UNITED STATES CAPITOL POLICE
Washington, DC 20510

December 26, 1985

MEMORANDUM

TO: Captain Charles T. Kindsvatter
Planning and Research Division

FROM: Lieutenant James P. Rohan
Management Research Section

SUBJECT: Alternative Nonlethal Weapon Project P85-0040

BACKGROUND

On April 29, 1985, I was assigned the alternative nonlethal weapon project via a memorandum from Captain Fentress A. Hickman; which was received via the chain of command from the Chief of Police.

With the recent reorganization of the Department the original chain of command for this project has been rearranged. I am routing the finished project through my present Bureau. I will also forward copies to any appropriate involved personnel.

On April 15, 1985, Memorandum 85.4 recalled all of the issued blackjacks/slapjacks that our personnel carried as part of their service weapons. The weapons were a serious potential liability problem because they were issued without any formal training. That Memorandum also referred to a study being conducted to find "an alternative weapon which will be more effective and will minimize the officer's vulnerability to civil suit." This completed staff work is that study.

I have completed the research and submit the following completed staff work.

STATEMENT OF THE PROBLEM

The tradition of the Capitol Police has been to portray a low profile image regarding the show of force inside the Capitol buildings. Our blouses were intentionally designed to cover the service revolver and batons are not routinely carried inside the buildings. Slapjacks were to be carried at all times, but were considered an inside (the buildings) weapon. The twenty-six inch baton, although a good nonlethal weapon, is not practical for inside use. Many of the inside assignments are "sit down posts" and the large baton would get in the way. The building patrol officers often break the "sit down posts" and again the long baton would prove impractical for their use. A portion of the problem is to find a suitable indoor weapon to replace the slapjack.

An alternative nonlethal weapon, to the recalled slapjacks, should meet certain criteria in order to be acceptable. The weapon should be a low profile item that does not offend the general public on sight; it should be practical for the officer to carry and use; it should have good defensive capabilities; the techniques taught for the weapon must work; the weapon must be adaptable for systematic training; the weapon must be legally sound; and the weapon should be in line with budgetary considerations.

The problem is to select an alternative nonlethal weapon that meets

the above criteria.

APPROACH TO THE PROBLEM

My approach to this problem was to evaluate different nonlethal weapons and make a recommendation based on that evaluation. The first task was to compile a list of available nonlethal weapons. This was completed by surveying seventeen law enforcement agencies across the country and ascertaining their nonlethal weapon options (See Appendix B). In addition to the survey, a canvas search of the major police supply vendor catalogs was conducted and a list of available weapons, on today's market, was compiled (See Appendix C).

The final list of weapons was extensive including over thirty-five individual weapons. Many of these weapons were very similar, if not identical, the only difference being the name of manufacturer. Other weapons were combinations of two or more weapons, e.g., a baton with a Mace dispenser in the handle or a baton with an attached electrical stunning device. In order to evaluate these weapons in a more efficient manner, they were grouped into five categories:

1. Chemical Agents
2. Electrical Devices
3. Control Weapons
4. Miscellaneous Devices
5. Impact Weapons

The second task was to evaluate these weapons (See Appendix A). The evaluation criteria involved the following factors:

1. Effectiveness as a defensive weapon
2. Potential for civil liability
3. Training requirements:
    a. Initial training
    b. Refresher training
4. Cost
5. Public Acceptance
6. Effectiveness against drugged assailants
7. Other major advantages and disadvantages

The third task was to ascertain the reported past usage of our slapjacks and Mace (See Appendix D). This information was thought to be useful for evaluating usage and utilizing that data in the selection criteria.

A search of the filed reports revealed one incident in which the slapjack was used, and one offense in which Mace was administered since 1977. The slapjack was used against a dog and the Mace was used against a very combative woman. Both weapons were used with positive results (they stopped the unlawful behavior of the dog and the woman).

SUMMARY OF THE FINDINGS

The five groups of nonlethal weapons were evaluated according to the above listed criteria. The full evaluation of those weapons follows in a later section of this report. Below is listed a summary of that evaluation:

Group 1: Chemical Agents

Chemical agents (Mace) were found to be an impractical, close

quarters, nonlethal weapon. Chemical agents are slow in reacting and ineffective against drugged assailants.

Currently, members of the Special Operations Unit are issued and carry Mace, but they have received no formal training in the use of the handheld dispenser.

Group 2: Electrical Devices

Electrical devices are not complete enough weapons for carte blanche issue. They have good stopping potential, but poor blocking capabilities. They are an uncertainty, at best, in their current potential for civil liability. The required training is not consistent with a systematic approach to use of force training (systematic training is explained later). Public acceptance of the weapon is mixed and the current technology of electrical devices is not adequately developed.

Group 3: Control Weapons

Control weapons are not complete enough weapons for carte blanche issue to our personnel. Control weapons are small and do not afford good blocking potential. Their stopping capabilities rely on surprise. They are ineffective against drugged assailants because they rely on pain for effective usage.

Group 4: Miscellaneous Devices

The three listed miscellaneous devices are unsuitable for law enforcement use. They were only listed because some vendors presented them as law enforcement weapons.

Group 5: Impact Weapons

The impact weapons fared the best when rated according to the evaluation criteria. The impact weapons were further categorized into four sub groups: "billies," side handle batons, ASP and PR-16 expandable batons, and blackjacks/slapjacks.

The sixteen inch "billies" and the ASP expandable baton were found to meet the criteria in a more favorable manner than the other impact weapons. They both have identical qualities as an impact weapon. They are both effective defensive weapons. The training fits into the systematic approach. The potential for civil liability and public acceptance are at least equal to any of the impact weapons. And their effectiveness against drugged assailants is also as good as our current impact weapon.

The ASP expandable baton offers all of the capabilities of a control weapon, when closed, and all of the capabilities of an impact weapon when expanded. The capability to quickly transfer from a control to an impact weapon is an additional positive feature.

The ASP expandable baton is currently carried by trained members of the Personal Security Section.

