

Government of India
Directorate General of Supplies & Disposals
Jeevan Tara Building, 5 Sansad Marg
New Delhi-110001
Tel Number 23360610/23360537

Digitally signed by:
KAVINDRA SINGH BRIJWAL
Email Id:
ksbrijwal@gmail.com

Amendment No. T I SYSTEM/IT-4/RC-D20C0000/0516/84/F0177/2159/56348

Dated: 19-OCT-15

Effective Date: 19-OCT-15

To
M/S AGMATEL INDIA PVT LTD
E 366 IInd Floor Nirman Vihar Vikas Marg
Delhi-110092
Tel. No.011-43064306, 1800113233 (Toll Free)
E-mail: marketing@agmatel.com, aka@agmatel.com
DELHI
DELHI-110092.

Sub : This office R/C No. T I SYSTEM/IT-4/RC-D20C0000/0516/84/F0177/2159
Dated 28-SEP-15 for the Supply of Thermal Imager.

Ref : Your Letter No. AIPL/DGS&D/TI-16/RC-2 Dated 14-OCT-15.

Dear Sir,

The following amendment to the schedule of the subject Rate Contract is hereby authorised :-

UNDER SCHEDULE-A

Rc Period From : 28-SEP-15 **To :** 30-SEP-16

All other terms and conditions of the R/C Shall remain unaltered.
Please ack. receipt.

Yours faithfully,

(Section Officer/A.D./D.D./Director/DDG(S))
For & on behalf of Purchaser named in DGS&D-1001

With effect from First October Two thousand eight (01-10-2008), all Supply Order(s) against this Rate Contract must be placed by Direct Demanding Officer(s) on-line through D.G.S.&D. web site (www.dgsnd.gov.in) (indenter's page) only. Supply order(s) in any other form placed on or after 01-10-2008 shall not be valid and shall not be acted upon by the contractor or any other concerned agencies.

DDO shall download the Supply order and send an ink signed copy to the concerned paying authority specified in the Rate Contract through Registered / Speed post immediately after on-line placement of Supply Order(s).

Rate Contract
Government of India
Directorate General of Supplies & Disposals
Jeevan Tara Building, 5 Sansad Marg
New Delhi-110001
Tel Number 23360610/23360537

Digitally signed by:
KAVINDRA SINGH BRIJWAL
Email Id:
ksbrijwal@gmail.com

Rate Contract no. T I SYSTEM/IT-4/RC-D20C0000/0516/84/F0177/2159

Dated 28-SEP-15

To,

AGMATEL INDIA PVT LTD
E 366 IInd Floor Nirman Vihar Vikas Marg
Delhi-110092
Tel. No.011-43064306, 1800113233 (Toll Free)
E-mail: marketing@agmatel.com, aka@agmatel.com
DELHI

Sub: Rate Contract for supply of Thermal Imager

Validity: From 28-SEP-15 To 20-OCT-15 .

Ref:(1) This Office Tender Enquiry No. T I SYSTEM/IT-4/RC-D20C0000/0516/84

Opened on 24-JUL-15.

(2) Your Quotation No. 7787 And Dated

24-JUL-15.

Dear Sir,

You are hereby informed that your above referred tender read with subsequent letters mentioned above for the Stores specified in the Schedules annexed has been accepted. This rate contract will be governed by the terms and conditions brought in the Form no. DGS&D 1001 including DGS&D Arbitration Clause available from DGS&d sales counter on payment of Rs. 50/- The dispute cannot be referred by the contractor or entertained by facilitation Council or any other adjudicating forum.The Rate Contract and the schedules annexed here to shall be the sole repository of this Rate Contract/Transaction.

SCHEDULES ANNEXED

- 1.Schedule "A" Description of stores,prices,duties/taxes.
- 2.Schedule "B" special conditions of contract / Other information.
- 3.Schedule "C" Information to DDOs about parallel rate contracts.
- 4.Annexure - Technical Specification

Yours Faithfully,

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Assistant Director(S)/Section Officer/Dy.Director/Director/DDG(S)
For and on behalf of the purchaser named in the Form DGS&D 1001.

