

**Administration of  
Daman and Diu, U.T.  
(Department of Police)  
Daman**

E.M.D. for X-Ray BIS Rs. 75,000/-

Last date of issue of Tender 29-10-2008

Last date of Receipt of Tender 30-10-2008

**T E N D E R F O R M**

This tender form is issued to  
Shri.Ms. \_\_\_\_\_ Of \_\_\_\_\_

\_\_\_\_\_

Tender fees Rs.1000/- (One thousand) received vide Receipt

No. \_\_\_\_\_ Dated \_\_\_\_\_/2008.

Dated \_\_\_\_\_ SD/-  
DY. INSPECTOR GENERAL OF POLICE  
DAMAN & DIU  
DAMAN

TO

THE DY. INSPECTOR GENERAL OF POLICE  
DAMAN & DIU  
DAMAN

I/We, the undersigned \_\_\_\_\_ of

M/S \_\_\_\_\_

\_\_\_\_\_ hereby offer my/our rates as enclosed.

I/we agree with the terms and conditions attached with the tender and promise to

supply the article at the rates shown against each item as per attached Annexure.

(Sign. and Name of the Supplier)

**Administration of  
Daman and Diu, U.T.  
(Department of Police)  
Daman**

**SCHEDULE FOR SUPPLY OF X-RAY BIS FOR DIU  
AIRPORT**

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Sl.No.	Description of item (Figure & Words)	Qty.	Rate	(Rs.	In
1.	X-ray Baggage Inspection System.	1			

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OF POLICE

SD/-  
DY. INSPECTOR GENERAL

DAMAN & DIU

DAMAN

STAMP AND SIGNATURES OF THE SUPPLIER

## **SPECIFICATIONS FOR X-RAY BAGGAGE INSPECTION SYSTEM**

1. The machine should operate on 230V AC 50 Hz power supply and should be able to withstand voltage fluctuations in the range of 170V to 260 V.
2. Tunnel size of the machine should confirm to the purpose for which the machine is used.
3. Penetration should be of 26 MM thickness of steel or more
4. Resolution: The machine should be able to display single un-insulated tinned copper wire of 40 SWG. All penetration and resolution condition should be met without pressing any functional key and should be online.
5. The system should be able to produce clear image on monochrome or colour monitors with minimum of 1024x768 pixels.
6. Zoom facility should be available to magnify the chosen area of an image four times (X4) or more. Image features shall be keyboard control able.
7. The machine shall be film safe. In other words Photographic films must not be damaged due to X-ray examination.
8. The machine should have features of multi energy X-Ray imaging facility where materials of different atomic number will be displayed in different colors to distinguish between organic and inorganic materials. With this method it should be possible to distinguish high-density organic materials including explosives. Machine should have variable colour of material stripping to facilitate the operator to monitor images of organic materials for closer scrutiny. All suspicious items (explosive, high density material, narcotics) should be displayed in one mode and that should be online. No black & white machine should be procured in future except the machine operating on backscatter principle.
9. The radiation level should not exceed accepted health standard (0.1 m in R/Hr) at a distance of 5 Cm from external housing.
10. Lead impregnated safety screens should be available at either end of the tunnel. Idle rollers to be provided at either end of the tunnel to facilitate placing of baggage of the input and output points.
11. The X-ray beam divergence should be such that the complete image of maximum size of bag is displayed without corner cuts.
12. Facility for variable contrast must be incorporated to allow enhancement of lighter and darker portion of the image.
13. If the machine fails to penetrate a particular item, then an alarm (Visual and audio both) should be generated to notify the operator.
14. A threat image projection (TIP) system software to be incorporated in all X-Ray BIS operation as per details given in Annexure-I
15. Control desk with security housing and locking provision should be available. The operator personal identification number can be entered through keyboards.