DATA ANALYSIS

An impact weapon should replace the slapjack for the following reasons:

1. They are practical and easy to carry

2. They are effective
3. They are adaptable to our current and projected impact weapon training program
4. They pose no greater risk of civil liability than any of the other nonlethal weapons
5. The price is competitive
6. The maintenance is relatively easy

The real issue involved in selecting a suitable nonlethal weapon is: Will it be used and, if used, will it be effective. The "1981 Police Combat Shooting Study," conducted by the New York City Police Department, stated that in times of stress police officers reverted to techniques learned, while in training, to handle the situation. Thus, the training for the selected weapon may be more significant, to the officer, than the actual weapon selected.

The training should be such that the officer will instinctively utilize the weapon, at the appropriate time, with the appropriate amount of force. Systematic skills training, which enables all of the service weapons to incorporate complimentary skills, allows for better retention. Retained skills are more likely to be used. Properly executed nonlethal weapon skills are more likely to be effective, less likely to be litigated, and more reasonable for the public to accept.

If the skills involved in the use of the twenty-six inch baton are easily transferred to the selected alternative nonlethal weapon, then retention and proper usage are more likely to occur for both weapons.

The ASP expandable baton meets all of those considerations. When closed, it is seven inches long and can be easily carried on the belt. It is less conspicuous than our current Mace applicators. It can be utilized, as a control weapon, for passive resistive suspects such as civil disobedients. It can be quickly expanded for utilization as an impact weapon. The same pressure point control technique of baton training that is currently taught to our recruits and is projected for our inservice impact weapon training can be utilized for the ASP.

The ASP is currently one of our issued service weapons. The Department purchased and issued sixty ASP's to members of the Protective Services Bureau. The ASP's were issued in 1983, after a twenty hour initial training program; there have been no reported usages of the weapon to this date.

By issuing the same nonlethal weapon to uniformed and non-uniformed officers: a more consistent training program can be administered; an easier transition from one element to the other can be accomplished; and the skills will be better retained.

RECOMMENDATION

Based on the findings of the evaluation, I recommend the following:

1. The ASP Expandable Baton be selected and purchased as the alternative nonlethal weapon.

2. The Training Section implement the enclosed training program.

3. Upon successful completion of the training program, each officer be issued an ASP Expandable Baton.

EVALUATION AND ADJUSTMENT

The evaluation of the selected nonlethal (inside) weapon will be difficult to perform because of the limited usage of such weapons. But, the Commander of the Training Section will assure that the training is conducted, as presented, and developed/adjusted as necessary to conform with the established objectives.

The Commander of the Records and Identification Unit will forward a copy of all reports involving use of service weapons to the Commander of the Training Section to assist in evaluating the weapon and the respective training.

IMPLEMENTATION

The implementation of this project recommendation will be heavily dependent upon the implementation of the enclosed training program. The implementation of the training program will be dependent upon the availability of qualified instructors. To implement this program many instructors will have to be trained (the exact amount should be determined by the Commander of the Training Section after coordinating with Lt. Rohan). Thus, the implementation plan will focus around coordinating the instructor training program. The selection of the personnel for the instructor training program, whether they are currently assigned to the Training Section or others utilized as field training officers, should rightfully be conducted by the Commander of the Training Section.

The steps for implementation are listed below:

1. Authorize funds for the purchase of 1200 ASP Batons, holders, and training materials.

2. A pool of "Pressure Point Control Technique Impact, Weapon Management Systems Trainers" will be required to carry out this project. Lieutenant James P. Rohan is a certified instructor in this system of baton training. The Commander of the Training Section will coordinate with Lt. Rohan for the implementation of an instructor training program for this project.*

   *NOTE: This task has already been completed, in the week of December 9, 1985, Lt. James Rohan trained sixteen defensive tactics instructors in a program that dealt primarily with baton and arrest techniques. These instructors are currently being involved in the in-service impact weapons training.

3. The training for approximately 1,200 personnel in the use of the ASP will be coordinated between the Commanders of the Training Section and In-Service Training Unit. After #2 above has been accomplished, a schedule for initial ASP training can be developed and implemented.

UNRESOLVED ISSUES

There are a number of issues which became apparent during the course of this project which need to be considered. Some of these issues are related but not exactly within the scope of the project. Others are within the scope of this project but require additional coordination before resolution or implementation can be achieved.

It was not my intention to leave these matters unresolved, but I will be attending the FBI's National Academy from January 5, 1986, to March 21, 1986. This project was delayed for several months because of the Security Task Force Report and I think it is appropriate to submit this project "as is" rather than delay another three months. If additional tasks need to be addressed because of the unresolved issues then they can be assigned to the appropriate personnel.

The unresolved issues are:

1. Mace was found to be ineffective for personal defense use. Also, Mace has been routinely issued without a formal training program.

   Formal training for Mace should be provided or the issued Mace should be recalled and deleted as part of the Department's service weapons. The Department recently sent three officers (CERT members) to the Smith & Wesson Chemical Agent Instructor Course. These officers could provide the training if it is decided not to recall Mace.

2. A policy regarding the consequences, if any, for officers who fail to qualify with the baton, or any issued weapon, is needed. Currently our firearms policy allows an officer to retain his/her weapon and continue to work in an unrestricted, full duty status after <u>failing to qualify</u> with the service revolver (General Order 514.1).

   Allowing an officer to keep his/her weapon and return to full duty status after it has been documented that he/she is not competent to use the weapon poses a serious liability problem.

3. The required $24,205.00 was not projected in the FY-87 budget. An amendment to the FY-87 budget or acquiring the funds from FY-86 budget, if possible, will be necessary. This was not included in the implementation plan because it was unknown, to the author, whether there were uncommitted funds in either budget.

4. A proper training area is needed. Ideally, a matted room should be available for this and the projected semi-annual weapons training. The Rayburn facility could be designed to include a matted training room, if the space is not committed to others after the Headquarters move. A matted training room would provide an essential element to our training program, proper physical skills training. The Training Section should propose a usage for the Rayburn space to include a matted room.

