

‘EXPRESSION OF INTEREST ‘

CRPF is in process to purchase of the following Non Lethal Equipments for its RAF Units.

- 1) Disposable Handcuff
- 2) Baton
- 3) Tactical Periscope
- 4) LARD (Long Range Acoustic Device)
- 5) Shock Shield

2. The QRs/Specifications of said items are attached herewith.
3. The firms/parties dealing in subject matter are invited to submit their views by 19/11/2016.

Contract Person:-

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1. **Equipment Name :- Disposable Handcuff**

Specifications:

- Material - Nylon/Polyamide
- Length - 210 mm \pm 15 mm
- Width - 7 mm \pm 1 mm
- Thickness- 2 mm \pm 10%
- Non Reversible locking system
- Minimal tearing strength must be more than 140 kgs
- Wt. (25 gms \pm 10%)
- Should be of bright fabric for easy identification of handcuffed person.

Cutter for cutting Disposable Handcuffs: Safe holding and with an eye for hanging on outfit with a key ring. Covered Cutter edge should be provisioned for in order to prevent any injury while manipulation.

2. **Equipment Name: Baton**

Properties

1. Length :- 35 inch \pm 1 inch
2. Wt. (with coard) :- 600 gm \pm 15 gm
3. Baton diameter :- 31 mm \pm 5 mm
4. Handle Length (Shield upper slope to top end protrusion):- 130 \pm 5 mm
5. Handle Diameter :- 30 mm \pm 5 mm
6. Material :- Highly resistant polypropylene or any other proven superior material.
7. Holder Material :- Unbreakable polyamide (nylon) holder with nylon textile strap.

3. **Equipment Name : Tactical periscope**

A device for viewing the activities of the unruly mob from small gullies/lanes/streets without exposing the viewer. The Periscope must be made with a anodized aluminum alloy, highly polished glass prisms and glass lenses coated with black/dark colour powder. The eyepiece rubber cup can be folded back for use with glasses.

Material - High quality aluminium alloy and highly polished glass prisms and lenses coated with black/dark colour powder.

Specifications -

Magnification	:	4X to 9X
PERISCOPE weight	:	should not more than 600 gms
4X field of view	:	9.5°
Flashlight attachment	:	35 g \pm 2 g
9X field of view	:	5°
Focus distance at 4X	:	18" to infinity
Focus distance at 9X	:	8 feet to infinity
Height Advantage	:	Not less than 22 inch
Eyepiece diopter range	:	\pm 5 diopter
Extended with handle	:	28.5 inch \pm .5 inch
Exit pupil diameter	:	0.2 inch to 0.09 inch
Length Retracted (without handle):	:	17.5 inch \pm .5 inch
Test	:	Drop test

4. LRAD (LONG RANGE ACOUSTIC DEVICE)

FEATURES

- It should be able to provide directed acoustic energy with ratio of back to front energy output greater than 30 dB
- It should be capable of directing acoustic energy within a beam of $\pm 15^\circ$ at 1.0 kHz/- 3 Db or more.
- The device should have a continuous output of 140 dB Sound Pressure (SPL) Level at 1 meter Actual - weighted or more
- It should be capable of producing maximum SPL (Sound Pressure Level) (Actual weighted) of 121 dB at 100 feet in front of the device or more.
- Voice Boost switch: It should have a separate Voice Boost switch to increase the power level of pre-recorded voice messages to the maximum.
- Beam Width: The device should have a separate switch for broadening and narrowing the beam of sound.
- It should be able to aim at the incoming target with an aiming sight.
- The equipment should be capable of interfacing with external sound source with a stereo output jack.

- The device should be able to convert 50 English phrases/commands into at least 5 national regional languages.
- The integrated digital audio player shall have the following controls:-
 - o Power on/off
 - o Volume
 - o Voice Boost
 - o Beam Width
 - o MP3 play, pause, stop, skip forward and reverse
 - o MP3 file continuous loop toggle
 - o Activate/deactivate tone
 - o Backlight brightness control
 - o Microphone/USB/Auxiliary audio input connector
 - o fault, clipping and power status indicators
- The integrated digital audio player should have minimum 2GB (giga-bytes) of internal USB mass storage memory for storage of audio files. The Memory shall be accessible through a USB connection without the need for installing any device drivers.
- Indicators: The system shall include built in health monitoring display that will indicate power status, amplifier fault status and audio input clipping status to the user in real time.
- The system shall include a handheld microphone with integrated digital recording capability, with the ability to record and play back a voice recording of minimum 50 seconds in duration.
- The handheld microphone shall be powered from the device and shall store the recorded audio file in non-volatile memory.
- The handheld microphone shall contain a noise-cancelling microphone element for feedback reduction.
- Power supply: It should be capable of being operated with 100-240 V 50 Hz AC input power or from a separate 12/24 V battery, rugged portable inverter pack.
- Physical Characteristics:
 - (a) Weight: The acoustic array with integrated amplifier electronics should not weight more than 45 kg (excluding mount and accessories).
 - (b) Size & Shape :
 - Acoustic aperture should be minimum 30 x 30 inches to ensure directionally of the audio output.