- 16 Facility of image enhancement should be available.
- 17 Conveyor belt speed should be between 0.18 and 0.3 mt per second for X-ray baggage inspection system for hand and registered baggage. Lesser speed is acceptable for cargo screening. For Cargo machine input and output roller should be motor enabling easy handling of the heavy cargo.
- 18 All software features of machine should be online and password protected.
- 19 In case of defective diode arrays, scanning should be disabled and error message should be displayed on the screen.
- 20 The system should work on one software only. All software features should be controlled from key board of machine only. Keyboard function should be user friendly. To enable/ disable the software features, system should not be rebooted.
- 21 All models should have online recording facility and images can be recorded in Zip floppy
- 22 All models should have software controlled diagnosis report facility and system should give printout if printer is connected.
- 23 The operating temperature should be 0.C to 40.C and storage temperature -20 degree C to 50 degree C.
- 24 Ant rodent and dust proof cover must be provided.
- 25 The company manufacturing the equipment should have ISO certification for manufacturing and servicing of X-Ray screening Machines.
- 26 The machine should be so designed that software enhancement can be easily implemented to take care of new technique in image processing and pattern recognition.
- 27 Through put shall be 300 bags per hour for hand baggage and checked baggage and 150 bags per hour for cargo machines.

**28 SAFETY :**

The machine must comply with requirements of health and safety regulations with regard to mechanical electrical and radiation hazards. Before installation of the machine the supplier/manufacturers should furnish NOC from Atomic Energy Regulatory Board of India regarding radiation safety.

- 29 One operator manual shall be provided with each machine.
- 30 Machine should be capable of recalling 15-20 previous images.
- 31 It should have the capability of archiving 3000-4000 images.

**32 COMBINED TEST PIECE(CTP)**

The manufacturer shall provide one set of CTP per machine for checking serviceability of the machine by the operator. The details of CTP are given below:-

## **COMBINED TEST PIECE REQUIREMENTS**

### **1. SINGLE WIRE RESOLUTION (TEST NO,1)**

The requirement is to display 40 SWG wire not covered by step wedge. A tick will indicate the visibility of appropriate wire. A set of un-insulated tinned copper wire of size 26, 30,35,38,40 and 42 SWG are placed on a Perspex sheet. The wires are laid out in **S**- shaped curves. The wire is placed behind varying thickness of aluminum. Metallic marker should be provided using high density material, so that SWG numbers in the VDU are clearly visible.

### **2. USEFUL PENTRATION (TEST NO.2)**

2.1.1. The test defines what level of details can be seen behind thickness of known material. The CTP has different gauges of wire behind varying thickness of aluminum. The requirement for this test is that the 26-SWG wire is seen under second step wedge (5/16"). Tick on log sheet will indicate what wires are visible.

### **3. Material Discrimination (Test No.3)**

**3.1** The requirement is that different colours be allocated to the sample of organic and inorganic substance.

With multi energy X-Ray it should be possible to distinguish between materials of different average atomic number. This means that organic and inorganic substances can be differentiated. The use of sugar and salt samples encapsulated on the test piece and various material used in the construction of CTP will check the material discrimination facility. A tick will indicate that the sugar/salt samples are shown in different colour.

### **4. SIMPLE PENTERATION (TEST No.4)**

4.1. The requirement is that the lead be visible beneath 26 mm of steel.

This test defines what thickness of steel the machine should be able to penetrate. The steel step wedge on the CTP has steps of 2 mm from 16 mm to 30 mm with a lead strip to check that the machine is above or below the requirement. A tick in log sheet will indicate where lead strip is visible.

### **5. SPATIAL PERSOLUTION (TEST No.5)**

The requirement is that a vertical horizontal grating can be seen.

This test defines the ability of the system distinguish and display objects. Which are close together? The CTP has 16 copper gratings at right angles to each other. A tick in the log sheet will indicate that gaps in the grating are visible.

### **6. Thin Metal Imaging (Test No.6)**

The requirement is to image steel 0.1mm thick.

This tests the machine ability to image thin metal. A number of thin metals strips of various thickness are placed in a row.

**7. METHOD :**

- 7.1. The CTP is to be used as a quick routine test carried out daily to ensure that equipment is working properly and satisfactory image is obtained. The results of the test should be recorded.
- 7.2. The CTP should be placed on the belt and passed through the belt at least once in a day before the baggage is screened or after the X-Ray equipment is switched on to ensure that the equipment is working properly. If the image is satisfactory the equipment may be used.
- 7.3. The CTP may be viewed by using image enhancing facility till the operator is satisfied that the machine is working properly. The optimum position of CTP on the belt will depend on X-Ray Source and defector arrangements. This may be ascertained from the service engineer, if need arises.