Lieutenant James P. Rohan
Management Research Section

JPR:jpr
Enclosures (10)
cc: Inspector Hanneld
Captain Hickman

APPENDIX A

EVALUATION OF THE NONLETHAL WEAPONS

Group 1: Chemical Agents

List of Chemical Agents:

Item	*Remarks*
1. Smith & Wesson MK-V Chemical Mace	Pistol Grip
2. Smith & Wesson MK-VI Chemical Mace	"Flip-Top" Trigger
3. Smith & Wesson MK-IV Chemical Mace	Reloadable
4. Smith & Wesson MK-X Chemical Mace	Concealable
5. Some's Tear Gas/Judo Stick	Combination
6. Some's Gas Baton	Combination
7. Some's Watchman Gas Flashlight	Combination
8. Monadnock Tear Gas Watch	Combination

Evaluation Criteria

There are only two types of acceptable chemical agents for law enforcement use: CN and CS gas. All of the above employ CN gas as their incapacitating chemical agent. Because of this similarity, chemical agents will be evaluated as a whole rather than individually. (CS gas has been found to be more effective, but slower to work, than CN gas and leaves a longer lasting residue. It is used more often for crowd control than personal use.)

1. Effectiveness as a defensive weapon.

In order to have an effective defensive capability, a weapon must be able to stop, block, and/or deter a nonlethal assault immediately. Available chemical agents simply do not provide that capability.

Smith & Wesson states in their current "Chemical Agent Instructional Flip Chart" that a twenty second delay will transpire before their CS Aerosol will incapacitate a subject. A delay of that length is completely unacceptable for an officer involved in a physical confrontation.

A study on "Law Enforcement Weaponry" was conducted for the Justice Department and reprinted in Law and Order Magazine in 1977 (See Appendix F). The author, Dr. Kevin Parsons, lists criteria and comments for law enforcement agencies to consider when selecting weapons. Below are his comments and criteria regarding chemical agents:

> In situations of jeopardy where lethal force is necessitated, chemical agents do not possess instant cessation potential. In less-lethal confrontations, they do not offer the positive defense capabilities provided by impact weapons. Their major "value" seems to be in dealing with resistive, but not confrontive, subjects. The subject who will simply not cooperate but has not initiated aggression, has become a prime target of chemical agents. Such usage is indiscriminate and unprofessional.

When a firearm is needed, chemicals are of no value. When impact weapons must be employed, aerosol units offer an unacceptable alternative. Under all other circumstances, professional, humane and effective defensive tactics are preferable.

CRITERIA 8.1:
Chemical agents shall not be utilized by enforcement personnel during physical confrontations.

2. Effectiveness against drugged assailants.

Chemical agents do not provide much success incapacitating drugged assailants. Smith & Wesson states in their current "Chemical Agent Instructional Flip Chart," "Aerosol projectors will be slow reacting on those `high' on drugs or drunk."

Prince George's County Police Department provided an inter-office memorandum entitled "PCP Research." Included in their research memorandum was a list of "do's and don'ts" regarding the handling of persons suspected of being under the influence of PCP. They very simply state, "Do not use Mace or other irritating gasses" on PCP subjects (See Appendix G).

Because of the lack of effectiveness as a defensive weapon and against drugged assailants, it was decided as unnecessary to further evaluate chemical agents as an acceptable alternative nonlethal weapon.

Group 2: Electrical Devices

List of Electrical Devices:

Item	*Remarks*
1. Some's Shock Baton	Combination
2. Some's Electric Fist	Hand Held
3. Some's Sting Prod	4,000 Volts
4. Some's Zapper	Wrist Worn
5. Some's Gun Beam	Expandable Stunner 12" to 22"
6. Source Flashlight	Combination
7. Nova XR 5000 Stun Gun	Hand Held
8. Taser	Shoots Wired Darts

Evaluation Criteria

All of the electrical devices advertise the same characteristic function which affects nerve centers and incapacitates subjects, that is, a high voltage with low amperage charge. Because of this similarity, electrical devices will be evaluated as a whole rather than individually; minor differences will be mentioned as they arise.

1. Effectiveness as a defense weapon.

In order to have an effective defensive capability, a weapon must be able to stop, block, and/or deter a nonlethal assault immediately. Electrical devices have mixed reviews in this area; but the preponderance of the evidence indicates that a high voltage (50,000 volts) and low amperage (.00006 amps) charge to select portions of

the body will affect the neuromuscular system causing muscle contractions and a resulting loss of balance.

There are three main electrical devices in the above list and the rest are, in my opinion, offshoots of these three:

Source Flashlight
Nova XR 5000 Stun Gun
Taser

The Source Flashlight is thirteen inches long and administers a controlled charge to the subject. The charge automatically stops in less than one second; this requires the officer to administer additional charges if one was inadequate. The Source Flashlight's controlled charge has a repelling effect on the subject. It does not bring them down, it simply causes them to jerk away from the charge.

The Nova XR 5000 Stun Gun is a little over six inches long and can be carried in the palm of the hand. The Stun Gun has two electrodes which have to make contact with the subject in order for the charge to be administered. Once contact is made, the charge can be administered continuously, as long as the trigger is engaged. This can result in a repelling effect on the subject for a one second charge; a state of mental confusion and muscle spasms for a two second charge; and a loss of balance and disorientation for a three second or longer charge. The weapon can be utilized numerous times without recharging.

The Taser is a handheld device about the size of a heavy duty utility flashlight. The Taser can administer a charge via two contacts (darts) which are fired from the weapon, the darts are connected by wire to the handheld unit. The operator can administer a continuous charge by engaging the trigger. The subject will react in a similar manner to that of the XR 5000 Stun Gun. The range of this weapon is two to fourteen feet. The weapon can be utilized twice without reloading.

The ability of these weapons to stop an assault are good if the batteries are charged and conditions adequate. If the batteries are not adequately charged or the device does not work, then the XR 5000 Stun Gun and the Taser are useless; the Source Flashlight could be utilized as a thirteen inch impact weapon.

