A CONTINUING STORY OF

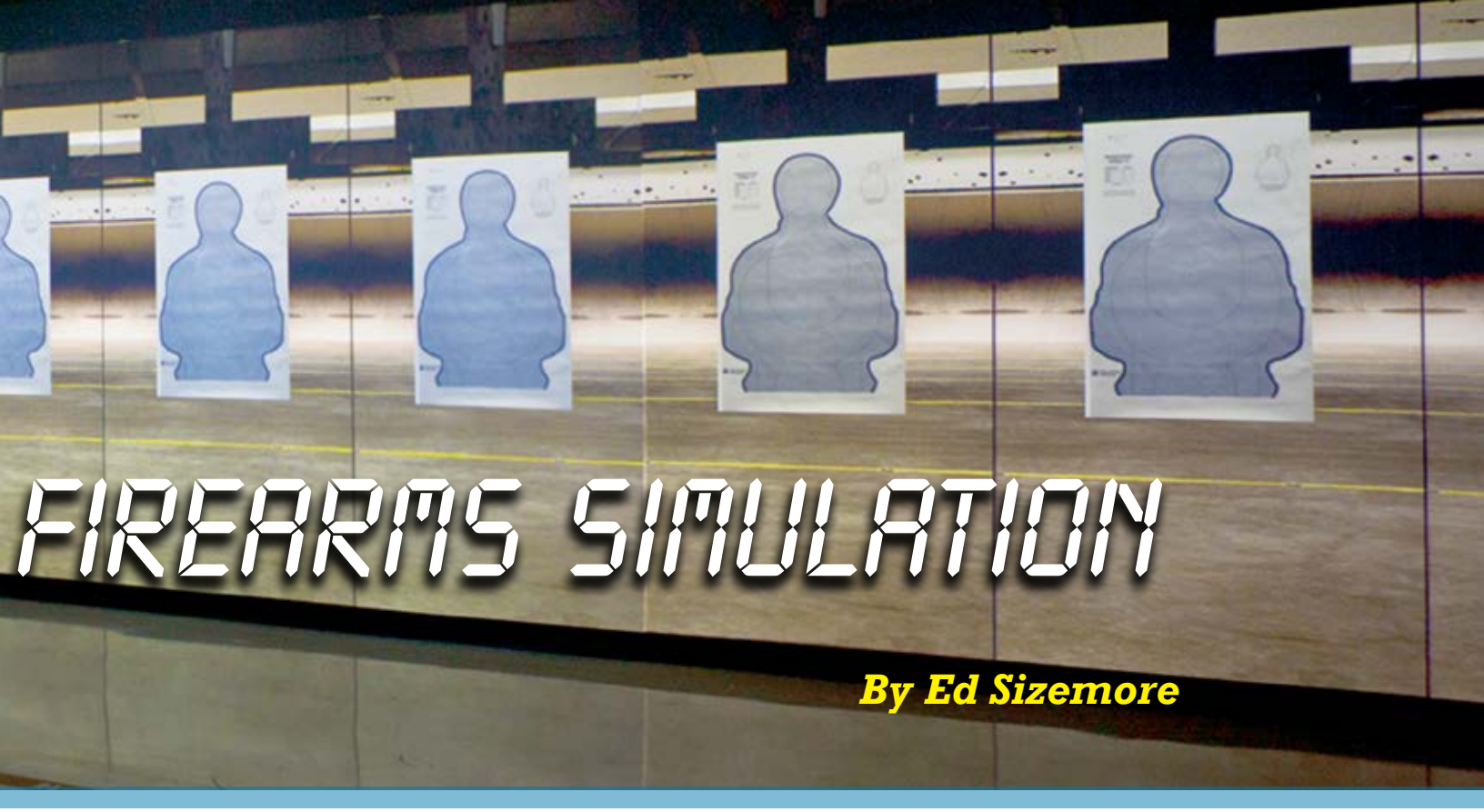
(A + W + R + S + I) x HrI x M = TM – A formula for basic firearms training. Ammunition plus Weapon plus Range plus Student plus Instructor with the last two being multiplied by Hours of Instruction and Money equals a Trained Marksman – simple math! Or is it?

When organizations begin to factor the other elements of firearms training into the equation, the concept becomes much more complicated. Ammunition continues to increase in price and is subject to numerous trends that make it difficult to obtain and expensive to store. Weapons require constant maintenance and are prone to wear and tear. Ranges need extensive upkeep and are subject to intense scrutiny by communities and agencies due to environmental concerns. With the current fiscal conditions, budget scrutiny and austerity practices are norms that all agencies – large and small – must live within.

In addition, students remain a constant in planning, but instructors and safety officers are often in short supply. To become a proficient marksman, a certain amount of training is essential. When faced with these limitations, where can an organization turn?

