



he Federal Laboratories

Training Division of

Mace Security Interna-

recently conducted a

Chemical Agent Instructor Certification

Program in Manchester, New Hampshire.

The two-day program was hosted by the

Manchester Police Department at the invi-

tation of Officer Terrence McKenzie, a

member of the Manchester PD's Special

tional (MSI)

Response Team, who also serves as a departmental chemical agents instructor.

The primary instructor, MSI's Kevin Williams, is a recently retired 21-year veteran of the Albany City Police Department. He has served both as the department's chief firearms instructor as well as its chemical agents instructor. He also performed as a director of the Zone-Five Law Enforcement Training Academy, which provides training on the basic and advanced levels. He has been associated with MSI for almost two years, and is currently employed by the company on a fulltime basis.

The course, originally administered over a three-day period, has been compressed into two, and is currently being revised and updated. New products, training methods and personnel are being introduced, as the Training Division is expanding to meet the growing demand for certification programs in these disciplines. The program I attended was fairly comprehensive, though I felt it qualified more along the lines of an introductory or familiarization course rather than as an instructor's course. I base this opinion on the ratio of material covered compared to the actual time spent covering it. In my opinion, the program comes up short. Following are the reasons I believe so.

> Any instructor course must take into consideration several factors. Among the most important are backgrounds and experience of the students. Generally, a student information sheet can be used to gather this information, or students can be asked to stand, introduce themselves and give a brief professional history. This serves to provide both the instructor and fellow students with a basic feel of the

experience and skill level each brings to the course—a good indicator of who may need a little extra help. Neither of these tools were implemented.

A safety briefing is also a prerequisite, especially when any type of live munitions or firearms are to be utilized. Both types of devices were used throughout the course, but no safety briefings were administered.

Some may argue that anyone attending an instructors course of any type should be competent and professional enough to forego this basic consideration, but this is not true. Again, no training histories were requested or required, and any assumptions made in regard to experience or competence must always be made on the side of safety, geared toward the student with little or no experience. In this way, everyone can be brought "on-line" and up to a basic level of speed with a minimal investment of time and effort.

A clearly defined mission statement or set of program objectives were also not included in either the oral presentation or the manual, although Kevin did explain that the course curriculum and the instructor manual were in the process of being revised.

Other issues not included in the program were the roles and responsibilities of the chemical agents instructor, methods of instruction and legal issues and considerations. Also missing from the manual were any types of recommended drills and organized training exercises, though we did run through some exercises in regard to deploying hand-thrown chemical agent grenades while at the range.

Concerning the range and field exercises, I believe the course could also be strengthened by the use of an assistant instructor or instructors. Assistant instructors would allow the primary instructor more freedom to oversee and direct the overall program, while providing invaluable on-line instruction and spot corrections of the students while they performed various drills.

On a positive note, the curriculum did allow for a good deal of hands-on familiarization in the use of the various agents and their methods of delivery, as well as a fair-

Top to bottom: Student practices grenade-throwing technique from wooden staging. Such props are useful for simulating various tactical environments and conditions.

"Masking up." Students don protective chemical masks prior to beginning exercises.

With a combination of OC, CN and CS gases, it doesn't take long to find out if a mask has sealed properly.

# E M I C A L

ly thorough discourse in chemical agent history and theory.

With an instructor course, however, the emphasis must be placed on the student instructor becoming not only well-versed in the material, but also in uniform methods of passing the acquired information along to his own students. It was in this aspect of the course that I found the primary deficiencies.

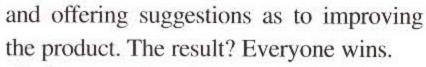
Taking into consideration the high quality of the equipment available to the training division directly from the manufacturing division, I also believe that MSI could produce a truly practical and effective course simply by lengthening the duration of the course and tightening up the weak points noted above. As for a reasonable length, I would suggest that an instructor's course of this type be administered in no less than three and preferably five days. The inherent civil-liability considerations,

as well as personnel safety concerns, would dictate that enough time be devoted to the material to do it justice, as well as providing both those trained and those signing off on the training with a court-defensible program of instruction.