COPY TO:

- 1.The Chief Controller of Accounts,Department of commerce,New Delhi/COA Mumbai/COA Kolkata,COA Chennai.
- (Through authentication cell) This issues with the approval of competent authority.
- 2.Deputy Director General of Supplies & Disposals,Chennai -10 copies each
- 3.Deputy Director General of Supplies & Disposals,Kolkata -10 copies each
- 4.Deputy Director General of Supplies & Disposals,Mumbai -10 copies each
- 5.Deputy Director General (QA),Kolkata -10 copies each
- 6.Deputy Director General (QA),Chennai -10 copies each
- 7.Deputy Director General (QA),Mumbai -10 copies each
- 8.Deputy Director General (QA),DGS&D -10 copies each
- 9.Inspection Authority ADG(QA) DGS&D New Delhi - 110001.
- 10.Quality assurance Officer Director (QA) Delhi Directorate/ Mumbai,Chennai/Kolkata.
- 11.Concurrent Audit
- 12.MIS Cell
- 13.Ledger clerk
- 14.O.L.Section
- 15.All Direct Demanding Officers as per mailing list maintained by DGS&D.
- 16.Concerned CQA(for defence item only)-As per Clause 19 of RC
- 17.Concerned SQAQO(for defence item only)-As per Clause 20 of RC

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Assistant Director (S) / Section Officer / Deputy Director/Director/DDG(S)
FOR DIRECTOR GENERAL OF SUPPLIES & DISPOSALS

SCHEDULE - A

1. Rate Contract No.: - T I SYSTEM/IT-4/RC-D20C0000/0516/84/F0177/2159

Dated 28-SEP-15 For the Supply of Thermal Imager

2. Advance Rate Contract No.: - Nil

Dated

3.(a) Name and Full Address of the Firm :-

AGMATEL INDIA PVT LTD
E 366 IInd Floor Nirman Vihar Vikas Marg
Delhi-110092
Tel. No. 011-43064306, 1800113233 (Toll Free)
E-mail: marketing@agmatel.com, aka@agmatel.com
DELHI
DELHI - 110092
Tel. No. - 9899558795, 9101143064306
Fax - 011-22019833
Email - marketing@agmatel.com, aka@agmatel.com

(b) Name and Full Address of Manufacturer :-

As mentioned in Schedule-B

(c) Brand: FLIR

4. Validity of Rate Contract: 28-SEP-15 To 20-OCT-15

5. Description of Item, Specification, Unit, Rate

Item No.	Model No.	Store Description					Unit	Rate (in Rs)
		ED	ED%	CST/VAT	CST/VAT%	Service Tax		
2	FLIR /E40	Thermal Imager Hand Held	Temperature Range of Objects (Degree Celsius): -20 to +350,Detector Resolution (Minimum Pixels): 19,000,: IP 54 or Better			NOS.	194125 Rs. ONE LAKHS NINETY-FOUR THOUSAND ONE HUNDRED TWENTY-FIVE ONLY	
			N.A		Excl.	12.5		
		Min.Order Qty(in unit):- 1	Lead Time(in days):-45		Rate of Supply(monthly):-50			
3	FLIR /E60	Thermal Imager Hand Held	Temperature Range of Objects (Degree Celsius): -20 to +500,Detector Resolution (Minimum Pixels): 75,000,: IP 54 or Better			NOS.	382723 Rs. THREE LAKHS EIGHTY-	

TWO
THOUSAN
D SEVEN
HUNDRED
TWENTY-
THREE
ONLY

		N.A	Excl.	12.5	
		Min.Order Qty(in unit):- 1	Lead Time(in days):-45	Rate of Supply(monthly):-50	
6	FLIR /Calibration Charges	Calibration Charges for Thermal Imager	Item: Cost of calibration beyond warranty for item no.2 of schedule 1	NOS.	6840 Rs. SIX THOUSAN D EIGHT HUNDRED FORTY ONLY
		N.A	N.A		
		Min.Order Qty(in unit):- 0	Lead Time(in days):-	Rate of Supply(monthly):-	
7	FLIR /Calibration Charges	Calibration Charges for Thermal Imager	Item: Cost of calibration beyond warranty for item no.3 of schedule 1	NOS.	6840 Rs. SIX THOUSAN D EIGHT HUNDRED FORTY ONLY
		N.A	N.A		
		Min.Order Qty(in unit):- 0	Lead Time(in days):-	Rate of Supply(monthly):-	

