



Forensic Science Regulator

Firearms Specialist Group

Note of the meeting held on 11 October 2022 held in person in Birmingham.

1. Welcome, and Introduction

- 1.1 The Chair welcomed all to the second meeting of the Firearms Specialist Group (FSG).
- 1.2 Members introduced themselves to the group. A full list of the attendee organisations and apologies is provided at Annex A.
- 1.3 The minutes of the July meeting, the last meeting of the FSG, had been circulated and agreed by members. The [minutes had been published](#) on the website of the Forensic Science Regulator (FSR).
- 1.4 The actions from the last meeting were reviewed and all actions were marked as complete and closed.

2. Review of Forensic Science Activity (FSA) definitions

- 2.1 Prior to the meeting copies of the draft 'Firearms: Ballistics', 'Examination and Classification of Firearms, Ammunition, and Associated Materials', and 'Incident Scene Examination' FSA definitions were shared with the group. These were the definitions as published in the first statutory consultation on the Code of Practice (henceforth 'the Code') to be issued under the Forensic Science Regulator Act 2021 ([Consultation Draft Code of Practice 08/08/2022](#)).
- 2.2 The chair remarked that this would be the final opportunity to comment on and finalise the core content of the draft FSA, with the staff of the Office of the Forensic Science Regulator (OFSR), prior to the first version of the Code being

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published. These comments would be separate from any comments made in response to the public consultation.

Discussion on FSA Definition Firearms: Ballistics

- 2.3 It was agreed that an expansion was required in the 'Firearms: Ballistics' FSA definition to capture examination details such as trigger pulls, ejector marks and serial mark recovery.
- 2.4 The group agreed that there was a need to standardise what 'firearm' refers to. An OFSR representative concluded this could be defined within FSA definition.
- 2.5 The group agreed that where the Firearms Act 1968 has been mentioned, there should also be inclusion of a statement addressing other firearms legislation, such as amending the text to say, "Firearms Act 1968, as amended, and other firearms legislation".
- 2.6 The representative from Staffordshire University noted that the firearms definitions did not cover certain activities which were carried out by firearms experts, questioning if this was because they were not done often and therefore out of scope. The representative referenced 'examination of firearms conversion factories' as an example. The group agreed certain activities were likely to fall out of scope and discussed how some activities, which take place at the scene, could sit within other FSAs.
- 2.6.1 The chair clarified that examination taking place at the scene would be out of scope, unless it was an examination of a scene where a firearm had been discharged. The chair noted that the activities a firearms expert would give evidence on, in court, were more likely to take place in a laboratory and be covered by ISO/IEC 17025. Following a comment from the United Kingdom Accreditation Service (UKAS) representative that 'testing at scene' (in this case referring to testing of any items not returned to a laboratory for examination) could be considered and accredited by ISO/IEC 17025 at scene (rather than ISO/IEC 17020), the chair confirmed certain tests carried out at the scene, such as presumptive testing and trajectories, were in scope and included in the FSA definition.

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- 2.7 The group discussed the differentiation between tool marks on firearms and ammunition made during manufacture (e.g. vice marks) and ballistics toolmarks made during firing (e.g. firing pin marks or ejector marks). Following a detailed discussion, the group agreed that marks relating to firing would fall under the ballistics FSA however, those that result from manufacture would not. The group reflected that there was a general lack of expertise in toolmark examination in England and Wales and resultantly toolmark examination may be conducted by a firearms expert. In concluding the discussion regarding whether a specific activity should be included for ‘non-firearm tool mark investigation’, the chair summarised that there should be cross reference to the ‘Marks Comparison’ FSA within the ‘Firearms: Ballistics’ FSA. The chair commented that the ability to become accredited in this area and consideration of competence would be determined by individual laboratories.
- 2.8 The group discussed that there was a need to include further signposting across the Code to FSAs where firearms activities were relevant, for example signposting within marks comparison and gunshot residue (GSR) FSAs. This was agreed with an OFSR representative.
- 2.9 The representative from Staffordshire University raised that ‘Ballistic Material’ should be defined within the Code.
- 2.10 The representative from Staffordshire University raised that appropriate levels of reporting was not addressed within the Code. The chair commented that they, the chair, considered this to not be in scope.
- 2.11 The representative from UKAS raised that presumptive testing for heavy metals (which was within the GSR FSA) should be included in the Firearms: Ballistics FSA, highlighting that presumptive testing for heavy metals was included in the UKAS master schedule. This was agreed.
- 2.12 An OFSR representative questioned whether validation of software should be mentioned in the FSA, this was discussed by the group and it was agreed that technical validation of software should be included within the FSA.
- The representative from UKAS questioned whether determination of lethality should be included. The group discussed that there was a level of expert

