainee"	Accept
55	Annex B	E	The links provided for both the FBI QAS (forensic and database) are no longer active.	Update the links to either the SWGDAM Publications site (https://www.swgdam.org/publications), or the specific sites for each QAS. Given that the QAS documents will be updated, suggestion is to reference simply the Publications site as this will then allow the reader to select the most current QAS document instead of a specific link that may become defunct sooner than the Publications site would.	Reject - verified the links to the Quality Assurance Standards and to the SWGDAM Training Document are still valid as of 5/1/18. his Disclaimer is on page 3 in the forward: "All hyperlinks and web addresses shown in this document are current at the time of publication"
56	Annex B	E	Along with prior comment about the FBI QAS links no longer being active I would suggest not giving a direct link to the SWGDAM Training Guidelines. Giving a link to the Publications site would allow for updates to be made to the specific document (requiring a new specific website) while the reference given in these Standards would hold up over time.	Change the link given for the SWGDAM Training Guidelines to https://www.swgdam.org/publications	Reject - verified the links to the Quality Assurance Standards and to the SWGDAM Training Document are still valid as of 5/1/18. his Disclaimer is on page 3 in the forward: "All hyperlinks and web addresses shown in this document are current as the publication date of this standard."
130	Annex B	T	delete Annex B or expand	delete Annex B or expand	Reject: Bibliography documents are included in the document for informational purposes and the CB feels that these are the most relevant documents to DNA training. (Bibliography is now Annex A)
66	Annex B	E	DNA technical leader is not capitalized throughout the document	Change the capital T in Technical to lower case on line 2.	Accept
67	Annex B	E	The first three references do not seem to be relevant to the topic of assisting tech leaders with defining the scope of materials to be reviewed by a trainee	Delete first three references, or if kept, ensure the form is an appropriate citation (incorporate footnotes into the cite?).	Accept
68	annex B	E	I am pretty sure other documents have referenced the swgdam.org website for these documents, as current versions will always be listed there. Here, specific PDFs are listed which could change over time, or the links could be broken.	Change web references to www.swgdam.org	Reject - verified the link to the SWGDAM Training Document are still valid as of 5/1/18. This Disclaimer is on page 3 in the forward: "All hyperlinks and web addresses shown in this document are current as the publication date of this standard."
20	Annex B - Biblio	E	Is there a need to keep the first three references listed?	Remove references to ASTM International, ISO/IEC Directives, and NFPA Style Manual.	Accept
24	Bibliography	E	Unclear why references 1 through 3 would have a bracket ("1]"), while references 4 through 6 would have a parenthesis ("4)")	Change the bracket to parenthesis for references 1 through 3	Rejected - deleted references
26	Bibliography	E	"The following information provides a list of the literature resources that may assist the DNA Technical leader" All other instances have 'technical' (no caps)	The following information provides a list of the literature resources that may assist the DNA technical leader	Accept

33	Footnote	E	"2 Butler, John M., and John M. Butler. ..." Is this the proper way to footnote the <u>single</u> author of a book? Last name, First name, <i>and</i> First name Last name?	Pick either "Butler, John M." or "John M. Butler" as the author.	Fixed
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