The ability of the Source Flashlight to block an assault is adequate if used as a thirteen inch baton. The XR 5000 Stun Gun and the Taser would not be effective in blocking an assault. The impact might incapacitate the device and it would be rendered useless, as mentioned above.

The ability of these devices to deter an assault are good, if the device is known and an electrical arc can be seen by the assailant. (The Taser does not emit an arc prior to discharging the weapon.) It is very difficult for anyone to knowingly accept an electrical charge; if presented in the right circumstances electrical devices can have a good deterrent effect.

2. Potential for civil liability.

Electrical devices are relatively new law enforcement weapons. Consequently, they have not had to stand the test of time. There are some civil litigation cases in different parts of the country that

stem primarily from misuse of the weapons. The most notorious case is the New York incident in which the officers allegedly used the XR 5000 Stun Gun to elicit confessions from suspects. The results of the extensive electrical charges from the weapon produced obvious welts and burn marks on the suspect.

Most of these misuse cases involve gross negligence for failure to train and/or failure to supervise. Ideally, with an effective and practical training program and proper supervision, these weapons should not provide any more potential for civil liability than any of our current issued weapons. But the carte blanche issuance of an electrical device to all department personnel, along with unconditional claims of it being a safe harmless weapon, could invite problems from the everpresent less professional officers.

Another possible liability problem is with training. While assigned to the Federal Law Enforcement Training Center, I participated in what was reported as an Instructor Training Program in the use of the Nova XR 5000 Stun Gun. The training was conducted by the Nova Company. Upon successful completion of the course, the participants never received any documentation certifying our status as instructors. I pursued this matter, twice, in the following months to the company executives and was assured that proper documentation would follow. The documentation never arrived for me or any of the other participants.

This type of unprofessional training program for the instructor level does not provide confidence in accepting the validity of the rest of the vendors claims. If the vendor will not certify their own training program, who will?

3. Training requirements.

a. Initial Training
b. Refresher Training

Training in a physical skill requires consistency and repetition in order to learn the skill in a manner which will enable the trainee to effectively use the skill. Skills training should by systematic meaning that the principles involved in the skills do not contradict themselves. For example, a field interrogation (FI) Stance is universally recognized as the proper stance for making law enforcement contacts in the field. The FI Stance involves moving the weapon side of the officer away from the subject and using the non-weapon side and/or hand to confront, direct, fight, question, etc. the subject. Until recently, a front point shoulder combat stance was used for our firearms stance. This stance was in direct conflict with the principles involved with in the FI Stance. The Training Division recognized that conflict and incorporated the Weaver Stance for shooting. The Weaver Stance complements the FI Stance and now the skills for both are more easily learned and reinforced.

The training requirements for an electrical device involve teaching an entirely new skill which is very singular in purpose, to electrically subdue a subject. With the exception of Recruit training, and an occasional rarity with Protective Services and CERT, there is no current inservice defensive tactics training in nonlethal weapons. Beginning in January 1986 semi-annual weapons training is a project which will include the use of the issued impact weapon. To incorporate electrical device training would mean adding another inconsistent skill to the training program requiring separate

instruction with little, if any, skills transfer from the impact weapon.

The initial training for an electrical device would involve an eight hour qualification program. The initial eight hours should include: An introduction to the weapon, safety data, medical research, maintenance and batteries, tactical use, police defense against the weapon, and practical exercises.

A one hour block of refresher training should be given semi-annually to include an abbreviated version of the initial training.

4. Cost.

Item	*Cost Per Unit*
1. Some's Shock Baton	$ 50.00
2. Some's Electric Fist	50.00
3. Some's Sting Prod	35.00
4. Some's Zapper	67.00
5. Some's Gun Beam	365.00
6. Source Flashlight	129.50
7. Nova XR 5000 Stun Gun	69.95
8. Taser	250.00

5. Public Acceptance.

Public acceptance of the electrical weapons varies with the current media attention. When first developed, the Nova XR 5000 Stun Gun received very favorable coverage as a safe alternative to traditional methods of nonlethal force. City councilmen and members of the press were incapacitated with the weapon, on the air, and recovered without any noticeable side effects. The public acceptance turned in the other direction when a suspect was shown with welts and burns after being "interviewed" in New York.

The general characteristics for public acceptance are present with most electrical devices. They are usually small and easily carried on the belt. They can be withdrawn and handheld in a very low profile manner. When they work, it is very quick and the weapon can be quickly put away. The after effects of the weapon, when used properly, are small red welts where the electrodes made contact; as opposed to large bruises from the traditional impact weapon.

6. Effectiveness against drugged assailants.

The manufacturers claim their electrical devices are very successful against drugged assailants. The Los Angeles Police Department advertise an 80% success rate, against drugged individuals, with the Taser (See Appendix H). Prince George's County Police Department lists the Nova XR 5000 Stun Gun as "successful" against PCP users (See Appendix G).

Metro Dade, Florida Police Department uses the Stun Gun on a limited basis and found them "ineffective in many instances . . . With people who are using drugs and psychotic people." (See Appendix I)

7. Other major advantages and disadvantages.

The major advantage of electrical devices, when they work, is that they can subdue a combative subject with little apparent harm to the

officer and the subject. They are very low profile type weapons which can be easily carried and held. The techniques for tactical use are relatively simple to apply.

The major disadvantages of electrical devices is that they have not stood the test of time. It is unknown whether there are any long term effects from having 50,000 volts administered to the body several times. Most of the research and positive data released comes directly from the manufacturers. It is unclear as to how much validity can be given to their research claims. For example, when I was first stunned by the Nova XR 5000 Stun Gun, by a Nova executive, I was told that it left no burns, marks, welts, or any other side effects when properly used. I sustained red burning welts for three days after a one-second charge.