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interpretative opinion in making these assessments although not necessarily considered to be scientific process or a process in which competence could be assessed. The representative from Principal Forensic Services noted that there was documentation on defining lethality and felt determination of lethality should be included within the 'Firearms: Ballistics' FSA definition. This was to be considered.

- 2.13 The representative from Staffordshire University raised that across the Code the structure of the FSAs was not consistent.

Action 1: Members of the FSG agreed to review and develop an amended version of the Firearms: Ballistics FSA, considering the points raised above, to be shared with the OFSR and subsequently the FSR.

Discussion on FSA Definition Examination and Classification of Firearms, Ammunition and Associated Materials

- 2.14 In relation to the sub-activity "preliminary classification for the purpose of a charging decision" the chair informed the group that the FSR was taking a position whereby no statements should be produced by unaccredited individuals. The group discussed how this would impact the resources across England and Wales and timeliness of production of reports. Following the discussion, the group agreed on the decision that the sub-activity should remain included in the FSA definition.
- 2.15 A representative from National Ballistics Intelligence Service (NaBIS) questioned the term 'preliminary classification' suggesting the term 'preliminary' either be defined further or removed. The group agreed to remove 'preliminary'.
- 2.16 The representative from Staffordshire University asked whether intelligence activity was being included within the Code as the prevalence of databases increased. The group discussed that the NaBIS database was not accredited, of note, during the discussion a NaBIS representative shared that a statement given by an analyst would not fall under the Code, and an OFSR representative shared that an FSA covering databases was already included within the Code (although, was not subject to the first version of the Code).

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Action 2: Chair to review whether the control and management of forensic data-based service should be included within the FSA.

Discussion on FSA Definition Incident Scene Examination

- 2.17 The chair proposed including the activities that would be performed by a firearms expert at a shooting scene in the Statutory Codes. There was some discussion about what shooting scenes would be attended, whether shots fired or fatal shootings, however the Codes would not define the types of shooting scenes that should be attended but provide the requirements for those scenes that were attended. Such activities would include:
- presumptive testing
 - identifying direction of strike on glass and other materials
 - assessment of close-range firing effects visible or reagent detectable
 - working with the pathologists to determine track angles, close range effects and direct entry or destabilised bullet
- 2.18 A UKAS representative noted it was possible to accredit activities under ISO/IEC 17025 at scene but that, at the time of the meeting, no firearms' related activities were accredited under ISO 17025 at scene.
- 2.19 The chair also suggested the addition of some activities that could occur following a shooting scene on items recovered for examination, such as:
- examination of objects recovered from the scene, for example suspected gunshot damage in doors or windows.
 - examination of projectiles for impact damage and impacted material, for examples glass, paint or brick.
- 2.20 A representative from the OFSR confirmed that the group was content that the existing incident scene examination FSA sufficiently covered recovery of firearms. The chair confirmed that firearms should be recovered by individuals from an accredited organisation.
- 2.21 The group agreed that with regard to post scene firearms testing in the laboratory, signposting should be included to the GSR FSA.

