No. PHQ/MT-769/2024   Dated Itanagar, the 9ᵗʰ January/2025.

ADDENDUM

In reference of the Tender floated No. PHQ/MT-769/2024   Dated Itanagar, the 17ᵗʰ Dec/2024, the following addition/changes have been made against the relevant Serial No./ Coloumns.

A. Details –

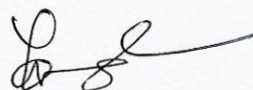| Sl. No.	Description of items to be procured	Quantity	Approx. Cost of tender	2% Earnest money required	Tender Fee (Non-refundable)
1	Vehicle mounted X-Ray Baggage Scanner. (Large Size)	1	@₹ 82,60,000/-	₹ 1,65,200/-	₹ 1,000/-
2	Vehicle mounted X-Ray Baggage Scanner. (Small Size)	1	@₹ 59,40,000/-	1,18,800/-	₹ 1,000/-

B. TECHNICAL SPECIFICATIONS :-

1. VEHICLE MOUNTED X-RAY BAGGAGE SCANNER (LARGE SIZE):-

Sl No	Technical Specifications
1	Tunnel Size-Minimum 100 cm W(width) x Minimum 100 cm H (Height)or better
2	Conveyor belt speed should be between 0.18 and 0.3 meter per second. Conveyor movement bidirectional.
3	All machines should operate on 230 VAC, 50 Hz power supply and should be able to withstand voltage fluctuations in the range of 170V to 260 V. Single Phase, 3 to 5 Amp.
4	Conveyor Capacity-200 kg or more
5	Through put should be 200 bags per hour or more
6	Sensors>1000 diodes. L-shaped detector (Folded array type). In case of defective diode arrays, scanning should be disabled and error message should be displayed on the screen
7	X-Ray Voltage - Maximum 160 KV to 185 KV
8	X-Ray Source/Generator-It should be capable to operate smoothly for a period of at least six years
9	Duty Cycle -100%
10	The X-ray beam divergence should be such that the complete image at maximum size of bag is displayed without corner cuts.

11	The radiation level should not exceed accepted health standard (0.1m R/Hr at a distance of 5 CM from external housing) Relevant certificate from AERB
12	The operating temperature normally should be 0 deg C to 40 deg C.
13	Storage temperature 0 degree C to 50 degree C.
14	Humidity-90%non-condensing
15	Resolution: The machine should be able to display single un-insulated tinned copper wire of 42-SWG or 38-AWG.All penetration and resolution condition should be met without pressing any functional key and should be online.
16	Penetration should be 35 mm thickness of steel or more.
17	Continuous Electronic Zoom facility should be available to magnify the chosen area of an image eight times (8X)or more image features shall be keyboard controllable
18	Video display-18.5"or better LCD Monitor SVGA High resolution low radiation, flicker free, resolution at least 1280x 1024.24 bit colour real time processing.
19	The machine should have features of Multi-energy X-ray imaging facility where materials of different atomic number will be displayed in different colours to distinguish between organic and inorganic materials. With this method to distinguish high density organic materials including explosives. Machine should have variable colour or materials stripping to facilitate the operator to monitor images of organic materials for closer scrutiny. All suspicious items (Explosives, High density, material narcotics should be displayed in one mode and that should be on line.
20	**Radiation 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/manufacturer should furnish relevant certificate from Atomic Energy Regulatory Board of India regarding radiation safety. The company manufacturing the equipment should have ISO certification for manufacturing and servicing of X-ray Screening machines.
21	**Film·Safety Guaranteed** safety for high-speed films up to ISO1600.The machines should be film safe. In other words photographic films must not be damaged due to X-Ray examination
22	Machine should be properly sealed from all the sides for pest proof. Dust proof cover is to be provided for covering when system is not in use.
23	Facility for variable contrast must be incorporated to allow enhancement of lighter and darker portion of the image.
24	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
25	Full diagnostic built in test facility. All models should have software controlled diagnosis report facility and system should give printout if printer is connected.
26	All Software features of machine should be online and password protected.
27	Machine should be capable for recalling 15 or more previous image.
28	It should have the capability of archiving 2000 or more images with date &time stamp.
29	Control desk with security housing and locking provision should be available. The operator personal identification number can be entered the keyboard along with generation of log.
30	Facility of image enhancement should be available
31	All models should have online recording facility and images can be recorded in CD R/W or/and USB and should be able to view images so recorded on stand-alone PC.