There are some problems with the tactical use of electrical devices. With the exception of the Taser, it is necessary to get very close to the assailant in order to administer a charge. For the officer involved in the confrontation, the device has to work; if it does not, then the officer will be in a very dangerous position with a useless tool in his/her hand. It is a more preferable tool for a back-up officer; if it does not work then at least there will be two officers physically attempting to subdue a subject.

The major problem with electrical devices is the elementary stage of their current technology. When a report comes in that an electrical device did not work, the manufacturer almost automatically attributes the cause to the battery not being sufficiently charged. It is critical that the battery be adequately charged or the weapon will not work. The batteries must be kept at a 75% capacity charge for the device to be effective. The suggested way to gauge battery capacity is by keeping a hand written charge on each unit to track the energy loss. There is no signal or dial which will indicate when the unit needs to be recharged.

This problem occurs with our portable radios occasionally, and they have a light on the recharger which indicates energy level. It is not uncommon for a radio to be issued which has a weak battery and does not receive and/or transmit. The officer becomes aware of the weakness by not receiving transmissions that he hears come over other radios or he keys the radio and does not hear a squelch signal.

With electrical devices charged at a near 75% level they will still appear to be fully charged, but they may not be effective at that level. In which case an officer may find him/herself very close to a subject with a useless tool in his/her hand.

Group 3: Control Weapons

List of Control Weapons:

Item	*Remarks*
1. Persuader	Short Stick
2. Lifetime Knobby	Short Stick
3. Lifetime All-Purpose	Short Stick
4. Lifetime Judo Stick	Short Stick
5. Some's Judo Stick	Short Stick
6. Kubaton	Short Stick
7. Power Stick	Short Stick

Evaluation Criteria

All of the above listed control weapons are essentially the same thing: short sticks approximately six to eight inches long. They can all be used to enhance the fist when striking and they have pressure point control capability. Because of their similarity, control weapons will be evaluated as a whole rather than individually.

1. Effectiveness as a defensive weapon.

In order to have an effective defensive capability, a weapon must be able to stop, block, and/or deter a nonlethal assault immediately. Control weapons because of their size are not effective tools for blocking. Their size will also preclude their ability to deter a nonlethal assault. A potential assailant is not likely to be impressed by an officer brandishing a six inch plastic stick.

Control weapons do work well to stop an assailant if a pressure point control technique is successfully applied. To successfully apply such a technique it is necessary to surprise the assailant with the control weapon; if they know what you are trying to do it is relatively easy to defend against its use. When successfully applied control weapons have very good comealong or take-down potential.

Control weapons can be used to enhance the fist when striking. The weapon enclosed in the officer's hand will strengthen the fist and allow for some impact strikes with the protruding ends.

2. Potential for civil liability.

Control weapons because of their size and use would probably pose no more of a potential civil liability than our current impact weapons. Some of the control weapons have rigid sharp edges which might lacerate the skin upon an intense impact, but others offer rounded edges which reduce that possibility.

With proper training and supervision control weapons should not increase an officer's or department's potential for civil liability.

3. Training requirements.

a. Initial Training
b. Refresher Training

The initial training for control weapons would involve an eight hour qualification program. The initial eight hours should include: an introduction to the weapon, pressure point areas, tactical use, and practical exercise.

A one hour block of refresher training should be given semi-annually to include an abbreviated version of the initial training.

4. Cost.

Item	*Cost Per Unit*
1. Persuader	$ 3.50
2. Lifetime Knobby	3.50
3. Lifetime All-Purpose	8.35
4. Lifetime Judo Stick	7.35
5. Some's Judo Stick	13.50

6.	Kubaton	3.00
7.	Power Stick	5.00

5. Public Acceptance.

The general characteristics for public acceptance are present with most control weapons. They are small and easily concealed, in the hand or on the uniform. They can be handled in a very low profile manner. When a pressure point technique is successfully engaged they work very quickly. When presented to the public it is difficult to be offended by a six inch plastic stick.

Many people, law enforcement and non law enforcement, carry a control stick as a key chain. Public acceptance of a control weapon would probably not be a problem.

6. Effectiveness against drugged assailants.

Control weapons rely on pain compliance for success. Once the pressure point control technique is in place the pain is increased until the subject complies with the lawful directions of the officer.

Many drugged assailants have their pain tolerance increased depending on the type and amount of the induced drug. The less pain felt by the assailant, the less effective the control weapon.

7. Other major advantages and disadvantages.

The major disadvantage of control weapons is that the officer must get very close to the subject to use them. The techniques require surprise or they are very easy to defend against. If the pressure point control techniques are not successfully administered, they the officer will only have the enhanced fist with which to attempt to subdue the offender.

Group 4: Miscellaneous Devices

List of Miscellaneous Devices:

	Item	*Remarks*
1.	Some's Iron Claw	Single Handcuff
2.	Some's Twister Chain	Chain with Handles
3.	Some's Nunchaku	Martial Arts Weapon

Evaluation Criteria

These miscellaneous devices were merely listed because, when the search for available nonlethal weapons was conducted, they were offered by vendors as police weapons. All of the above weapons are unsuitable for a single use nonlethal alternative.

The Iron Claw is an old traditional police comealong device which serves no other purpose; actually it is a poor tool for comealong use.

The Twister Chain is also a comealong tool which has little other practical use. Using a chain for comealong purposes poses a liability problem because it will almost certainly tear flesh if applied directly to the skin.

Nunchakus are a martial arts weapon. The District of Columbia outlawed their use because they found no "utilitarian value . . . except to take life or cause serious injury to a person" (USCP Memorandum 76.31). The training for such a weapon would be extensive. Some martial art styles withhold nunchaku training until a Dan (black belt) is achieved.

Because of the obvious inadequacies of the above listed miscellaneous weapons they will not be further evaluated.

