FIREARMS TRAINING FOR JAMAICA CONSTABULARY FORCE

PLANS & RECOMMENDATIONS

Edward M. Ames
Public Safety/USAID Jamaica

CONTENTS

		PAGE
	The Need for Firearms Training	1
ANNEX A	Estimated and Projected Costs to Sustain the Firearms Training Program	5
ANNEX B	Recommended Firearms Training Course	10
ANNEX C	The Development of Firearms Instructors	16
ANNEX D	The Development of Firearms Ranges	19
ANNEX E	Equipment and Supplies for Reloading Ammunition	28

SUBJECT: THE NEED FOR FIREARMS TRAINING IN THE JAMAICA CONSTABULARY FORCE

Historically, the police have been the primary defenders of life and property. Throughout the 20th century, in most parts of the world, that duty has become increasingly complex and difficult. It has been a period during which there has been a general increase in rates of crime, and a sharp increase in crimes of violence. Jamaica has been no exception - the country is facing an era of escalating criminal violence. The constable in the Jamaica Constabulary Force today is at times required to physically face vicious and brutal assaults in defending the public welfare. Occasionally he has no alternative but to meet force with force in discharging his sworn duties. There is no segment of society that wishes circumstances were different more than do the police, and no segment that is making a greater effort to reverse the trend toward increasing violence. The Constabulary is exerting the faculties at its command in a sustained effort to suppress and control the violent and militant criminal elements in Jamaica. However, it is apparent that the nation is coping with an era of increasing violent criminality, and that the days when violent crime was indeed rare is rapidly fading into the past. To substantiate this fact one need go no further than the daily newspaper that chronicles the daily violent crimes which are perpetrated against the citizenry. Deadly weapons are being utilized more and more by the criminal element to perpetrate crimes, attack citizens, and resist lawful authority.

Although the Government and the police of Jamaica are mounting an effort to block the flow of firearms falling into criminal hands, it cannot be realistically presumed that the use of such weapons by criminals will soon be eliminated or curtailed. Certainly such acts will not be curtailed as a result of failing to train the police to meet unlawful force with lawful force when necessary. On the contrary, the existence of a fully trained police force can be a significant factor in the prevention and suppression of such criminal acts. Indeed the elimination of a source of firearms for the criminal element is a most desirable goal and should be pursued diligently. However, the ultimate attainment of that

goal would not eliminate or reduce the need to thoroughly train the police in the proper and effective use of firearms. The police will always be required to stand between the potential victim and those who would kill and maim with deadly instrumentalities. It should not be forgotten that the policeman himself is often the target of the violent criminal.

The people of Jamaica have recognized the fact that their police are sometimes required to use force in their defense, and have expressed that recognition by providing within the framework of law, the police with the right to carry arms. In addition, the people have developed a legal structure which protects the police in using arms, under certain conditions. In very simplified terms, this legislation establishes justification in the eyes of the law, for the policeman to use arms under conditions where he acts with due caution, restraint and prudence.

Society, therefore, for its own protection, has given the police important prerogatives - to carry and use firearms. At the same time, however, society has expressed the expectation that the police will utilize that prerogative with wisdom and skill. Neither wisdom nor skill are innate-they result from careful training! Concurrently with the prerogatives, the police take on an obligation. That obligation is to utilize the prerogatives within the concepts upon which they were conceived. To do otherwise is a breech of the prerogatives, and in the instance of firearms, criminal. To fulfill the obligation placed upon the police, in the use of firearms, requires thorough training.

In addition, the Constabulary is a para-military organization, structured to support the nation's military forces in case of insurrection or invasion. Clearly, to fulfill such a responsibility requires proficiency with firearms.

If the police are to be armed and trained in the use of arms, the administration of the force must cope with the question - which police are to be trained? It is suggested that the only rational answer to that question is that all

police personnel must be so trained. To reach any other conclusion is inane. No one can predetermine which policeman, where and at what time, may be required to use a firearm in defense of life. Such a crystal ball is simply not available.