**8. RESULTS:**

- 8.1 The best results taking both colour and Black & White images into account may be recorded for a particular machine.
- 8.2 The results of test should be recorded giving information, like date, time machine number and type, supervisors name and other remarks.
- 8.3 Supervisor Officer should carry out the tests once in a week and compare the result with daily test sheets. In case the images are not up to the standard, service engineer must be asked to rectify the fault. The machine may not be used when its performance is in doubt or not satisfactory in the opinion of the Supervisor.
- 8.4 The record must be kept by the operator for one year after final entry. The Records may be checked by the inspecting officers of BCAS during Airport Inspection and report be submitted to Commissioner of Security (CA).

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## Annexure-I

### THREAT IMAGE PROJECTION (TIP)

1. TIP software facility shall be incorporated in the offered X-ray machines to assist supervisor in testing the operator alertness and training X-ray screeners to improve their ability in identifying specific threat object. The system will create a threat object and the same will be superimposed on monitor screen while a bag is being screened. To acknowledge that the operator has seen the false object, operator must press the control panel key that will cause the computer generated threat object to disappear from x-ray bag image on the VDU screen. Each operator's action shall be recorded in the hard disc of the computer for the auditing purpose by the supervisor or other authorized person.

#### **2. Design of the system**

- 2.1 TIP software should be compatible with other X-ray technologies such as automatic reject unit. Dual X-ray screen technologies automatic threat recognition system etc. All X-ray image function must be available at the same time along with the TIP.

#### **2.2. Imago library**

- 2.2.1 The TIP facility should have an image library containing at least 100 explosive devices, 100 knives and 100 firearms in various sizes, shapes locations and operations. However the system shall have facility to expand the library to incorporate additional images by user without assistance of the manufacturer.
- 2.2.2 The image library should contain images of threats at different orientations both the plan and end on orientation should be used. Although these will be assigned differences file names and references, it must be possible to cross reference these as the same threat. All threat image Projection images must be realistic, representative and non distinguishable from real threat items.

#### **2.3. Time Interval**

Programming facility shall be available to project threat images in different intervals. The time period for threat images as well as image mix in percentage shall be user programmable e.g. software shall select 40% images of explosive devices 35 % of fire arms and 25% of Knives or Random etc.

- 2.3.1. Once the screener has responded to identify the computer generated threat image, it should remain on the screen for a predefined user programmable time for analysis. The image should be highlighted, upon identification and feed back message shall be visible to the screener.

#### **2.4. System Administration**

- 2.4.1 The treat images projection facility shall have details of use date-base such as airport name, screener name, organization, user ID number level of access such as screener, Administrator, Maintenance & password etc.

**2.4.2.** Access to start up menu should be restricted only to the authorized individuals. A log in procedure by means of "Password" or "Security Key" could achieve restricted access to each of the comment. The log in procedure should not take longer than 20 seconds. The system should have facility to by pass the TIP facility, if programmed so by the system administrator. It is to be ensured that the TIP software shall not be hindrance to normal functioning of X-ray Machines.

**2.4.3** When the operator logs in or logs-out message should be displayed on X-ray BIS VDU screen to confirm that he/she has been correctly logged in or logged out.

## **2.5. Feed Back Report**

2.5.1 The threat image Projection should be capable of giving feedback "HIT.MISS or FALSE ALARM "message. No message will be presented if a screener correctly passed as clear bag.

2.5.2 A "HIT" message to be presented when screener has correctly identified a Threat Image Projection image. A "MISS" message shall be presented when screener fails to identify the TIP image. A "False Alarm" message shall be given when screener incorrectly indicate TIP image when in fact no threat image projection is present. The feedback should clearly indicate in a screen that a TIP object has been correctly identified a TIP object has been missed/or no TIP object was present. Information should be recorded in the database.