- 6-Terms of Delivery: Free delivery at site (i.e. at consignees place) including installation / commissioning.
- 7-Excise Duty: ED NA at present and will not be charged even if it is applicable later on
- 8-Sales Tax: CST / VAT Extra @ 12.5%.
- 9-Delivery Period: As mentioned under each item.
- 10(a)-Annual Turnover: 2011-12 13202 Lacs.
2010-11 12730 Lacs.
2009-10 10286 Lacs.
- (b)-Monetary Limit(In Rs.): Without Any Limit
- 11-Payment Terms: 80% against inspection of stores (wherever applicable) and provisional receipt of stores by consignee and balance 20% on acceptance of stores by consignee within 60 days of receipt of stores.
- 12-Slab Discount Clause:
([Click here to see the details](#))
- | Value From | To | % Discount |
|------------|----------|------------|
| 1000000 | 2000000 | .5 |
| 2000001 | 3000000 | .75 |
| 3000001 | 4000000 | 1 |
| 4000001 | 5000000 | 1.25 |
| 5000001 | 10000000 | 1.5 |
- 13-Prices: FIXED
- 14-Quantity Offered: As mentioned under each item.

15-Minimum Quantity in Single Supply Order:

16-Minimum order Value in Single Supply Order:

17-Status of the RC Holding Firm: LSI

18-Paying Authority: PAO,User Deptt

(a)The payment to the suppliers in all the adhoc Contract (A/Ts) and / or Supply Order placed against DGS&D Rate Contracts shall be made directly by indentors i.e. order placing authority through their concerned Pay & Accounts Offices only, instead of CCA(Supply) or its Regional Pay & Accounts Offices of Department of Commerce.

(b)The payment to the supplier shall be paid by the indentors as per prescribed forms of payments including timelines for payments within 60 days of due date which must be ensured by the indentors.Delays,if any, in this regard would render the indentors responsible and not the DGS&D in any manner whatsoever.

(c)Consequently,the requisite Departmental charges + prevailing Service Tax thereon shall be deposited by the respective Pay & Account offices (PAO) of the indentors directly to the Receipt Head Account of DGS&D as prescribed by CGA.

(d)Indentors shall be directly responsible for any non-compliance/default for the afore-said provisions.

19-Inspection Authority: For Civil
ADG(QA),Jeevan Tara Building,Parliament Street
New Delhi

20-Quality Assurance Officer/Inspecting officer: For Civil
Director Quality Assurance,
Kendrya Sadan,17 th Main Road,
Second Block,Koramangala
Bangalore
KARNATAKA -560034
For stores procured against DGS&D Rate Contract the
Inspection Officer would be:
(i) User Departments/DDO/Consignee itself or any
authority/agency appointed by them or
(ii) Additional Director General (QA) in DGS&D (if
desired by user Departments/DDO/Consignee).

21-Place where the Stores are to be Tendered
for Inspection: M/s Agmatel India Pvt. Ltd.,
158-35/3, IIIrd Main Road
Bangalore Industrial Town, Rajajinagar,
Bangalore - 560044 Karnataka.

22-R/C is DDOs Operated: Yes

With effect from First October two thousand eight (01-10-2008),all supply order(s) against this Rate Contract must be placed by Direct Demanding Officer(s) on-line through D.G.S&D web site (www.dgsnd.gov.in) (indentor's page) only. Supply order(s) in any other form placed on or after 01-10-2008 shall not be valid and shall not be acted upon by the contractor or any other concerned agencies.

DDO shall download the supply order and send an ink signed copy to the concerned paying authority specified in the rate contract through Registered / speed post immediately after on-line placement of Supply Order(s).

23-Packing & Specification :

see annexure

24- Departmental Charges : Departmental charges at the rates prescribed by government from time to time shall be levied, for the services rendered by the Directorate General of Supplies and Disposal, in regard to Purchase & Inspection. The rates currently applicable for departmental charges in regard to purchase and inspection of stores against DGS&D R/C.

24(a) For Purchase : - Departmental Charges will be levied @ 1.0% of the value of the contract or supply order placed against the DGS&D rate contract.

24(b) For Inspection :- Departmental Charges will be levied @ 1.0% of the value of the contract or supply order placed against the DGS&D rate contract.

24(c). The value of the Contract or Supply Order shall be all inclusive basis including all taxes & duties. Service tax at prevailing rate as applicable shall be chargeable as extra on the Departmental Charges.