It should be noted here that MSI waived the fee for my attendance at this course with the understanding that I would be producing this article for publication in S.W.A.T. Magazine. MSI agreed that my evaluation must be honest and fair, as my primary obligation (as well as theirs) is to the law-enforcement community at large. Therefore, any criticism is meant to be purely constructive in nature. Having been involved in both developing and administering courses of instruction in the various police-related disciplines for the past six years on the local, state and federal levels, I have received my share of constructive criticism and realize its value. I also believe I have a sufficient ability to recognize potential when I see it, and this combination of manufacturing and training facility has plenty of it.

The "two-sided house" module, which allows information to flow freely between those who design and produce the products, and the people who will be providing training to others in the product's use and applications, benefits everyone concerned—especially the end user. In addition, the end users (be they police, military or civilian personnel) provide immediate feedback

through the training division to the designers, illuminating weaknesses



### The Course—Day One

The program I attended was held on July 18th and 19th. In attendance were 19 officers from state and local police agencies, sheriff's departments and corrections. After initial introductions the mandatory administrative paperwork was addressed.

The course began with a review of the history of less-than-lethal chemical agents,

touching on the development of agents beginning with the Chinese discovery of the effectiveness of finely ground pepper thrown into an adversary's



eyes over 2,000 years ago, through to the first large-scale, modern use of chemical agents in World War I.

An in-depth review of the most widely used modern chemical agents was then undertaken to include DM, CN, CS and OC. Kevin demonstrated a solid grasp of this material and his presentation was enhanced by the use of visual aids and transparencies. The class continued until noontime.

After lunch, the class reconvened at a local range. Kevin then did a quick spotcheck of everyone's gear, to include shotguns, 37mm gas launchers and gasmasks. He then demonstrated several techniques used to introduce chemical agents into a tactical area of operations. The student instructors then practiced these techniques, throwing inert grenades into rubber tires set on the ground at various distances.

Gas masks were worn for the majority of these drills, in spite of the 80+ degree temperature. Practically everyone in attendance agreed that the slight level of discomfort experienced was a small price to pay for the untold benefits of realistic training. Live chemical agents were then introduced. Students experienced the effects masked and unmasked. Most of the students appeared to be veterans of expo-



sure to the various agents, though there were a few apparent newcomers to the joys of eating gas.

Most of the reactions to the effects were predictable and somewhat subdued. Skin stung, eyes closed and teared, coughing erupted like gunfire and noses ran—nothing unusual here. The main element missing was the psychological effect. The simple logic, based on, "If you know

Top to bottom: Officer Terry McKenzie offers a few points about ground firing the 37mm gas launcher, shown here fitted with the special gas grenade-launching adapter.

Shoulder-firing the 203-A gas launcher.

what's coming, you generally won't panic," is sound, and must be taken into consideration when employing chemical agents against a subject (or subjects) who may have had prior experience with agents and be familiar with their effects.

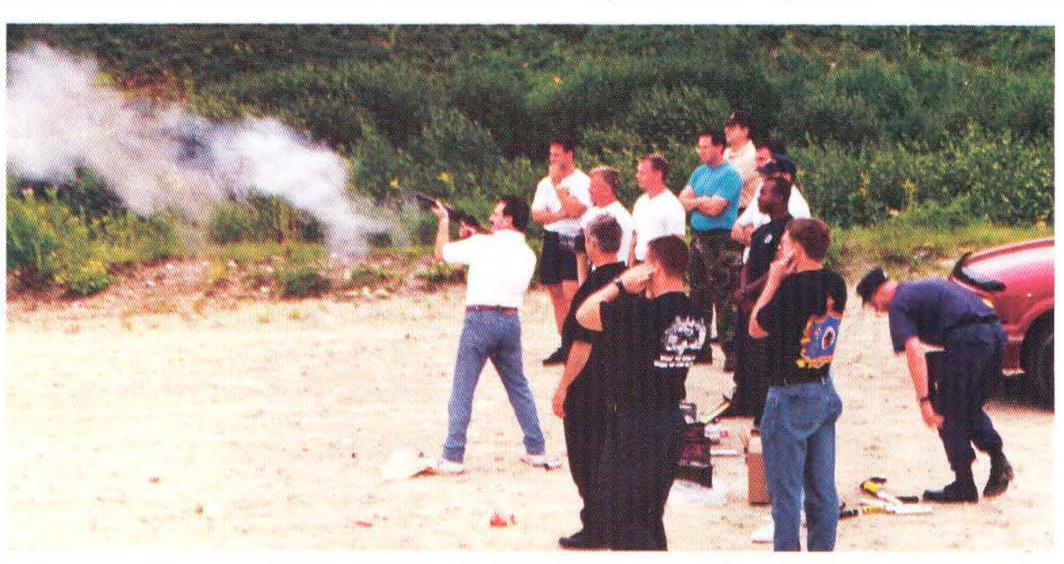
Then came the time to break out the shotguns and 37mm gas launchers.