Few people have seriously advocated that the police should not have the prerogative of being armed. In fact the vast majority of the public agree that there is a clear need for the police to be armed. If it could be conclusively shown that there is no need to arm the police - then the prerogative should be terminated and the police should have no right to carry arms. Such a condition would be nonsensical and unsupportable by the facts of life in Jamaica today. Clearly, the police to perform their total function in society need to possess firearms. However, as with any other form of standard equipment, if they are to possess the equipment, they must be thoroughly knowledgeable regarding its use. Their training in firearms must not only include the development of skill in "how" to use the weapons, but also the development of the wisdom to know "when" the firearm can be used, from a legal and moral standpoint.

Equally nonsensical is the premise, expounded by a few individuals, that the police are incapable of absorbing firearms training, or that they will (or do) misuse their prerogatives with respect to firearms. The selection processes, for entrance into the Constabulary, are designed to identify those individuals who are capable of absorbing and retaining training. In addition, an extensive training period is utilized to weed out those individuals who cannot master the subject materials included in the training program. Therefore, Constabulary personnel are comprehending instruction on subjects every bit as complex and demanding as firearms training every day.

Certainly the misuse of firearms by the police is unfortunate and inexcusable. However, such occurences are most often the result of a lack of training rather than training. Indiscretionate use of firearms by the police can be cut to a minimum through thorough and comprehensive firearms training, backed up by strict administrative disciplinary actions against violators. The untrained man can hardly be blamed for untimely or

improper action. This is precisely why adequate firearms training requires a considerable period of time and specialized expert instruction. No area of training more clearly substantiates the principles that "a little knowledge is a dangerous thing" and "poor training is worse than no training at all", than does firearms training.

In summary, the police in the proper performance of their duties must be armed, and have a responsibility to provide their personnel with thorough training in the proper use of those arms. For the police to fail in the responsibility of thoroughly training their personnel in the use of firearms borders on administrative negligence, and can only result in one of two undesirable conditions. Either untrained, armed, policemen are put into the field who cannot perform their total duties effectively and are a hazard to the public; or, unarmed policemen are put into the field who are not equipped or prepared to perform their total duty.

SUBJECT: ESTIMATED AND PROJECTED COSTS TO SUSTAIN THE FIREARMS TRAINING PROGRAM FOR THE CONSTABULARY

A. Introduction

This section deals with the actual long-term amount of pounds and shillings that a good Firearms Training Program for the Constabulary will cost. Good firearms training does not come cheap! Even when a program is designed such as this one, to squeeze maximum training from every shilling, the cost can be considered high. Often the question is asked "What benefit does the community derive from their investment in such training?". A difficult question to answer, not because the benefits are not real, but because the asker is expecting to see something tangible. The benefits are not patent. It could be said that they are nebulous, but they are present-they do exist. The community gets a better policeman, a more capable policeman, a more complete policeman, a more confident policeman - all intangible, but real! Firearms training can be construed as a negative flavored training-similar to First-Aid. Police trainees study First-Aid with the objective of being able to save a life, if the need ever arises. Certainly we hope that the need never arises, we hope that no one is ever sick or injured. However, realistically, we know that such things do happen and that the policeman is expected to deal with them efficiently when they do. Similarly, we train the policeman in firearms with the objective of his being able to defend a life, his community, his nation should the need ever arise. Frankly, we hope the need never arises. However, realistically, we know that policemen sometimes have to face situations where there is a mortally dangerous adversary bent on creating death and injury. The public expects him, and no one else, to deal with it. O.K., let's train him! Is the money well spent? Yes!

B. Observations and Recommendations

It must be understood that the costs reflected in Items B and C of this Section are estimates to <u>sustain</u> a Firearms Training Program, and do <u>not</u> include costs necessary to

initially inaugurate that program*, i.e.,: Range construction, Reloading Equipment, Weapons Replacement, initial ammunition stock build-up, etc.

It is recommended that the administration of the JCF take action to present this training plan to appropriate GOJ officials, with the objective of obtaining the necessary short-term and long-term funding support to initiate and sustain the program.

* Such cost estimates and recommendations will be found in other sections of this submission.

