A89 The Effects of Render Safe Procedures on Forensic Evidence From Improvised Explosive Devices

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After attending this presentation, attendees will have a better understanding of the value of forensic evidence from rendered safe Improvised Explosive Devices (IEDs). Various render safe procedures (RSPs) will be examined to determine the impact each will have on the recovery of forensic evidence from (IEDs) and a recommended examination triage will be presented.

This presentation will impact the forensic science community by providing forensic examiners, investigators, and bomb squad personnel with a better understanding and awareness of the value of forensic evidence from rendered safe IEDs.

When investigating incidences involving Improvised Explosive Devices (IED); military Explosive Ordnance Disposal (EOD), civilian bomb technicians, explosive incident investigators, and forensic laboratory personnel need a better understanding of the effects render safe procedures (RSPs) have on forensic evidence. Most investigators, bomb technicians, and laboratory examiners question if valuable forensic evidence remains after rendering safe an IED. This project is designed to determine if valuable evidence does or does not exist and if any detectable contamination occurs form using render safe tools. With the wide range of RSP tools available to EOD and civilian bomb technicians, it is important for the personnel conducting the RSPs to understand these effects in order to choose the best tool to preserve the forensic evidence and render the device safe effectively. In addition, it is important for forensic laboratory analysts to be able to identify that an IED has been rendered safe so the analyst is alerted to any contamination that could have occurred from the RSP tools and apply the appropriate examination triage.

The objective of this program in combating terrorism is to determine the evidentiary value of IEDs after RSPs have been conducted. This study will result in recommendations that identify different RSPs, the effects on evidence, and provide laboratory personnel with procedures for analyzing post-RSP IEDs. The novel approach to be evaluated is:

1. Build multiple IEDs with forensic evidence applied;
2. Render them safe using multiple disruption techniques in real world environments;
3. Evaluate the effects that render safe procedures have on the value of the forensic evidence (trace evidence, explosives, fingerprints, tool marks, and DNA).

Because of the complex nature of designing, rendering safe and forensically evaluating IEDs, conducting this program requires a team of subject matter experts (SMEs) experienced in this real world process on a routine basis. The team consists of SMEs from the National Security Division at Battelle Memorial Institute, Columbus Division of Fire Bomb Squad, Ohio Division of State Fire Marshal Forensic Laboratory, Columbus Police Department Crime Lab, and Hamilton County Coroners Crime Laboratory.

The effects RSPs had on different IED designs and the results of forensic examinations including, DNA, fingerprints, trace evidence, tool marks, and explosives, will be presented. Suggested procedures and techniques used to collect evidence following a render safe procedure and the subsequent forensic analysis triage of the rendered safe IEDs will be included.

Render Safe Procedures, IED, Forensic

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