Group 5: Impact Weapons

List of Impact Weapons:

	Item	*Remarks*
1.	Lifetime Taper Grip Billie Club	8" to 16" long
2.	Some's 12" Plastic Billie	12" long
3.	Hickory Police Club	15.5" long
4.	Bodyguard Rosewood Billie	12" long
5.	Precinct Rubber Billie	12" long
6.	Monadnock PR-18	Side Handle Baton
7.	Monadnock PR-16	Side Handle Baton
8.	ASP Baton Expandable	7" to 17"
9.	Monadnock PR-16 Expandable	7" to 17"
10.	Blackjacks/Slapjacks	Bludgeons

Evaluation Criteria

All of the "Billies," Items #1-#5, will be evaluated as a "Billie" because of their obvious similarities.

The Monadnock PR-16 and PR-18 will be evaluated as a side handle baton.

The ASP and Monadnock PR-16 expandable batons will be evaluated together.

Blackjacks/Slapjacks will be evaluated together.

1. Effectiveness as a defensive weapon.

In order to have an effective defensive capability, a weapon must be able to stop, block, and/or deter a nonlethal assault immediately. Impact weapons have been the traditional defensive weapon for police use since the days of Sir Robert Peel.

"Billies"

"Billies" come in a variety of sizes from eight to sixteen inches. The sixteen inch "Billies" tend to provide the better defensive capability than the shorter ones because of the extra size and weight. A sixteen inch "Billie" can be held in one hand and provide an eleven inch surface for <u>blocking</u> nonlethal assaults. The "Billie" can block assaults one handed or be assisted by the nonweapon hand. The sixteen inch "Billie" has a good blocking capability.

"Billies" can be an effective tool for <u>stopping</u> nonlethal assailants. With the proper strikes to motor nerve areas of the body, assailants can be incapacitated by overloading the nerve receptors of the major muscle groups that enable the subject to fight. This pressure point

control technique of striking is the same principle that the electrical devices use. Electrical devices overload the motor nerve of the muscle by a high voltage charge; whereas "Billies" overload by impact.

"Billies," brandished to indicate their possible use if unlawful conduct is not ceased, might cause subjects to consider their actions. A sixteen inch "Billie" would be an obvious detriment to an assailant if forcefully applied; so, the "Billie" would have a good deterrent capability.

Side Handle Batons

Side handle batons have the best blocking capabilities of any of the involved alternative nonlethal weapons. By utilizing the handle the officer can block with the full length to the baton and not have any fingers exposed. The number following the "PR" indicates the length of the baton, for example, PR-18 is an eighteen inch side handle baton. The longer the baton, to a point, the better the blocking potential.

Side handle batons have multiple application functions. They can be used as impact weapons, and they are promoted as having control properties as well. The control properties are a side attraction of the baton and only work on a conditional basis; if the subject is in just the right position, the longer side handle batons (PR-24) have better control features than the PR-16 and PR-18. The shorter the baton the less control potential realized.

The stopping capabilities of the side handle baton really belong to its striking potential. The strikes are directed to the outside of the body (outer leg, knee, elbow, ribs) and inappropriate strikes to the neck and head are physically difficult to administer, when utilizing swinging strikes. The baton can also strike using the short extended portion to close torso areas of the body. The focus of the strike, target area, is not as fixed as with a straight "Billie." The swinging strikes have good impact but are difficult to be direct on a moving target. The pressure point control technique of baton striking would be difficult to administer with a side handle baton.

Side handle batons, like "Billies, would have a good deterrent effect on a would be assailant.

ASP and PR-16 Expandable Baton

The ASP is an expandable metal baton. While closed it is seven inches long with a diameter of seven-eighths of an inch. The PR-16 Expandable baton is the exact same thing as the ASP except that it has a four inch handle coming out of it's side making it an expandable side handle baton.

The expandable baton has multiple stopping potential. While closed, the ASP possesses all of the capabilities of the aforementioned control devices. If the control techniques are inadequate then the ASP can be expanded to a seventeen inch impact weapon; as an impact weapon the ASP possesses all of the capabilities as the aforementioned "Billies." The ASP opens very quickly when needed. In fact, it can be opened while in the process of initiating a block or strike.

The ASP, when expanded, offers a thirteen inch blocking surface when held in the hand. Blocks can be made with one hand or assisted by the nonweapon hand. Blocks can also be made from the closed baton position; the baton will open while in the process of making a strike. The ASP has a slightly better blocking capability than the "Billies."

The PR-16 Expandable baton does not have the control capabilities as does the ASP; the handle tends to interfere with the techniques. The extended baton is not weighty enough to be very effective. The swinging strikes are unwieldy due to the length and weight of the weapon. The design of the expandable side handle baton does not lend itself to a smooth method of expanding the baton, as with the ASP. The expandable side handle baton is opened (expanded) outward and then has to be recovered for a strike or block. This does not allow for good safe technique application. The ASP can be expanded in the ready position or in the process of a block or strike.

The ASP and PR-16 Expandable batons can both be utilized as their counterparts, "Billies" and side handle batons respectively, for blocking capabilities.

Both of these weapons will have a tremendous deterrent effect on potential assailants. The opening of expandable batons has always struck the unknowing with awe. Many onlookers have mistaken the expanded baton for a cattle prod or some other electrical device. If an assailant is going to be deterred, these items will have as good a chance as any nonlethal weapon in inhibiting their unlawful behavior.

Blackjacks/Slapjacks

Blackjacks/slapjacks are bludgeon weapons ranging in size from four to eleven inches. Blackjacks are usually round weapons with a leather covered, lead filled, impact end. They traditionally have a leather cased handle or shaft with a spring or metal insert which gives the weapon a springy whipping action. Slapjacks are almost identical to blackjacks except that they are flat and the impact end has a shape similar to the size of the human temple. These weapons will be referred to as bludgeon weapons for purposes of this report.

Bludgeon weapons offer a poor potential for blocking. When held in the hand they do not have the size to allow for an adequate blocking surface.

Bludgeon weapons have stopping potential. Well placed strikes to pressure point control areas of the body will incapacitate a subject. The traditional target area with bludgeon weapons has been the head, this is one reason for their poor public acceptance; also some experts state the slapjack's shape was designed for strikes to the temple area of the head.