SUBJECT: RECOMMENDED TRAINING COURSE FOR BASIC FIREARMS TRAINING OF CONSTABULARY FORCE PERSONNEL

A. The recommended course, hereafter called the "Basic Police Firearms Course":

1. Develops in the trainee, not only proficiency with firearms, but also an understanding and appreciation of the important legal and moral responsibilities the policeman must bear with respect to firearms.

2. Develops in the trainee an understanding and appreciation of the laws and regulations which pertain to the use of firearms specifically, and the use of force generally.

3. Develops in the trainee an appreciation for the importance of strict care of firearms and safety with firearms. In addition, the skill will be developed for the trainee so he can clean and maintain a standard firearm, and handle it with complete safety both on and off duty.

4. Develops in the trainee an understanding of the purpose and functioning of each of the basic police weapons.

5. Develops shooting proficiency in the trainee to the degree that he can achieve a qualifying score of 70% with each of the standard police firearms - .38 calibre revolver, rifle, shotgun; submachinegun - firing the standard combat course, designed for that particular weapon.

B. The Basic Police Firearms Course (80 Hours)

2 Hour Sessions	Summary of the Content of the Session
	General introduction and orientation to the course. The importance of the training will be discussed, as will the legal and moral principles involved in the police use of firearms.
2.	Laws pertaining to the use of firearms and force in general will be discussed and explained. General principles of firearms safety will be introduced.
3.	Discussions concerning safety will be continued and procedures and standards for the course will be explained. The makeup and general functioning of firearms and ammunition will be explained.
4.	The nomenclature, functioning, care and cleaning of the .38 calibre revolver will be explained and demonstrated. Trainees will be supervised through a handling and cleaning exercise with the revolver.
5.	Conduct and safety on the firearms range will be explained. Copies of "The Rules of the Range" will be distributed and explained. Trainees will be tested on their knowledge and retention of instruction to date.
6.	The fundamentals of "off-hand" shooting will be introduced, explained and demonstrated - stance, grip, sighting, breathing, trigger application, etc.
7.	Training will be conducted at the firearms range. "Dry" and "Roulette" firing (with plastic bullets) will be demonstrated and conducted. The emphasis will be on fundamentals of position and safety, and the exercise will be conducted at "slow-fire" from 15 yards.

8. Same as Session No. 7, except exercise will be conducted from 25 yards.

9. Same as Session No. 8, except "Pupil-Coach" technique will be introduced, explained and demonstrated.

10. Same as Session No. 8, except trainees will exercise at "timed-fire" tempo.

11. Same as Session No. 10.

12. Same as Session No. 10, except trainees will exercise at "rapid-fire" tempo.

13. "Dry" and "Roulette" firing will be conducted from the 25 yard range using "live" ammunition. Emphasis will be on individual problems affecting accuracy at "slow" and "timed-fire" tempos.

14. Session reserved for individual tutoring of trainees experiencing specific shooting problems.

15. A written and performance examination will be given, which will test the trainee's knowledge and comprehension of all training material covered to date.

16. Same as Session No. 13, except trainees will exercise at "slow", "timed", and "rapid" tempos.

17. Trainees will fire complete official "Camp Perry Course" with "live" ammunition.

18. Same as Session No. 17.

19. General introduction to "combat" shooting. The importance of skill in this form of shooting and general tactics and techniques involved.

20. The phases and positions of the "Close Combat Course" will be explained and demonstrated, as will the special changes in technique which apply to combat shooting - point of aim, grip, etc.

21. Trainees will be supervised through drills and exercises designed to learn the phases and positions of the "Close Combat Course". Exercises will be demonstrated and conducted "dry" and "roulette" with plastic bullets.

22. Same as Session No. 21.

23. Same as Session No. 21, except that "live" ammunition will be utilized.

24. Trainees will fire the complete official "Close Combat Course" with "live" ammunition.

25. Each trainee will fire the complete official "Close Combat Course", with "live" ammunition, for qualification and record.

26. General introduction to the rifle. The purpose and utility of the rifle in police service will be discussed, as will functioning, care, cleaning and basic nomenclature. Safety features in handling and firing the weapon will be emphasized.

27. Supervised drills in cleaning and handling the rifle will be conducted. Positions and phases of the "Rifle Course" will be introduced, explained and demonstrated.