24(d) Such direct/referral Supply Orders being placed by various Government users on Rate Contract holding firms or their dealers/sub agents, obtaining supplies and making direct payments to the firms for the cost of stores prescribed in the Rate Contracts are liable to pay a nominal fee as Departmental Charges @ 0.25% of the value of Supply Order (all inclusive including taxes & duties) + Service Tax extra as applicable. After receipt of Supply Order, the firm will deposit the said Departmental charges + service tax thereon at the rates provided in the R/C to the concerned Controller of Accounts (CCA) viz. Delhi/Mumbai/Kolkata/Chennai, as the case may be, as indicated in the R/C by way of Demand Draft/Bank Transfer. In case, the supplies are made in installments, the aforesaid Departmental charges + Service Tax can be paid by the firm with CCA on pro-rata basis based on the value of the supplies made. In case no supplies are made, Departmental charges would not be payable / claimable as no service would deem to have been rendered by DGS&D. The firms can claim Departmental charges from PAO of the indenter for the direct/referral orders placed by them. Those who err/conceal/misrepresent/default in payment of prescribed Department Charges would be viewed adversely and shall be liable for actions as deemed fit by DGS&D including de-registration, debarring or suspension of business dealings, blacklisting, bad performance and denial of further Rate Contracts etc, in addition to recovery of the requisite amounts. It would be the responsibility of the user department to ensure that the prescribed departmental charges have been paid by the supplier before releasing their payments for the supplies. The firm would also disclose the same to DGS&D.

24(e) The Referral /Direct Orders placed by the indenter by tweaking DGS&D Rate Contract terms & condition and/or Specifications and obtaining the supplies within 1% of the DGS&D Rate Contract prices, such transactions will fall within the purview of DGS&D Rate Contract and will also attract the aforesaid Departmental Charges @ 0.25% of the value of stores ordered and supplied alongwith applicable Service Tax thereon.

24(f) In the event of placing such Referral/Direct Supply Orders, indentors shall send e-mail to DGS&D for which a special provision would be provided on DGS&D website. While the indentors placing on-line Supply Order on DGS&D e-procurement portal shall have the protection under the terms & conditions of DGS&D Rate Contract, the same would not be available in case they choose to place paper Supply Order and such transactions would be at their own risk.

25. DGS&D reserves the right for pre-dispatch inspection at manufacturer's premises or consignee end inspection after receipt of stores or at both places, at the option of indentors.

26. Jurisdiction/Arbitration Clause

a) Jurisdiction will be the place of issue of the rate contract. Sole Arbitrator will be appointed by DG(S&D). For details refer Clause-23 of DGS&D-1001. Further, where the Contract/Rate Contract is governed by DGS&D arbitration clause, the dispute cannot be referred by the supplier or entertained by Facilitation Council or any other Adjudicating Forum.

b) The arbitrator as appointed under provisions of para 18.1.1 of DGS&D Manual shall adjudicate only on the disputes arising out of interpretation of terms & conditions stipulated in Rate Contracts. For settlement of disputes relating to execution of supply orders placed by various Direct Demanding officers (DDOs)/Indentors against DGS&D Rate Contracts, each DDO/INDENTOR shall himself nominate an arbitrator at the time of placement of supply orders, as per guidelines/instructions for appointment of arbitrator in indenting organisation.

c) DGS&D or its regional offices shall not be made a party in any dispute relating to execution of Supply Order placed by DDO/Indenter against DGS&D Rate Contracts including the case filed in MSME Facilitation Councils.

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Asstt. Director (S) / Section Officer / Dy. Director
For and behalf of the purchaser named in the Form DGS&D 1001.

All the R/C particulars including prices in respect of individual R/Cs are available on DGS&D website which can be accessed by all. The DGS&D website is <http://dgsnd.gov.in>

SCHEDULE - B

TEST REPORTS FOR REGISTRATION AND ACCEPTANCE OF GOODS:

In case of products having satisfactory test reports from International Laboratory Accreditation Cooperation (ILAC) or their worldwide affiliated/recognized labs or NABL approved labs, it would be sufficient to consider the products of requisite quality for acceptance without insistence for any further testing pursuant to DGS&D Manual Correction Slip No. 38 dated 18-12-2012.