- Thickness of the acoustic array shall be maximum 10 inches to ease of storage.
- (c) Construction :Fibre acoustic driver array housing for light weight and strength.
- (d) Connectors : Stainless steel connectors of MIL-DTL-38999 type III designation
- (e) Corrosion Protection : Aluminium parts shall be coated to prevent corrosion. Hardware to be good quality Stainless steel for corrosion resistance.
- (f) Mounting : Available heavy duty mount shall feature shock-absorbing members for use on moving vehicles. The mounting device shall allow the user to lock the system in the horizontal and vertical axis to prevent unwanted motion under wind, vibration, shock, etc. The mounting device shall be capable of being hard mounted in a flat pickup truck bed.
- (g) Handles : The acoustic array shall feature handles that can be used for lifting and/or aiming.
- The Acoustic amplifiers shall be enclosed in an environmentally sealed, removable module that is fully contained in the acoustic array for system compactness and ease of maintenance.
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- **Threshold Impact on Physiology of Human Ears** : Manufacture/Supplier must mention the threshold impact of equipment output on human ears. Certificate to this effect from any India Govt. Approved Medical organization should also be submitted by Manufacture/supplier.
 - **Environmental Condition for Use and Storage** : The equipment should be tested by a NABL lab to the following specification with no performance degradation. These requirements ensure that the equipment can withstand the environmental conditions that may be present during riot control operations such as rain, vehicular shock and vibration, high and low temperatures, etc.:
 - o **Cold storage Temperature: Down to 40° C** for 72 hours per MIL-STD- 810G, method 502.5, procedure I.
 - o **Cold operating Temperature: Down to -33° C** while operating per MIL-STD-810 G method 502.5, procedure II, design type Basic Cold.

- o **Operating Humidity:** Up to 95% humidity while operating per MIL-STD-810 G, method 507.5, procedure II- Aggravated Cycle.
- o **Salt Fog :**Exposed to corrosive salt for environment (Non-operating) for four alternating 24 hour periods of wet and dry exposure per MIL-STD-810 G, method 509.5
- o **Blowing Rain:** Exposed for 40 minutes per each front, back and two side surfaces to high pressure wind driven water jets per MIL-STD-810 G, method 506.5, procedure I.
- o **SRS Functional Shock (operating):**Exposed to terminal peak saw tooth shock-810 G, method 526.6, Procedure I.
- o **Shock:** Exposed to high impact shock per Mil-STD-901 D with the following test parameters:
 - o Lightweight test
 - o Shock grade B
 - o Equipment class I
 - o Type A shock test
 - o Deck mounted equipment
- o **Hot operating Temperature :** Cycle temperature upto 60° C, while operating for a 96 hour period per MIL-STD-810 G, method 501.5, procedure II, design type Hot Dry, climactic category A1 with max air temperature of 60 C.
- o **Hot Storage Temperature :** Store at 70° C for a period of 72 hours per MIL-STD-810 G, method 501.5 procedure I.
- o **(j) Vibration:** Subjected to environmental and internally excited vibration performed in all three recti-linear orientation axis. Endurance test frequencies defined against frequency range as specified in MIL-STD-167-1 A and subjected to endurance test according to table II in MIL-STD-167-1-A.
- o **EMI-EMC:** The entire system should have total electromagnetic compatibility with other equipment being used. The EMI-EMC levels should conform to FCC part 15 Class A limited for conducted and radiated emissions as well as EN 55022 Class A Limited for conducted and radiated emissions.

5. **Equipment Name :- SHOCK SHIELD**

Dimension :-

Height : Not more than 900 mm ± 10%

Width	:	Not more than 600 mm \pm 10 %
Thickness	:	Not more than 4 mm \pm 10%
Weight	:	Not more than 4.2 kg \pm 10%
Colour	:	Transparent
Input	:	220/110 Volts a/c 50 Hz/60 Hz
Maximum duration of impulse	:	Not greater than 1 mili second
Maximum quantity of electricity per impulse	:	less than 1 mili coulombs
Material- Made from international quality tough PC sheet durable against shocks high chemical resistance, Heat resistance ultra violet protection, to increase the safety of operation staff (Operating Officer)		

Features:

1. High voltage (Electro shock system of minimum 30 minutes continue operation-backed up with research data/biological studies on usage safety causing no permanent neuromuscular incapacitation)Non lethal, safe but effective electrostatic shock conduction via securely fitted conductors all over the front area of the shield without obstructing the view of the handler.
2. Guard in full control with press button operation situated on moulded handle as well as on/off indication Light Emitting Diode.
3. Safety wrist strap which automatically activates warning siren and simultaneously renders shield harmless if shield is disarmed. (optional)
4. Visible shock sparks act as an added deterrent.
5. Clear polycarbonate shields, offering protection against thrown objects.
6. Fully rechargeable including nickel-cadmium rechargeable battery of 12 volts (650 mili ampere) with built I charger as well as indicators with on off switch. AC/DC charger of 220/110 volts AC. Once fully charged should continuously operate the shock for up to 01 hour 30 minutes or up to 7000 qtr second burst. Standby time approx 35 hour.
7. Optional multi charging stand that holds and charge up to five shields simultaneously.
8. Scaled detachable electronic housing for easy maintenance.

9. Ergonomically designed handle with compact clamping arm which allows controlled maneuvering in all directions.