28. The fundamentals of shooting will be reviewed with special techniques, applicable to "shoulder weapons" developed and emphasized. Trainees will be supervised through "dry-fire" exercises designed to develop skill in the various phases and positions of the "Rifle Course".

29. Trainees will continue to practice the phases and positions of the "Rifle Course", under supervision, firing one "live" round from each position each time they practice through the course.

30. Trainees will fire complete official "Rifle Course with "live" ammunition.

31. Trainees will fire complete official "Rifle Course" with "live ammunition for qualification and record.

32. General introduction to the Submachinegun (SMG). The function of the SMG and its limitations for police service explained and discussed. The care, functioning, and basic nomenclature of the SMG will be explained and demonstrated with emphasis on safety features and safe, proper, handling.

33. Trainees will be supervised through exercises in handling the SMG. The phases and positions of the "SMG Course" will be explained and demonstrated.

34. Trainees will be supervised through exercises practicing each position and phase of the "SMG Course". Accuracy and safety will be stressed and "Short-burst" techniques will be explained and demonstrated.

35. Trainees will fire the complete official "SMG Course", with "Live" ammunition for qualification and record.

36. General introduction to the Shotgun. The importance and purpose of the shotgun in police service will be detailed. Basic nomenclature of the weapon, and its care, cleaning and maintenance will be discussed and demonstrated.

37. Firing positions and special firing techniques applicable to the shotgun will be explained and demonstrated. The positions and phases of the "Shotgun Course" will be explained, demonstrated and practiced.

38. Trainees will fire complete official "Shotgun Course" for qualification and record.

39. General review and critique of all material covered in course. A final written and performance test will be given.

40. This Session reserved as "Administrative Time" to be used by the instructor(s), at any time throughout the course to emphasize certain aspects or make-up time.

SUBJECT: THE DEVELOPMENT OF FIREARMS INSTRUCTORS

A. Introduction and Requirements

Irrespective of other factors, a firearms training program can never be better than the capability of the instructors. Therefore, of primary concern in the inauguration of a firearms training program for the Constabulary is the development of a cadre of qualified instructors to carry on the training. This should be the initial step in the evolution of such a program.

The firearms instructor is a specialist. He requires special and expert training. He must possess the characteristics common to all good teachers, but in addition he must have certain other aptitudes and attitudes. For example, the good potential firearms instructor must: have a strong personal interest in firearms and firearms training; have the ability to develop into a better than average marksman with all police weapons; be a leader with a willingness to exert strict disciplines; have an extraordinary degree of patience and desire to develop individual skills in trainees; have a sensitivity and alertness to detail and safety; be in excellent physical condition.

To successfully carry on the degree of firearms training required by the Constabulary will require that each firearms range be permanently staffed with an adequate number of qualified instructors. First, each firearms range must be staffed with a senior sub-officer who will supervise the work of the other staff instructors and generally oversee all training activities on the range. Secondly, each firearms range should have one (1) instructor for every four (4) shooting positions. Therefore, to augment the firearms program, there will be an initial requirement for twenty-two (22) qualified instructors:

1 - "20 position" range with 1 Senior Sub-Officer and 5 instructors	6
4 - "10 position" ranges each with 1 Senior Sub-Officer and 3 instructors	16
Total instructors required	22

To develop the required firearms instructors will necessitate the early initiation of Firearms Instructors Courses, provided by the Public Safety Training Advisor. To derive the cadre of 22 instructors required will probably necessitate the training of 40 to 60 potential instructors.

B. Recommendations

That the JCF take early action to select and organize a class of twenty (20) sub-officers and constables to undergo a minimum of six weeks of intensive instruction in a "Firearms Instructors Course" provided by the Public Safety Training Advisor.

That the aforementioned training course will be conducted in the area of Kingston, and that shortly after its completion a second similar course will be organized.

That the JCF utilize the after-action evaluations and recommendations of the Public Safety Training Advisor as a basis for assigning trained personnel to further implement the Firearms Training Program.