2.5.3 Different colour coding shall be used for feedback to the Screener. It is recommended that colour code "Red for MISS" Green for "HIT" and yellow to False Alarm or interrupt "be used.

2.5.4 The system shall automatically prepare the daily log of events for each shift and for each Screener Performance. TIP log shall include particulars of Airport, XBIS, Name of Screener, Time & date of threat image; weather threat image was successfully identified or missed etc.

2.5.5 The report on threat image Projection system may have date and time (From-To) as per requirement, Screener particulars and decision/out come i.e. MISS.HIT or False Alarm in percentage as well as in absolute numbers, numbers of bags screened categories such as explosive devices ,knife or weapon etc.

2.5.6 As a standard practice, daily/weekly/monthly report shall be retrieved. Report shall be for any given time and period as per command.

2.5.7 All data should be stored on the system for a minimum of two months after it has been down loaded. No individual, regardless of access rights to the Threat Image Projection components would delete or amend any of threat images Projection data or time i.e. Threat image Projection data on the actual X-ray machine will be read only file.

**ADMINISTRATION OF  
DAMAN AND DIU (U.T.)  
(POLICE DEPARTMENT)  
D A M A N**

**TERMS AND CONDITIONS**

Terms and Conditions for supply of for purchase X-ray Baggage Inspection System for Diu Airport along-with all accessories

Tender Notice No. D&D/POLICE/STORE/X-RAY BIS/2007-08/470 Date: 29/ 09/2008

1. The rate(s) quoted should be strictly for free delivery at Diu and will be valid and operative for supply order issued on or before **31.12 .2008**.
2. The rates should be quoted exclusive of all taxes.
3. (a) Only sale tax/VAT tax will be paid on the items on which it is chargeable under the sale tax act or the rules made under CST.
4. Except CST all other Taxes/Duties/Royalties charges payable on the sale/transport etc. within and/or outside the state of the supplier shall be payable by the supplier.
5. No extra charge for packing, forwarding and insurance etc. will be paid on the rates quoted.
6. The rates should be quoted only for the items specified in the list of requirements and should be for the items or given specifications confirm to the standard (s) requirements of the given specification/mark/manufactures.
7. Rates quoted for items other than the required specification/mark/manufacture may not be considered. However indigenous manufactures may quote their own makes provided.
8. Where specifications/mark/manufacture is not specified by this office the rates should be quoted only for the 1<sup>st</sup> Class and standard quality.
9. The decision of the Tender Inviting Officer for acceptance/rejection of supply including the decision for equivalent specifications, standard and quality etc. of articles shall be final.
10. The tenderers should send in advance or enclose along with tender and amount of **Rs.75,000/-** as Earnest Money Deposit by drawing a demand draft on any scheduled Bank at Daman in favour of the officer inviting tenders. Tenders received without Earnest Money will be summarily rejected.
11. (a) The successful tenderer will have to pay within 10 days from the date of demand an amount equal to 10% of the total value of the articles that may be order on the amount of security deposit in form of F.D.R.  
(b) Non receipt of Security Deposit within stipulated time limit will result in automatic cancellation of the order of supply without any intimation.  
(c) However in case if any articles are received for which the Security Deposit may not have been deposited the full Security Deposit as may be due from the supplier will be recovered from the bill (s) for such articles.
12. The amount of Earnest Money paid by the successful tenderer (s) will be adjusted against the amount of Security Deposit to be paid by the successful tenderer (s) as per condition No.11 above.
13. The amount of Earnest money paid by the tenderer (s) whose tender are not accepted will be refunded to them by Cheque or demand draft( as may be refunded to the Tender Inviting Officer.
14. Only on satisfactory completion of the supplies ordered for and on payment of all bills of the supplier as to be admitted for payment, the amount of Security Deposit/Earnest Money Deposit will be refunded after expiry if guarantee period if any, or any such date/period as may be mutually agreed upon.
15. The Head of Office will consider extension of time for remitting the Security Deposit as demand. However in case of denial to consider such extension the supplier is bound to abide by the limit given and liable to make good any loss to the Government on account of his failure to abide by the time limit.