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- 2.22 The group agreed to using the term 'projectile' rather than 'bullet'.
- 2.23 The group discussed the use of three dimensional (3D) reconstructive tools, whether their use should be covered by the Code. The representative from Merseyside Police noted Merseyside Police do use 3D scanners as part of their forensics work but this was not specific to firearms, while the representative from the Metropolitan Police Service Forensic Firearms Unit highlighted the team which handled the use of 3D scanners at the Metropolitan Police Service was not part of the forensic unit. The group discussed how the use of 3D scanners would be handled at forces where the scanning unit was not part of the forensic unit. The group agreed that the use of 3D reconstructive tools should be considered in the future.
- 2.24 A representative from the OFSR noted that addition of a new FSA would not be possible in the first version of the Code as it had not been consulted on. Additions could be made to existing FSAs although, given the timeline substantial changes to content would not be accepted for the first issue of the Code.

Action 3: Members of the FSG to consider what additional activities should be added to FSAs within the Code to cover activities at a shooting scene and share suggestions with the OFSR.

3. Triage classification of Firearms

- 3.1 Triage was discussed in terms of selecting firearms for further examination and testing. The chair's view was that triage should sit outside of accreditation as it wouldn't result in a statement/formal report. The group agreed with this use and context of the term 'triage'.
- 3.2 An OFSR representative questioned, by that definition, how any 'triage' activity would be recorded. The chair answered that this could be determined by each individual organisation.
- 3.3 The representative from Staffordshire University highlighted the risk from items that were incorrectly classified and therefore would not be submitted for

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examination/testing when they should be. The chair acknowledged that this was a problem being addressed through education. The representative from Helston Forensics suggested that an accredited peer review could be carried out. The chair suggested that this was beyond the remit of this group.

3.4 The group agreed that the chairs note on triage, a discussion document which was shared with the group ahead of the meeting, had many beneficial comments to be included in brief into the FSA or shared within guidance.

3.5 It was noted by the group that triage and screening and their respective meanings needed to be clearly defined so they were used consistently in the industry. An OFSR representative highlighted how the terms were used across the Code and noted use of these terms should be carefully considered.

4. Kinetic Energy Determination

4.1 The representative from UKAS raised the issue of uncertainty of measurement and how with the increased use of technology to ensure traceability of firearms, there wasn't a consistent approach to evaluating and calculating the uncertainty of measurement for kinetic energy determination.

4.2 The representative from Principal Forensics Services agreed that there were different approaches across different forensic units, from using different standard operating procedures to different pellets. There was general agreement from the FSG members in a need for standardisation for example in pellet choice, number of repeats carried out and certain controls.

4.3 A NaBIS representative confirmed that a test programme was being run to assess consistency of results by submitted the same air weapon to different forces and results were still to be analysed.

Action 4: The chair to speak to the Metropolitan Police Service regarding the results of the test programme.

4.4 The UKAS representative commented that it would be useful to set criteria to allow individuals to explain why and how the uncertainty of measurement was determined. The UKAS representative noted that from observation individuals often did not understand how the uncertainty of measurement was determined.

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4.5 The representative from the University of Staffordshire noted that data should be collected over time for it to be representative.

4.6 The representative from the Principal Forensic Services highlighted that the uncertainty of measurement was important but only affected a small proportion of cases.

5. AOB

5.1 The next meeting was scheduled for January 2023. The group agreed to a hybrid meeting.

5.2 There was no other business.

Annex A

Representatives present:

Chair

Helston Forensics

Key Forensics

Merseyside Police

Metropolitan Police Service Forensic Firearms Unit (MPSFFU)

The National Ballistics Intelligence Service (NaBIS)

Principal Forensic Services

Staffordshire University

United Kingdom Accreditation Service (UKAS)

Office of the Forensic Science Regulator (OFSR)

Home Office Science Secretariat

Apologies received from:

Crown Prosecution Service (CPS)