That the JCF take early action to obtain the use of a firearms range, in the Kingston area, to augment the subject training (either the Gun Club range on Mountain View Avenue or the JDF range at Twickenham Park), and that such range be made available for the use of the Public Safety Training Advisor between 2:00 P.M. and 6:00 P.M. each day for a period of three months.

That the aforementioned trainees be called forward to commence training on or about January 15, 1969, and that they be quartered at the Police Training School.

That the aforementioned trainees be assigned to attend a regular "Instructors Training Course", conducted at the Training School by the Public Safety Training Advisor daily from 8:00 to 12:00 for a period of three weeks, commencing on or about January 15, 1969.

That the JCF Training Division prepare and distribute to all stations an announcement of this training and application forms for interested personnel to prepare requesting the training. Further, that all participants in the subject training will be volunteers and that they will be recommended for the training by their immediate commanding officer.

That the Public Safety Training Advisor be authorized to draw from JCF Armory Stores a sufficient amount of weapons, ammunition and supplies to fulfill the requirements of the program. Including the following amounts of expendable supplies per trainee:

.38 caliber ammunition.	300 rounds
Rifle ammunition	100 rounds
Submachinegun ammunition	50 rounds
12 guage shotgun ammunition	10 rounds
Silhouette Targets.	4 rounds
Bullseye Targets.	10 rounds

SUBJECT: THE DEVELOPMENT OF FIREARMS TRAINING RANGES

A. Introduction

1. The objective of this annex is to present plans and recommendations from which an adequate number of police firearms training ranges can be constructed to augment a comprehensive Firearms Training Program for the Constabulary Force.

2. Functional, all-purpose, firearms ranges can be easily and cheaply constructed utilizing the materials presented in this annex. It contains explanatory material and recommendations on the selection of proper sites to situate a range, designs for range construction, and cost estimates in range construction.

3. The construction of outdoor ranges is recommended for several important reasons. For police weapons training the outdoor range is vastly superior to its indoor counterpart in several respects. First, the outdoor range is an "all-purpose" training facility - it is physically capable of accommodating every aspect of police firearms training at a single location. On the contrary, the indoor range is strictly limited in the type and degree of training which it can accommodate. Secondly, the outdoor range specifically designed for police training can be constructed at a fraction of the cost required for indoor range construction. This plan is a clear example of the construction cost savings involved. Following the plans presented here, the Constabulary will have five (5) ranges capable of accommodating sixty (60) shooters, derived from a total cost of less than that required to construct one small indoor range. In addition, the continuing maintenance cost of indoor ranges is relatively high, while the maintenance of outdoor ranges is nominal. The most commonly stated advantage of the indoor range is that it can be used year around. It should be noted that the outdoor ranges recommended here, can also be utilized all year. In summary - all purpose outdoor firearms ranges are ideally suited to police training needs - they are practical, functional and inexpensive.

4. The range plans which follow provide for complete but "spartan" facilities. Obtaining maximum utility from the money spent is a prime objective. The plans provide for all "need to have" facilities to conduct sound police weapons training. If desired, many "nice to have" accoutrements can be added to the basic facilities at some future time.

B. Selecting a site for a firearms training range.

1. The general location.

The range should be situated in as close a proximity as possible to the trainees it will serve - travel to and from a range is time consuming and costly.

The location of the range should take into consideration inhabitants of the region. It must not create safety hazards or noise disturbances for local inhabitants.

2. The specific location.*

A flat, solid, dry expanse of terrain measuring at least 60 yards by 40 yards is required.

Composition should be such that the site plot can be readily cleared, levelled, graded and ditched for drainage.

A natural elevation - such as a hillside - which can be utilized as a "backstop" for bullets is ideal. Elevation of at least 8' height is required. The backstop must extend the full 40 yard width of the site. Backstops can be man-made, however their erection elevates construction costs. Therefore, the greater the use of natural elevations, the greater the cost saving. The backstop should be gradable to an incline of about 35 degrees, and readily clearable of large rocks which cause ricochete hazards and impede lead recovery.

* Refer to Range Layout Sketch on Page

The range should be installed with a north-south shooting trajectory (which provides maximum daylight with minimum direct sun into the shooter's eyes). Therefore, the backstop must be situated at the north or south end of the plot.