A problem with bludgeon weapon strikes is that the shipping action of the shaft has the possibility of allowing more momentum with the impact than was intended by the officer. The outcome of delivering more force than intended could result in an inappropriate use of force issue for the officer and the department.

Bludgeon weapons because of their size do not offer as good a deterrent capability as do some of the other nonlethal weapons.

2. Potential for civil liability.

"Billies"

With proper training and supervision "Billies" offer no more of a potential for civil liability than our current nonlethal weapons. They have no sharp edges and the training will be to strike motor nerve areas of the body, as opposed to bones and joints.

Side Handle Batons

Side handle batons are advertised as having much more impact potential than the traditional straight baton; this claim is for the PR-24 versus the 26 inch straight baton. With the PR-24, the manufacturer offers a standardized well structured training program; they also offer to assist with legal challenges to that training program. They do not make that offer with the shorter side handle batons, PR-16 and PR-18. The shorter side handle batons actually have less impact potential because of the diminished size and weight. The fact that the manufacturer does not back up the smaller weapons, as it does the PR-24, might be a possible legal avenue for a would be litigant to pursue.

Another possible liability concern would be any deviation from the prescribed Monadnock training program. The twelve hour training program contains a number of inappropriate techniques for our use. Any change from the recommended manufacturer's training program could possibly be conceived as a negligence issue for failure to properly train.

Other than the above mentioned possibilities, the side handle batons do not pose any more of civil liability concern than our current nonlethal weapons when properly trained and supervised.

ASP and PR-16 Expandable Batons

Both of the expandable weapons are made of metal. This may present a legal avenue for some litigants to pursue if injured by their use. The metal on both of the expandable batons is rounded with no sharp edges. When used as an impact weapon on motor nerve areas of the body, the expandable batons should pose no greater potential for civil liability than our current nonlethal weapons. As with the other impact weapons, proper training and supervision is critical for minimizing civil liability.

The ASP may enhance the officer's ability to reasonably escalate his/her use of force, which makes justification and legal defense more appropriate. The closed ASP can be initially used as a control instrument, i.e., for touching the suspect to gain compliance (when verbal direction does not work the next level of force is touching). If touching the suspect has negative results and elicits more resistive behavior, then the expanded ASP would be justified for use as an impact weapon.

When used in this fashion, the officers will be more likely to properly escalate their use of force. Properly escalated use of force is better justified in that a better justified use of force provides lesser potential for civil liability.

Blackjacks/Slapjacks

Bludgeons are old traditional police weapons. Training, if any was provided, usually consisted of directions to hit the suspects on any boney part of the body (especially the head). In 1982, a search was conducted through the library of the Federal Law Enforcement Training Center, by this author, for a suitable training program in the use of the blackjack/slapjack. The only reference for such a training program was a one sentence indication that the Lamb Baton Method would probably work best for the blackjack/slapjack. (The Lamb Baton Method is a backhand system of baton strikes. It is not our current type of baton training and is not likely to be in the future.) No other training references were found for these weapons.

With newer, better, more advanced nonlethal weaponry available, trainers do not offer practical professional training in the use of bludgeon devices. The lack of appropriate training makes the blackjack/slapjack a real potential for greater civil liability involving gross negligence suits.

The whipping action of the bludgeon weapons does not allow for a completely controlled strike. It is possible that more force than intended can be delivered and this could result in an inappropriate use of force law suit.

3. Training requirements.

a. Initial Training
b. Refresher Training

Training in a physical skill requires consistency and repetition in order to learn the skill in a manner which will enable the trainee to effectively use the skill. Skills training should be systematic meaning that the principles involved in the skill do not contradict themselves. Ideally, all of the use of force skills should complement each other and make it easier for the officer to properly and naturally administer the appropriate level of force.

When considering an alternative nonlethal weapon an adaptability to a systematic training program, which complements all of the use of force options, should be heavily weighed. A good weapon which requires a unique training program is likely to be misused or ignored if the proper skills are not constantly reinforced. A good weapon which requires the same type of skills as the revolver and twenty-six inch baton is less likely to be misused and more likely to be effectively utilized, by having the skills reinforced each time any of the above are involved in training.

"Billies"

The pressure point control technique of baton training is currently being administered during our recruit officer training. The same technique of baton training is projected for our semi-annual weapons training program. The "Billies" can be easily adapted to this type of training.

The initial training qualifications should consist of an eight hour block of instruction involving: an introduction to pressure point control techniques, an introduction to the "Billie," striking areas, tactical use, blocking, and practical exercises.

The refresher training should be an abbreviated form of the initial training administered during a one hour session semi-annually.

Side Handle Batons

Side handle batons are the current impact weapon of our Special Operations Unit (SOU). The initial training consists of the standard sixteen hour program as presented by the manufacturer. Approximately 240 of our officers are trained in the use of the side handle baton, but they only carry the weapon during a SOU operation or training. This lack of availability to the weapon nearly negates any proficiency achieved during training. The side handle baton training is not consistent with the straight baton which is the routinely carried impact weapon. This does not allow for a systematic training program.

The recommended refresher training would consist of a four hour abbreviated version of the initial training given semi-annually.

ASP and PR-16 Expandable Batons

The expandable PR-16 should follow the same training program as the above listed side handle batons with the inclusion of a segment concerning the opening, closing, and carrying of the baton.

The ASP is adaptable to our current pressure point control technique of baton training; a segment on opening, closing, and carrying the ASP would have to be included.

The initial qualification training should consist of an eight hour block of instruction including: an introduction to the ASP, pressure point control techniques, striking areas, tactical use, blocking, and practical exercises.

The refresher training should consist of a one hour abbreviated version of the initial training given semi-annually.

Blackjacks/Slapjacks

No practical training in the use of the bludgeon weapons could be found. The Metro Transit Police Department, for the Washington area, conducted a similar search earlier this year. They were faced with the task of either providing training for their issued blackjacks or recalling them. They could not find an existing training program, so they opted to write their own. As of this report, they are still developing their lesson plans.