RC Specification: I. Country of Origin: Estonia

II. Name & Address of foreign manufacturer:

FLIR Systems Estonia OU
Peterburi tee-81, 11415, Tallinn Estonia

Name & Address of the Marketing Subsidiary:

Billing/Shipping Add: FLIR Systems Trading, Belgium BVBA
Luxemburgstraat 2, 2321 Meer Belgium Belgium

SPECIAL CONDITIONS OF CONTRACT:

1. Terms of delivery: The stores will be delivered by the firms on free delivery at consignee's end including installation/commissioning. Free delivery at site including freight & forwarding. Demonstration of the machines will be carried out free of cost at consignee's place. Insurance as per DGS&D Standard Transit Insurance Clause. For Andaman & Nicobar & Lakshdweep, the firm will bear the delivery charges upto the main land port i.e. Kolkata / Chennai / Mumbai, whichever is nearest to the destination. After this, the delivery charges from main land port to the consignee destination in the above mentioned location, to be borne by the consignee.
2. Calibration time will be maximum 5 working days for each type of equipment and shall be free of cost during warranty period. The calibration shall be carried at vendors place.
3. Machines shall conform to Guarantee/Warranty clause for a period of 24 months from the date of commissioning/demonstration, as per Clause 18 of form No. DGS&D- 1001 with the following additional provision: Once the user Department/Consignee states/writes that the goods supplied are Defective/not functioning properly, it must be obligatory on the part of the supplier to immediately, not later than 7 days, attend to it by way of rectification/repair or replacement of the goods, without any questioning or pretexts on any ground. There shall be no scope of questioning the user department/consignee or resorting to any kind of verification or joint inspection in this regards, pursuant to DGS&D Manual Correction Slip No.37 dated 18.12.2012.
4. Other terms and conditions are as per Form DGS&D-1001.
5. No assistance for import of finished product or raw material will be provided.
6. Tenderers shall have all the testing facilities and instruments to check and verify the functional parameters of the specifications.
7. For imported machines offered for inspection, the documentation requirements at the time of inspection of bulk supplies for each and every lot are as under:-
 - a) Bill of Lading;
 - b) Packing list;
 - c) Certificate of origin;
 - d) Serial numbers along with model numbers pertaining / corresponding to imports covered by above documents;
 - e) A certificate from the manufacturer that the machines with particular model Nos. and Serial Nos. were exported by them to Indian supplier and that the same were tested in their factory and found to be satisfactory as per the standard specification of the

product.

f) Guarantee/Warranty Certificate for the machine by R/C holding firms

8. Octroi Duty and Local Taxes:

Normally materials to be supplied to Government Department against Govt. Contracts are exempted from levy of town duty, Octroi duty, terminal tax and other levies of local bodies. The local Town/Municipal Body regulations at times, however, provide for such exemption only on production of such exemption certificate from any authorized officer. Contractors should ensure that stores ordered against contracts placed by this office are exempted from levy of Town duty/ Octroi duty, Terminal tax or other local taxes and duties. Wherever, required, they should obtain the exemption certificate from the purchase officer or indenter concerned, to avoid payment of such local taxes or duties. Octroi, entry tax etc on the buyers account in the absence of relevant exemption certificate.

9. Road permit, Waybill to be provided by DDO along with the order.

In all such cases where the requirement of Road Permit/Way Bills for entry of goods into a particular State is mandatory, the following provisions shall be strictly followed: -.

(a) The supplier shall request the indenter/consignee for providing Road permit/ Waybill within 10 days of the receipt of the Supply order. The supplier shall furnish all the necessary information and documents in this regard to Indenter/consignee.

(b) On receipt of the above request from the supplier, the indenter/consignee concerned shall arrange to provide the Road permit/Way Bill in the prescribed form to the supplier within a maximum period of two weeks so that the same reaches the supplier before the dispatch of the stores. However, in cases where the Road permit/Way Bill is issued on proof of actual invoice of the material, the consignee shall arrange to provide the Road permit/Way Bill from appropriate authorities within a maximum period of 5 days from the receipt of invoice.

(c) The supplier shall not be held responsible for any delay in supply due to non- supply/delayed supply of Road permit/Way bill by the indenter/consignee.

(d) All cases of abnormal delay in providing requisite details/ documents by the supplier or issue of Road permit/Way bill by indenter/consignee, the same shall be reported by them to DGS&D.