High velocity bullets including .38 calibre, can be lethal up to 3/4 of a mile. Therefore, to insure safety an "impact area" extending one mile beyond the backstop is needed. The impact area must be totally free of habitation and liberally posted with warning notices.

All weather vehicular access to the range site is required to satisfy both safety and training requirements. Personnel and heavy equipment must be transported to and from the site, and vehicles are essential in case of emergency. Selecting a site with a pre-established access road is desirable, if not mandatory, because road construction is very costly.

C. Constructing a firearms range.*

Solid footing is essential to shooting accuracy and slipping with a gun in hand is obviously dangerous. Therefore, certain areas of the firearms range must be hard surfaced. "Lanes" of 4' width should be hard surfaced across the target face line and across the 7, 15, 25, 50 and 60 yard firing lines. In addition, the approach lanes on each side of the range should be paved to the same width. Macadum is preferred for surfacing, but packed gravel will suffice. The surfacing should be slightly rounded to facilitate rapid drainage.

Target frames** can be fabricated from unfinished 2" x 4" lumber. They are easy and inexpensive to construct and will hold all types of targets utilized in a police firearms training program.

* Refer to Range Layout Sketch on Page 24
** Refer to Target Frame Design Sketch on Page 25

Simple portable pistol stands can be easily fabricated from scrap lumber and 2" x 4" stock.***

Portable firing line covers can be inexpensively produced from 2" x 3" unfinished lumber and water-proof canvas.****

The range plot should be graded to produce a slight incline from the targets to the 60 yard firing line, which will provide rapid drainage of the area. To prevent erosion heavy grass or sod should be implanted between the firing lanes.

Each target should be numbered by a 6" x 6" sign, placed at the target base. Odd numbered targets should be prepared with white numerals on a black background, and even numbered targets prepared with the colors reversed. The "No 1" target should be placed 1' from the left edge of the range (facing the targets), and all targets set in 1' apart, as they line up across the range.

D. Firearms range construction cost estimates.

Construction costs have been calculated at approximately £45 per shooting position. This estimate has taken into consideration a reasonable amount of filling, levelling and grading - macadum surfacing of lanes - fabrication of target frames, pistol stands, and firing line covers - installation of cement holders for targets and stands.

It is recommended that five (5) all purpose firearms ranges be constructed - One (1) "20 position" range to serve the KSAC area, and One (1) "10 position" range to serve each of four other police "areas". This will provide a grand total of sixty (60) shooting positions.

*** Refer to Pistol Stand Design Sketch on Page 26
**** Refer to Firing Line Cover Design Sketch on Page 27

TOTAL ESTIMATED COSTS FOR RANGE CONSTRUCTION

£45 (per position) x 60 (positions) = £2,700.

RECOMMENDATION

1. That based on the materials contained in this annex, the Constabulary Force submit a budget request to the GOJ calling for the allocation of £2,700 to construct "Firearms Ranges" in conjunction with GOJ - US Public Safety activity agreements.

2. That the Public Safety Training Advisor provide guidance and advice on range construction in line with the plans and recommendations incorporated in this annex.

E.M. Ames
December, 1968

SUBJECT: EQUIPMENT AND SUPPLIES FOR RELOADING AMMUNITION

A. Introduction:

1. The equipment recommended in this annex will give the Constabulary the capability to reload all of the .38 calibre ammunition required to sustain the Firearms Training Program.

2. Self-reloading of ammunition results in a 75% saving in costs of training ammunition, as compared with the cost of new factory ammunition.