32.	Lead impregnated safety screens should be available at either ends of the tunnel. This should be covered by relevant AERB certificate. Idle rollers to be provided at either ends of the tunnel to facilitate placing of baggage at input and output.
33	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.
34	If the machine fails to penetrate a particular item then an alarm video and audio both should be generated to notify the operator.
35	The threat image projection (TIP) system software to be incorporated in all X-Ray BIS operation.
36	Copy of all software including X-Ray Software with recovery CD must be provided
37	Operational Training-Operating staff has to be provided free training
38	Operating &service manual shall be provided with each machine
39	Other Features a) Edge &variable edge enhancement. b) Inverse Video c) Set up time not more than 10 minutes d) Pseudo colour e) Date &Time display.
40	**Minimum Computer Configuration:** **Processor:-** Core i5/12th Generation or higher. **Operating System:-** Windows 10 or higher. **System Type:-** 64-bit operating system, x64-based processor. **SSD:-** 1TB (For OS). **HDD:-** 1 TB (for storage) **Graphic:-** 2GB or Higher. **Ports:-** 6 USB Ports (with atleast 2 in front), 1 serial Port, 1 Parallel Port, 1 USB Keyboard Port and 1 USB Mouse, Audio Ports for Microphone and Headphone in front. **CD/DVD:-** Inbuilt CD/DVD Write. **Networking Facility:-** 10/100/1000 on board intergraded Network Port with remote booting facility, remote system installation, remote wake up, out of band management using any standard management software. **Monitor Size:-** 24"
41	**UPS:-3 KVA or better online with back-up time of ½ hour whole system.**
42	**Generator Set:- 3 KVA Portable Generator.**
	TIPS Feature
	Threat Image Projection
01	Tin software facility shall be incorporated in the offered X-Ray machine to assist supervisors 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 the 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-rayed bag image on the VDU screen .Each operators action shall be recorded in the hard disc of the computer for the auditing purpose by the supervisor or other authorized person.

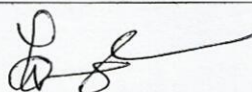|		
	DESIGN OF THE SYSTEM:	
02	Tip software should be compatible with other X-ray technology such as automatic reject unit. Dual X-Ray screen technologies automatic treat recognition system etc. All x-ray image function must be available at the same time along with the TIP.	
	IMAGE LIBRARY	
03	The image library should have an image library containing at least 100 explosives devices, 100 knives and 100 firearms in various sizes, shapes, locations and orientations. However, the system shall have facility to expand the library to incorporate additional images by user without assistance of the manufacture.	
04	The image library should contain images of threats at different orientations both plan and end on orientation should be used. Although these will be assigned different 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.	
	TIME INTERVAL	
05	Programming facility shall be available to project threat images in different intervals. The time period for threat image 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 & 25% knives or random etc.	
06	Once the screener has responded to identify the computer generated threat image, it should remain on the screen for a predefined user programmatic feedback message shall be visible to the screener.	
	SYSTEM ADMINISTRATION	
07	The threat image projection facility shall have details of user data-base such as Department name, screener name, Organization User ID Number, level of access such screener, administrator, Maintenance & Password etc.	
08	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 bypass 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.	
09	When the operator logs-in or logs-out message should be displayed on x-ray BIS VDU Screen to confirm that the/she has been correctly logged-in or logged-out.	
	FEED BACK REPORT	
10	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.	
11.	A"HIT" message to be presented when a 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/tip object has been missed/that a TIP object has been missed/no TIP object was present. Information should be recorded in the database.	
12.	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.	