16. (a) Railway receipt or other transport document should be drawn in favour of the Officer Inviting Tender.  
(b) Railway receipt or other transport document should not be sent by V.P.P. or through any Bank as this being a Government office it is not possible to clear cash demands of post office/Bank for delivery of B.R. or other transport documents unless we have agreed to it, as special arrangements.  
(c) Railway receipt or transport documents should be sent to this office by registered post immediately on dispatch of goods from dispatching end.
17. The suppliers of Store equipments etc. of inferior quality/standard or of different specifications other than that ordered/specified on/or incomplete or damaged articles will not be accepted. The supplier will have to replace the same at his own cost and risk on intimation of non-acceptance. However if no communication is received within 15 days from the date of communication The Tender Inviting Officer will not be responsible for any damage, loss etc. of such rejected articles.
18. In case of failure to replace the unaccepted and rejected articles from supplies made as mentioned in the conditions, the loss undergone by the Government will be recovered from the suppliers security deposit/earnest money or payment due of any bill (s) to the extent required.
19. In case of failure to supply the store Machinery and Equipments etc. ordered for as per conditions and within the stipulated time, the same articles will be obtained if required from the tenderer who has offered next higher rates or from any other source, as may be decided by the Tender inviting officer and loss to the Government on account of such purchase (S) shall be recovered from the former supplier Security Deposit/Earnest Money or bills payable. The suppliers shall have no any right to dispute with such procedure.
20. Extension of time limit for supplies may be considered by the Tender Inviting Officer up to 50% of the original stipulated time for supplies and the beyond that by the Dy. Inspector General of Police, Daman & Diu, Daman who so ever may competent to accord expenditure sanction or enter into contract with reference to the amount involved in the contract. The extension so granted may be with levy of compensation for delay in execution of supply order up to 5% of the cost of supplies ordered for at the discretion of the authority competent to grant extension of time limit provided such request is made well in time depending upon the circumstances no such decision in the matter will be final.
21. Demurrage charges paid by the Tender Inviting Officer, on account of delayed receipt of dispatch documents/intimation will be recovered from the bills payable to the supplier.
22. (a) The supplier (S) of the Machinery and Equipments shall have to supply spare parts as and when required on an agreed basis i.e. on agreed discount on the published cataloged/list prices for an agree period  
(b) The supplier (S) shall give adequate advance notice before any spare parts goes out of production to enable the Tender Inviting Officer to order for spare parts required one lot for the life time of respective Machinery.  
(c) If mutually agreed to the supplier(s) shall make available the blue print drawing etc. of the spares if and when required in connection with main Machinery/Equipments.
23. If at any time after the order for supply of Machinery/store equipments the Tender Inviting Officer shall for any reason whatsoever not require the whole or part of the quantity thereof as specified in the order the Tender Inviting Officer shall give notice in writing of the fact of the supplier(s) who shall have no claim to any payment of compensation whatsoever on account of any profit or advantage which the supplier(s) might have been derive from supply of articles in full but which did not derive in consequence of the full quantity of articles not have been purchased any alteration have been made in the original instructions which shall involve any curtailment of the supply original contemplated.
24. The Earnest Money(s)/Security Deposit(s) paid by the tender earlier against any tender(s) for supply order(s) is/are not adjustable with Earnest Money or Security deposit required by these conditions.
25. All bills of supply shall be in duplicate and should invariably mention the number and date of supply order.
26. All bills should be pre-receipted on a revenue stamp of proper value. Bills which are not pre-receipted on revenue stamp will not be accepted for payment.