4. Cost.

Item	*Unit*	*Cost Per Holster:*	*Total*
1. Lifetime Palm Grip 16" Billie	$10.10	$ 3.95	$14.05
2. Some's 12" Plastic Billie	6.45*	3.95	10.40
3. Hickory 15.5" Police Club	11.70*	3.95	15.65
4. Bodyguard 12" Rosewood Billie	16.20*	3.95	20.15
5. Precinct 12" Rubber Billie	10.20*	3.95	14.15
6. Monadnock PR-18	16.30	7.95	24.25
7. Monadnock PR-16	16.30	7.95	24.25
8. ASP Baton Expandable	30.00	20.00	50.00
9. Monadnock PR-16 Expandable	35.95	9.00	44.95
10. Denver/Texan Slapjack	in stock	N/A	in stock

* Price includes a $1.20 baton stop to hold baton in holder.

5. Public acceptance.

The tradition of the Capitol Police has been to portray a low profile regarding the show of force inside the Capitol buildings. Our blouses were designed to cover the service revolver and batons are not carried inside the buildings. When, due to select Special Events, batons are carried inside the buildings, observant staff members do take notice. Outside posts have always had the opportunity to carry batons and their presence does not elicit any significant comment.

The addition of an obvious indoor weapon would bear notice from some of our public and most assuredly the media. The public acceptance of any of the impact weapons would probably be related to a specific use of the weapon and facts surrounding its use.

"Billies"

"Billies" are simply a shorter version of the twenty-six inch baton and would probably generate little public attention. A shorter version of the outside weapon would probably appear as appropriate for inside use.

Side Handle Batons

A side handle baton would also appear to be a shorter version of the outside weapon and probably generate little public attention.

ASP and PR-16 Expandable Baton

The expandable batons would not be as obvious an addition to an officer's equipment as would a "billie." They are smaller, when closed, and more likely to blend in with the other attachments on the officer's belt.

The expandable batons are made of metal which might generate some negative comments from the public. The fact that it is round, with no sharp edges, and is an impact weapon to be used on motor nerve points of the body will be either accepted or rejected depending on the facts surrounding any publicized use of the weapon.

The size of the closed baton coincides with the tradition of low show of force. The ASP can be very inconspicuously carried, as compared to a "billie," in the hand during law enforcement contacts with the public; and still have impact potential readily available if needed. This potential affords the officer a little more protection while not unnecessarily alarming the affected public.

Blackjacks/Slapjacks

Slapjacks have been carried by members of our Department for many years (more than fifteen). Because of their concealed nature when carried in the pocket there has been no significant adverse comments from our public. Most public acceptance issues arise after an incident involving the weapons use occurs and receives media attention. Since 1977, there has been only one reported use of the slapjack by a member of our Department. That incident involved one of our K-9 officers using his slapjack to fend off another dog that was attacking his dog. The incident did not receive any significant media attention. The dog was not charged with any offense and did not comment on the use of the slapjack by the officer.

6. Effectiveness against drugged assailants.

The effectiveness of any of the impact weapons against drugged assailants will be directly related to the type and amount of the induced drug. All of the impact weapons, with the exception of the side handle and PR-16 expandable batons, can be used against motor nerve areas of the body. Strikes to motor nerve areas do not rely on pain to stop the suspect's unlawful actions; they disrupt the muscular integrity of the suspect. The results of motor nerve strikes are involuntary contractions of the affected muscles, and subsequent disorientation and loss of balance on the part of the suspect.

The drugs which affect mental perception and pain tolerance are the ones that would pose the greatest risk to an officer, if his/her suspect had induced them. A practical approach to handling such a suspect, if combative, would be to limit their actions by attacking their balance. This is what occurs when motor nerves are affected. The electrical devices work on this same principle of overloading the motor nerves of the major muscle groups that affect balance.

The side handle and PR-16 expandable batons are not as conducive to motor nerve strikes as are straight impact weapons. The focus of their strikes are to the side of the body and are somewhat difficult to adjust during the course of a confrontation. A straight baton allows for a more natural focus on the striking area and is more adaptable for adjustments during a close quarter confrontation.

7. Other major advantages and disadvantages.

An advantage of the ASP baton is that it is currently an issued service weapon. Select members of the Protective Services Bureau were trained and issued the ASP in 1983.

A disadvantage of the ASP is that during the training program many of the sixty expandable batons sustained damage. The pins retaining the baton tips sheared off allowing the tip to separate from the shaft. Also, a number of the baton shafts were bent during the striking drill portion of the training. The batons were used, repetitively, against oak furring boards.

All of the batons were sent back to the manufacturer who repaired and replaced the damaged parts free of charge. Since then, the manufacturer has reworked the manufacturing of the baton. The bending of the shaft was caused more by the training drill than by weaknesses in the batons. The current training program utilizes practice batons for striking, blocking, and practical exercise drills rather than the issued weapon. This is the same procedure that is used for the issued twenty-six inch baton.

Two sample ASP expandable batons were tested for tip strength and shaft integrity. The tip strength was tested by opening and closing the batons one hundred consecutive times. The shaft integrity was tested by hitting a heavy body bag and a smaller handheld impact bag 100 consecutive times with appropriate force.

The test results were successful for the ASP baton. The tips remained intact and there was no noticeable damage to the shaft. The test that was conducted on the ASP far exceeded any reasonable use of the weapon. ASP was repeatedly closed on a concrete floor. I do not think this is a serious problem. The vendor has been notified

and training should include "do's and dont's" in the operation of the ASP. The two ASP's used in the "torture test" were deliberately not lubricated so as to further increase the intensity of the test. With proper lubrication I do not think the tips would have broken, even on the concrete floor, after repeated usage.

It should be mentioned that the ASP was designed to strike the human body. It will block an assault with another impact weapon, but depending on the type of weapon, a tire iron for example, it will probably sustain some damage to the shaft. The shaft is replaceable.

The vendor has offered an unconditional guarantee against defects in material or workmanship. (See Appendix J)