13.	The system shall automatically prepare the daily log of events for each shift and for each Screener performance. TIP log shall include particulars of Name of Screener, Time & date of threat image, weather threat image was successfully identified or missed etc.
14.	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 a well in absolute numbers, numbers of bags screened, categories such as explosives devices knife or weapon etc.
15	As a standard practice, daily/weekly /monthly report shall be retrieved. Report shall be for any given time and period, as per command.
16	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.

Vehicle Specification—

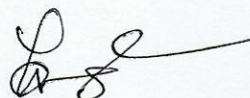| 1	Type	Medium Utility with capacity of taking load of the offered model
2	Engine	Diesel
3	Transmission	Manual
4	Steering	Power
5	Tyre	Twin tyre
6	Air condition	Air conditioning should work on AC & DC power supply
7	Seating Capacity	Front-Driver + one and back-2 operators or more.
8	Floor Tyre	Anti slip and synthetic floor.
9	CCTV	CCTV surveillance for entry and exit points.
10	Inspection	A team will visit to the factory at the time of fabrication and minor change will be made if required.

2. VEHICLE MOUNTED X-RAY BAGGAGE SCANNER (SMALL SIZE):-

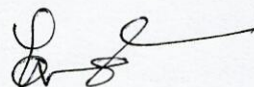| Sl No	Technical Specifications
1.	Tunnel Size-Minimum 60 cm W(width)x Minimum 40 cm H (Height)or better.
2	Conveyor belt speed should be between 0.18 and 0.3 meter per second. Conveyor movement bidirectional.
3.	All machines should operate on 230 VAC, 50 Hz power supply and should be able to withstand voltage fluctuations in the range of 170V to 260 V. Single Phase, 3 to 5 Amp.
4	Conveyor Capacity-160 kg or more
5.	Through put should be 200 bags per hour or more
6	Sensors>1000 diodes. L-shaped detector (Folded array type). In case of defective diode arrays, scanning should be disabled and error message should be displayed on the screen.
7.	X-Ray Voltage - Maximum 160 kv
8	X-Ray Source/Generator-It should be capable to operate smoothly for a period of at least six years.

9.	Duty Cycle -100%
10	The X-ray beam divergence should be such that the complete image at maximum size of bag is displayed without corner cuts.
11.	The radiation level should not exceed accepted health standard (0.1m R/Hr at a distance of 5 CM from external housing) Relevant certificate from AERB.
12.	The operating temperature normally should be 0 deg C to 40 deg C.
13	Storage temperature 0 degree C to 50 degree C.
14.	Humidity-90%non-condensing
15	Resolution: The machine should be able to display single un-insulated tinned copper wire of 42-SWG or 38-AWG.All penetration and resolution condition should be met without pressing any functional key and should be online.
16	Penetration should be 35 mm thickness of steel or more.
17.	Continuous Electronic Zoom facility should be available to magnify the chosen area of an image eight times (8X)or more image features shall be keyboard controllable.
18	Video display-18.5"or better LCD Monitor SVGA High resolution low radiation, flicker free, resolution at least 1280x 1024.24 bit colour real time processing.
19.	The machine should have features of Multi-energy X-ray imaging facility where materials of different atomic number will be displayed in different colours to distinguish between organic and inorganic materials. With this method to distinguish high density organic materials including explosives. Machine should have variable colour or materials stripping to facilitate the operator to monitor images of organic materials for closer scrutiny. All suspicious items (Explosives, High density, material narcotics should be displayed in one mode and that should be on line.
20.	**Radiation 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/manufacturer should furnish relevant certificate from Atomic Energy Regulatory Board of India regarding radiation safety. The company manufacturing the equipment should have ISO certification for manufacturing and servicing of X-ray Screening machines.
21.	**Film-Safety Guaranteed** safety for high-speed films up to ISO1600.The machines should be film safe. In other words photographic films must not be damaged due to X-Ray examination
22	Machine should be properly sealed from all the sides for pest proof. Dust proof cover is to be provided for covering when system is not in use.
23.	Facility for variable contrast must be incorporated to allow enhancement of lighter and darker portion of the image.
24	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
25	Full diagnostic built in test facility. All models should have software controlled diagnosis report facility and system should give printout if printer is connected.
26.	All Software features of machine should be online and password protected.
27.	Machine should be capable for recalling 15 or more previous image.
28.	It should have the capability of archiving 3000 or more images with date &time stamp.