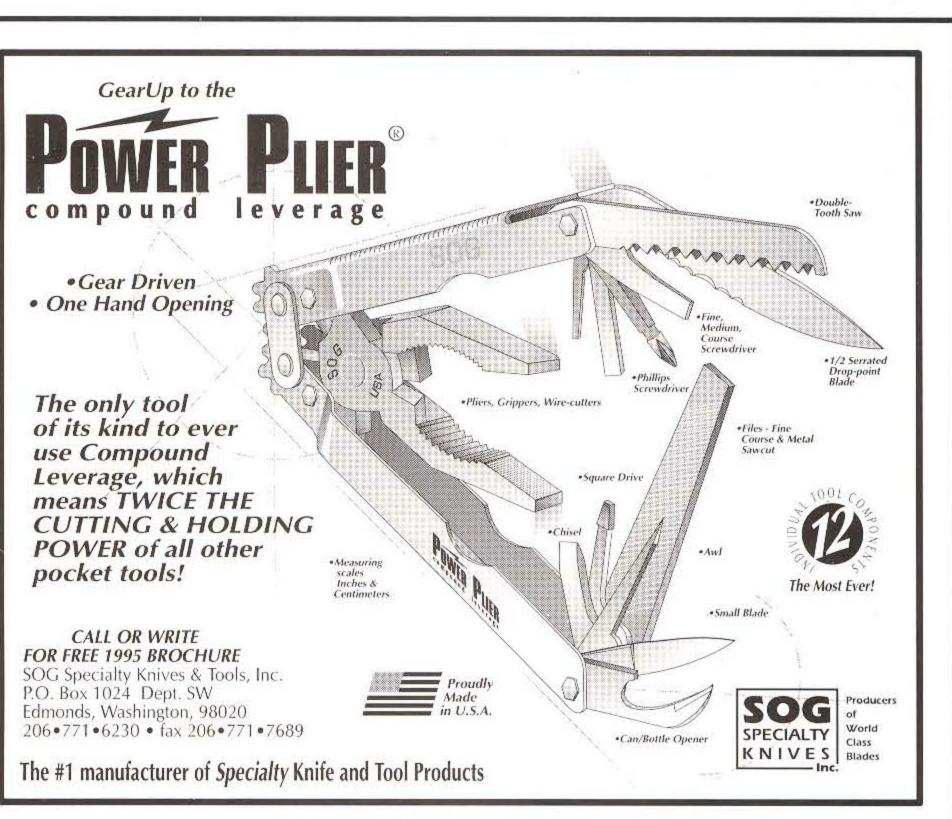
Ferret rounds were employed, with the targets in this case being a dismounted windshield and a van door with the window rolled up (the window was the target). Both targets had been secured for the purposes of testing.

Ferrets, for those not familiar with them, are barricade-penetrating projectiles which are fired through either a 12-gauge

shotgun or a 37/38mm or 40mm gas launcher. The 12-gauge rounds will penetrate a windshield or <sup>3</sup>/<sub>4</sub>-inch plywood at 100 feet, <sup>1</sup>/<sub>4</sub>-inch plate glass or a hollow-core door at 300 feet, and are highly accurate. Upon striking a solid object, the projectile disintegrates, dispersing a concentration of either CS, CN or OC agent in a fine aerosol form. I have been involved with their use in several actual barricade situations, and have great confidence in them. Both the 12-gauge and 37mm projectiles performed flawlessly throughout the testing.