A fortuitous cascade of events turned what could have been a negative into a positive. In 2010, the Federal Law Enforcement Training Centers (FLETC) in Glynco, Ga., was faced with a unique problem. One of its indoor ranges – a 50-yard range with 25 firing positions – was determined to have significant damage that made renovation as a live-fire range cost prohibitive. At the same time, there was also a call for new ideas in training methods and a continuing struggle to do more with less while maintaining or increasing the quality of the training. FLETC Firearms Division (FAD) decided to look at how it could best utilize the range's tremendous space in a way that could make it available for numerous other uses. This range (Range E) offered an opportunity to think "outside the box" and develop a new and innovative training venue on a grand scale that could potentially fill several vital niches at the FLETC.

With this environment as the backdrop, innovators on the FLETC staff embarked on a firearms simulation study (see 'Firearms Simulation Study' in the Spring 2011 edition of the FLETC Journal) to look at the effectiveness of training students with firearms simulators. The initial concern was to look at simulation for the Basic Marksmanship Instruction (BMI) phase of training. This segment of the firearms training encompasses the basic competencies of sight



FIREARMS SIMULATION

By Ed Sizemore

picture, sight alignment, trigger control and general weapon handling skills.

FLETC was looking for a training system that could be applied as an enterprise-wide tool. Taking simulations used in various programs and developed by one of FLETC's enterprise suppliers, the FLETC Training Innovation Division (TID) worked with FAD to conduct research using weapons outfitted with laser inserts and resetting triggers. The results of the research, which involved students from the local College of Coastal Georgia and the United States Marshals Service, shows that the differences between groups initially trained with laser simulators before switching to live-fire weapons was statistically insignificant from those who progressed through all their handgun training with live fire weapons.

In addition to solving many of the problems noted in the formula at the beginning of this article, the use of shooting simulators gave instructors an often overlooked advantage – the ability to communicate with the students in a normal voice since hearing protection was no longer required. Simulators also allowed for more effective use of range time since the time normally allotted for range cleanup on a live fire range could now be used for additional practice. Further, there were numerous safety advantages to using laser pistols with basic students learning their grip, stance, trigger pull and other essential weapon handling skills on their road to firearms proficiency.

For many firearms instructors, the lack of recoil on laser outfitted weapons seems counterintuitive. However, given the current status of training weapons equipped with recoil kits (inherently high prices and efficiency issues) and with the positive results from the use of non-recoil weapons in the simulation study and from studies done by other agencies, FAD decided to proceed with non-recoil weapons to the next step in developing a system for student training.

The FLETC, with significant input from many of its divisions, began the process of looking at the space available and brainstorming ideas that would allow for the maximum amount of quality space utilization. The first step was the development of plans for the transformation of the range into something that would be both cutting edge and also a practical addition to the training needs of the law enforcement students. With the ability to handle far more students in a given space than a live-fire range, lower maintenance costs, and greater sustainability; firearms simulation training can be seen as a firearms facility multiplier that quite literally offers more "bang for the buck."

A new (and quieter) approach to learning basic marksmanship skills. The shorter difference in range depth was overcome by manipulating the size of the projected targets to simulate distances from three to 25 yards. Using weapons converted for laser use, the projected targets can provide realistic shooting opportunities for the student.

Given the amount of space made available by the now-defunct live fire range, there could be multiple areas developed for firearms training and other firearms related use. As the plans were developed, there was an opportunity for an added benefit – an area for the development and testing of innovative training and simulations. Of primary concern was the area to be dedicated to basic marksmanship training.

For this training, the FLETC decided to establish three classrooms that could handle 24 students in a simulated range setting much like the live-fire ranges that are currently used, but with significantly shorter distances. The difference in range depth was overcome by manipulating the size of the projected targets to simulate distances from three to 25 yards. Using weapons converted for laser use, the projected targets can provide realistic shooting opportunities. For example, the student has the ability to shoot a wide range of firearms courses of fire while receiving feedback from both the system itself and from the assigned firearms instructors.

As earlier mentioned, the benefit of working on firearms basics without the need for hearing or eye protection allows for better communication with the student and far greater comfort for all involved. The limited range maintenance required, ease of setting up a range for a class, and savings in ammunition costs are added benefits for the FLETC and its more than 90 Partner Organizations who use the FLETC to train their agents and officers. Further, the new virtual firing ranges have significant flexibility that will allow for use for other training efforts, such as judgment pistol shooting.

In addition to the three virtual firing ranges, a fourth classroom was opened for the development of integrated tactical training. This room does not represent a test bed for theoretical exercises, but, rather, an area for applied technologies and applications that will benefit FLETC students in their law enforcement training. Finally, after the development of the four classrooms, room was still available for an ammunition storage area (completely separated from the classrooms for safety reasons) that allows for ready storage in more convenient proximity to the FLETC's indoor ranges. The ability to store ammunition in a climate controlled environment near the site of its use will be a further savings.

As the Range E Project nears culmination, the FLETC can expect to see significant cost savings during the basic marksmanship phase of firearms training while providing an increased opportunity for an expanded use of cutting edge technology. Range E represents a big step forward for the FLETC by incorporating advances in facilities and technology to enhance law enforcement training.

Sight picture, trigger control, grip, stance = SUCCESS!