3. Estimated "costs per trainee" in Annex A, have been calculated on the basis of using the subject equipment. Also, the cost estimates in Annex A are designed to sustain, but not pay all initial costs for a reloading program. In other words, continuing annual costs for lead, powder, primers, etc., are built into Annex A, but initial costs for training ammunition must be separately budgeted. The initial purchase of training ammunition will provide an adequate number of cartridge cases to sustain the reloading program. Therefore, to initiate the Firearms Training Program and Reloading Program will require separate budgeting as follows:

1968 (June):
20,000 rounds of pistol ammunition, calibre .38 special, 148 grain wadcutter reload. (G.F.Cake Co. No. A267)*

Costs:

$35.75 (U.S.) per 1,000 rds. for 20,000 rounds =	$7,150	(U.S.)
20% shipping estimate =	$1,430	(U.S.)
Total Estimated Cost =	$8,580	
Converted to pounds at $2.40 (U.S.) per pound =	£3,575	
1969: Same as 1968	£3,575	
1970: Same as 1968	£3,575	

4. The operation of the subject equipment will require the full-time assignment of two (2) helpers. The Public Safety Training Advisor can oversee the installation of the equipment and train the operators.

B. Recommendations:

1. That the JCF initiate action to purchase the reloading equipment specified in the annex. Funds for such purchase are currently available under the heading of "Reloading Equipment" in the 1967-68 JCF budget in support of U.S.A.I.D. Public Safety Activity Projects in the amount of £375.

2. That the JCF take early action to obtain budget support for 1968, 1969, and 1970, to purchase the ammunition required to augment the Reloading Program (Refer Item 3 above - this annex).

3. That the JCF assign four (4) personnel full-time to operate the Reloading equipment.

C. Recommended Equipment and Supplies for Bullet Reloading:

ITEM	SPECIFICATIONS	NO. UNITS	UNIT COST	TOTAL COST
1.	RELOADING MACHINE, "Star Universal Progressive Reloader" for calibre .38 Special Cartridges, equipped with Lifetyme Carbide Die and regulated to load 3.5 grains of Bullseye pistol powder and the Hensley & Gibbs No. 51 160 grains semi-wadcutter bullet, sized to 0.357-inch. G.F. Cake No.A502-1*	2	$225.00	$450.00

ITEM	SPECIFICATIONS	NO. UNITS	UNIT COST	TOTAL COST
2.	CASE FEEDER, Hulme Automatic Case Feeder, for Star Universal Progressive Reloader, Caliber .38 special. G.F.Cake No.A539*	2	$ 34.50	$ 69.00
3.	LUBRICATOR AND SIZER, Star Automatic for a caliber .38 special bullet, to size .357 inch with a top punch for the Hensley and Gibbs No.51 bullet. G.F. Cake No. A503*	2	47.50	95.00
4.	BULLET MOULD, six (6) cavity complete with handles for Hensley and Gibbs 160 grain No. 51 caliber .38 semi-wadcutter bullet to size to 0.357 inch. G.F. Cake No.A526*	2	42.50	85.00
5.	MELTING FURNACE, electric thermostatically controlled, with settings of from 450-850 degrees F. Eleven pound capacity, 110-220 AC-DC, with ingot mould, G.F.Cake No. A514*	2	44.50	89.00
6.	UTILITY MELTING FURNACE, electric, heavy-duty, 20 pound capacity, 120 volt AC-DC, 1000 watt tubular heating element, with ingot mould. G.F. Cake No. A520*	2	24.50	49.00
7.	LADLE, stainless steel dipper and handle with wooden grips, for six (6) cavity mould. G.F.Cake No. 535*	2	2.50	5.00
8.	MALLET, wooden cutter, G.F. Cake No. 531*	2	2.00	4.00

ITEM	SPECIFICATIONS	UNITS	UNIT COST	TOTAL COST
9	BULLET LUBRICANT, for Star Lubricator and Sizer. G.F. Cake No.519*	20	.75	15.00
10.	TURNING PLATES, Primer, Plastic, G.F. Cake No. A518-1*	2	1.00	2.00
11.	INGOT MOULDS, extra for melting furnace. G.F. Cake No. A520T*	2	1.25	2.50
12.	CASE FEEDER TUBES, extra for Hulme case feeder	2	2.00	4.00
	TOTAL COST			869.50
	SHIPPING CHARGES (Estimated at 20% of cost)			173.90
	GRAND TOTAL COST			1,043.40
	AGAINST AVAILABLE FUNDS OF £375=$1,050 (U.S.)			1,050.00

* Recommended Source: George F. Cake Company, P.O. Box 649
Berkeley, California, U.S.A.