



Houston Forensic Science Center

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To: Peter Stout, CEO
Donna Eudaley, Firearms Manager
Jackeline Moral, Quality Director

From: Amy Castillo, COO

Cc: Akilah Mance, General Counsel

Date: 03/01/2024

Re: Trigger pull measurement of firearms method removed from service

The purpose of this memo is to inform our stakeholders that the Firearms section will be temporarily pausing "Trigger Pull" as part of firearm functionality requests until a comprehensive risk assessment that evaluates technical risks and financial viability of this service is completed by HFSC. Any trigger pull measurements obtained prior to this memo will be reported.

Quality concerns regarding the validity and reliability of the trigger pull method currently utilized by the HFSC Firearms section were identified while reviewing and discussing the possible adoption of ANSI/ASB Best Practice Recommendation for Measuring Trigger Pull of a Firearm and Estimating Its Uncertainty 107 Standard.

Of specific concern is that multiple trained analysts have been observed to correctly perform the current method on the same firearms and get highly variable results (equating to an 11% to 28% relative standard deviation depending on the firearm type).

Also of concern is the variability of firearm design. Some firearms are designed where the second and subsequent pulls of the trigger are lighter than the first. Other firearms are designed to fire a cartridge when the trigger is pulled and then fire another one as the trigger is released. There is no current method for accurately capturing the second value for these types of firearms.

There is no database, validation study, or other way for analysts to know what a standard or expected trigger pull weight should be for any particular firearm or group of firearms, so an examiner has no basis beyond their own experience to say that a trigger pull is "light" or "heavy." Firearms examiners are also not able to differentiate an unintentional trigger pull from an intentional trigger pull in an incident where a firearm was involved.

HFSC examiners have not testified to "intent" in any prior cases with trigger pull results. This pause is to help determine if we can validate a method with sufficiently small variability. Even with that, HFSC examiners will still not be able to testify as to intent.

HFSC firearms examiners have always and will continue to evaluate the functionality of firearms upon request, including if the safeties were present and operational as the firearm was received.

As part of the evaluation HFSC will reach out to other laboratories conducting this method to determine if there is equipment or processes that have been found to provide more reliable results. HFSC will also conduct a risk assessment of any proposed new processes or validations. An analysis will be done to determine if the cost to bring a robust Trigger Pull method back online is feasible for HFSC. Of note, on average HFSC currently receives less than 10 requests for trigger pull measurements each month.