29.	Control desk with security housing and locking provision should be available. The operator personal identification number can be entered the keyboard along with generation of log.
30	Facility of image enhancement should be available.
31.	All models should have online recording facility and images can be recorded in CD R/W or/and USB and should be able to view images so recorded on stand-alone PC.
32	Lead impregnated safety screens should be available at either ends of the tunnel. This should be covered by relevant AERB certificate. Idle rollers to be provided at either ends of the tunnel to facilitate placing of baggage at input and output.
33	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.
34	If the machine fails to penetrate a particular item then an alarm video and audio both should be generated to notify the operator.
35	The threat image projection (TIP) system software to be incorporated in all X-Ray BIS operation.
36	Copy of all software including X-Ray Software with recovery CD must be provided
37	Operational Training-Operating staff has to be provided free training
38	Operating &service manual shall be provided with each machine

39	Other Features
	    a) Edge &variable edge enhancement.
	    b) Inverse Video
	    c) Set up time not more than 10 minutes
	    d) Pseudo colour
	    e) Date &Time display.

40	**Minimum Computer Configuration:** **Processor:-** Core i5/12th Generation or higher. **Operating System:-** Windows 10 or higher. **System Type:-** 64-bit operating system, x64-based processor. **SSD:-** 1TB (For OS). **HDD:-** 1 TB (for storage) **Graphic:-** 2GB or Higher. **Ports:-** 6 USB Ports (with atleast 2 in front), 1 serial Port, 1 Parallel Port, 1 USB Keyboard Port and 1 USB Mounse, Audio Ports for Microphone and Headphone in front. **CD/DVD:-** Inbuilt CD/DVD Write. **Networking Facility:-** 10/100/1000 on board intergrated Network Port with remote booting facility, remote system installation, remote wake up, out of band management using any standard management software. **Monitor Size:-** 24"
41	**UPS:-3 KVA or better online with back-up time of ½ hour whole system.**
42	**Generator Set : 3 KVA Portable Generator.**
	TIPS Feature
	Threat Image Projection

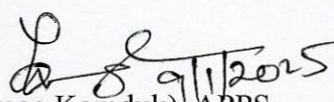|	
01	Tin software facility shall be incorporated in the offered X-Ray machine to assist supervisors in testing the operator alertness and training X-ray screeners to improve their ability in identifying specific threat object. The system will create a threat object and the same will be superimposed on the 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-rayed bag image on the VDU screen .Each operators action shall be recorded in the hard disc of the computer for the auditing purpose by the supervisor or other authorized person.
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	TIME INTERVAL
05	Programming facility shall be available to project threat images in different intervals. The time period for threat image 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 & 25% knives or random etc.
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	SYSTEM ADMINISTRATION
07	The threat image projection facility shall have details of user data-base such as Department name, screener name, Organization User ID Number, level of access such screener, administrator, Maintenance & Password etc.
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Vehicle Specifications : —

1	Type	Medium Utility with capacity of taking load of the offered model
2	Engine	Diesel
3	Transmission	Manual
4	Steering	Power
5	Tyre	Twin tyre
6	Air condition	Air conditioning should work on AC & DC power supply
7	Seating Capacity	Front-Driver + one and back-2 operators or more.
8	Floor Tyre	Anti slip and synthetic floor.
9	CCTV	CCTV surveillance for entry and exit points.
10	Inspection	A team will visit to the factory at the time of fabrication and minor change will be made if required.

NOTE:- Bid submission end – 1000 hrs. of 13.01.2025.

(Bomge Kamduk), APPS,
Superintendent of Police (MT),
PHQ, MT Unit, Itanagar.
Supdt. Of Police (MT)
PHQ, MT, Chimpu
itanagar
Arunachal Pradesh