Other devices demonstrated included Federal's "Triple Chaser" Grenade, which separates into three distinct submunitions when ignited; the "Flameless" Pyrotechnic Grenade, which is internally baffled to reduce the ejection of burning particles); the Han-Ball Grenade, which is configured to "skitter" along the ground when thrown (which it did); and the Multi-Purpose Grenade System, which can be fired as a handheld projector, thrown, shotgun-





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launched or air-dropped. All this with no worries of collateral damage because the device's ignition system uses no incendiary or explosive charge. All devices performed as advertised.

After a tear-filled afternoon, day one concluded at approximately 4:30 p.m.

#### **Day Two**

The class reconvened for day two at 8:00 a.m. After caravanning out to a different training site than was used the day before, Kevin conducted a quick briefing on both short- and long-range agent delivery projectiles. Pyrotechnic, barricade-penetrating, muzzle-blast, flameless and aerosol munitions were reviewed, as were several methods of delivering them to the target area. The standard tools used for delivery of 37mm munitions were again broken out, to include single-shot Federal Models 203-A and 204 gas launchers. Kevin also had on hand one of Federal's newer multiround launchers, the L-6.

This 6-shot launcher uses a spring-driven magazine which mechanically rotates the cylinder one chamber for each press of the trigger. Very similar in appearance to the much-maligned Street Sweeper-type shotgun, the L-6 appears to be a worth-while design for it allows a lone operator to preload and employ a variety of six munitions in approximately 3 seconds. Very handy for large-scale civil disturbances.

Adapters fitted to both the 12-gauge shotgun and 37mm gas launchers were also used to deliver normal hand-thrown grenades out to distances of 75-100 yards.

After expending the older munitions (most of which worked), we policed up the used canisters and casings and headed back to the classroom. After a short lunch break, we again focused on classwork.

The subject for this segment was understanding and determining the toxicity of chemical agents. Several mathematical formulas are used to determine both the lethal concentration and time as well as the median incapacitating dosage. Both are critical components which must be factored in when determining if and how much gas should be used in any situation. Kevin demonstrated a good grasp of this subject matter, and I believe that most students left with at least a basic understanding of this material.

A final review was given, as was a written exam. No oral presentations were required on the part of the students, nor were we required to produce any type of lesson plan or outline as befits a course geared toward the awarding of all instructors' certification. Finally, course critiques were filled out and passed in, and the class was concluded.

I did not pass in a critique, as this article serves that purpose. I hope it is received in the manner in which it was written, with the emphasis very much on my sincere belief that training and education of this type are both extremely necessary and critical. I hope that the revised course will address the concerns outlined here.

### SOURCE

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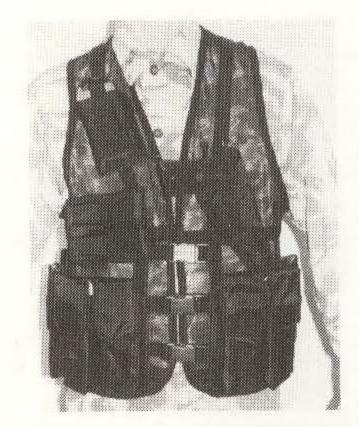
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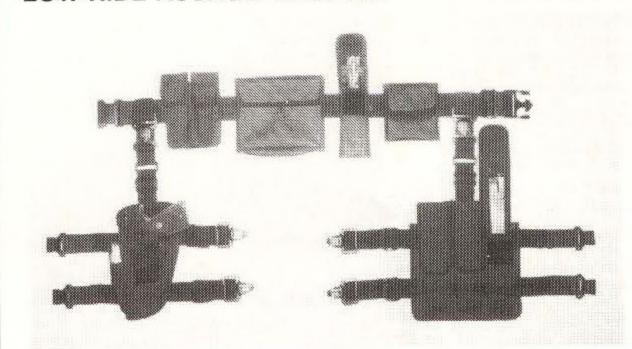
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