27. Each bill in which Sales Tax is charged must contain the following certificates on the body of the bill **“CERTIFIED”** that the good on which Sales tax/VAT/Service tax has been charged have not been exempted under the C.S.T./VAT Act or the rules made there under and the amount charged on account of the S.T. on these goods is not more than what is payable under the provisions of relevant Act or the rules made there under.
28. The tenders will be opened in presence of Tenderers or their representative if any present in the office of the Tender Inviting Officer.
29. **The right to accept or reject without assigning any reasons or all tenders in part or whole is reserved with the Tender Inviting Officer and his decision(s) on all matters relating to acceptance or rejection of the tenders as a whole or in part will be final and binding to all.**
30. The tender offers received which do not confirm with the terms and conditions of this office will be summarily rejected. However if any firm desires to consider exemption from payment of earnest money deposit certified copies of its registration with D.G.S. & D for specific items should be attached with their tenders.
31. If the tenderer whose tender/quotation is accepted, fails to execute the supply order within stipulated time the, E.M.D. of such tenderer will stand forfeited to the Govt.
32. In case of supplier does not execute the supply order placed with him, the EMD of the supplier will be forfeited to the Govt. and the contract for the supply shall stand terminated with no further liabilities on either party to the contract.
33. No separate agreement will be required to be signed by the successful tenderer(s) for the purpose of the contract for supply. Rates tenderer/offered in response to the concerned tender/quotation notice shall be considered as acceptance of all above terms and conditions for supply for all legal purpose.
34. If the supply of equipments are not satisfactory or as per specification given in the tender, the same will be rejected by the Tender Inviting Officer and same will have to be replaced by the supplier at his own cost & risk.
35. The supply of equipments should be completed within 1month from the date of work order/supply order.
36. The tendering firm must be registered with the Sales Tax/VAT Deptt. and a copy of their registration under the Sales Tax/VAT bearing the TIN Number be provided, besides the Latest Sales Tax/VAT Clearance Certificate..
37. The tendering firm will deposit the papers regarding experience supplying items during the last three years for the above item/ work, if any.
38. No advance payment will be made and no request for increase in the rates will be entertained during the period of supply.
39. All the firms participating in the Tender must submit a list of their owners/partners, etc. along with their contact telephone Nos. and a Certificate to the effect that the firm is not blacklisted by any Govt. Department nor any Criminal Case is registered against the firm or its owner or partners anywhere in India.
40. **Bidders should not be permitted to alter or modify their bids after expiry of the deadline for receipt of bids.**
41. The Purchase Committee reserves the rights to reject any tenders or negotiate as per rules.
42. The Purchase Committee also reserves the right to relax any terms and condition in the public interest.
43. All disputes are subject to the jurisdiction of courts in the Territory of Daman & Diu (U.T), Daman.

**NOTE-**

A) FOLLOWING DOCUMENTS SHOULD BE SUBMITTED WITH THE ENVELOPE MARKED AS **TECHNICAL BID**: -

1. EARNEST MONEY OF Rs. 75,000/- IN FAVOUR OF DIG/DD&DNH, DAMAN
2. SALES TAX /VAT REGISTRATION CERTIFICATE ALONGWITH TIN NUMBER
3. LATEST SALES TAX/VAT CLEARANCE CERTIFICATE
4. DOCUMENTS RELATING TO PAST PERFORMANCE FOR THE LAST THREE YEARS, IF ANY.
5. A LIST OF OWNER/PARTNERS OF THE FIRM AND THEIR CONTACT TELEPHONE NOS. ALONGWITH A CERTIFICATE TO THE EFFECT THAT THE FIRM IS NOT BLACKLISTED BY ANY GOVT. DEPARTMENT N OR ANY CRIMINAL CASE IS REGISTERED
6. ANY OTHER RELEVANT/ IMPORTANT INFORMATION , IF ANY.
7. COPY OF TERMS AND CONDITIONS DULY SIGNED WITH SEAL OF THE FIRM, IN TOKEN OF ACCEPTANCE OF TERMS AND CONDITIONS.

B) **PRICE BID** SHALL CONTAIN PRICE ONLY AND NO OTHER DOCUMENTS SHALL BE ENCLOSED WITH THE PRICE BID.

**AGREEMENT**

Certify that I/We hereby agree to abide with Terms & Conditions as specified in Tender. Forms accepted.

**Signature of the Supplier's  
With Seal.**

**SD/-  
Dy. Inspector General of Police.  
Daman, Diu & Dadra and Nagar Haveli,  
Daman**

Date: -        /        /2008.

Note: - Please return one copy of these conditions duly signed along with your tender/ quotation.