The details of the Road permits presently applicable in different States are as under:-

Sr.No. States Road Permit

- 1 Andhra Pradesh: -
- 2 Arunachal Pradesh: Form DG-01
- 3 Assam: Form 62
- 4 Bihar:Form 28
- 5 Chhattisgarh: Form 59A
- 6 Goa: -
- 7 Gujarat: Form 403
- 8 Haryana:Form 38 if value is Rs. 25,000 or more.
- 9 Himachal Pradesh: -
- 10 Jammu & Kashmir: -
- 11 Jharkhand: Form 28B
- 12 Karnataka: -
- 13 Kerala: -
- 14 Madhya Pradesh: Form 88/89
- 15 Maharashtra: -
- 16 Manipur: Form 27
- 17 Meghalaya: Form 14
- 18 Mizoram: Form 33
- 19 Nagaland : Form 16
- 20 Orissa: Form 28

- 21 Punjab: -
- 22 Rajasthan: Form 18
- 23 Sikkam: Form 20
- 24 Tamil Nadu: -
- 25 Tripura: Form 26
- 26 Uttar Pradesh: Form 32
- 27 Uttaranchal: Form 17
- 28 West Bengal: Form 50

All other terms and conditions shall be as per standard conditions contained in Form DGS&D-1001.

SCHEDULE-D

SPECIAL INSTRUCTIONS TOR TO R/C HOLDERS

1. Rate Contract holders are advised that before entertaining the supply order(s), they should ensure the availability of following certificates from DDOs.

- a) They are Central Government Department drawing funds from Consolidated Fund of India.
- b) The expenditure involved for the purchase has received the sanction of the competent financial authority.
- c) The funds are available under the proper head in the sanctioned budget allotment for the year.
- d) They have been fully authorized by the Department to sign the supply order and incur the liability in respect of the stores being ordered.

2. The rate contract holders should assist the consignee(s) in the installation and operation of the machine, including recommendations for accessories and voltage stabilizer.

(K.S. Brijwal)

Assistant Director (S)

For and on behalf of the purchaser named in the form DGS&D-1001

(1) Before placing supply order, DDOs are advised to check with DGS&D or on the website whether any further RCs have been awarded or amendments to Rate Contract have been issued.

(2) All the R/C particulars including prices in respect of individual R/C's are available on DGS&D website, which can be accessed by all. The access code of DGS&D website is <http://dgsnd.gov.in>.

ANNEXURE

1. It may be noted that thermal imagers are meant for preventive maintenance purpose
such as detecting heat build up on bus bars, bus ducts and isolators etc, Heat Generation detection of sub stations and Control Panels of HT and LT Lines, Scanning of bushing of transformers, Scanning of circuit breakers, Scanning of joints in 25KV/33KV overhead equipments. Scanning of all types of rotating machines, Firefighting help, Building diagnostics etc.
2. Firm shall have to furnish all information as per questionnaire in explicit and unambiguous manner for information of users. The Questionnaire and answers shall
be scanned and uploaded along with the tender by the firms. This, in turn, will appear in the R/C as attachment.
3. Firm shall have to furnish calculation, showing minimum size of object, which thermal profile can be scanned by imager within specified limit of accuracy from
maximum distance to have first hand information with respect to its utility from
user's point of view.
4. Software, if any, needed shall be supplied along with the equipment. Details shall
be indicated by the tenderer.
5. Firms shall have adequate facility for verification of features (excluding IP protection) of system.
6. TYPE TESTS:

The type test reports shall be from a Govt lab or from International Laboratory Accreditation Corporation (ILAC) or their worldwide affiliated/ recognized labs or NABL approved labs as per the DoC correction slip no. 38 dated 18-12-2012 of DGS&D Manual. Type test reports shall be required at the time of registration and inspection.

Type test reports shall be for "one sample of each type/range" of thermal imager. Type tests shall consist of Environmental tests, verification of all the features & functional requirements including IP protection test, Operating temperature range tests & Drop test as indicated below. All the bidders shall furnish type test certificates as and when requested to do so by the purchaser, Indenter, Consignee etc.

a) The environmental tests sequence will be as under :

- | | |
|----------------------|---|
| (i) Dry Heat | : For 16 hrs. at a temp. of 55 degree C in accordance with IS:9000/part-3/section-5/1977 (reaffirmed in 2004). |
| (ii) Cold Test | : For 4 hrs. at a temp. of -20 degree C in accordance with IS:9000/part-2/section-4/1977 (reaffirmed in 2004). |
| (iii) Damp Heat Test | : For 2 Cycles of 24 h each at a temp. of 40 degree C & 95% RH in accordance with IS:9000/part-5/section-1/1991 (reaffirmed in 2004). |

After environmental test sequence as above and a recovery period of two hours, the equipment shall be checked for complete parameters, excluding IP protection. The results shall be satisfactory.

b) Operating temperature test :

- (i) The equipment shall be kept at zero deg celsius for 2 hours and measurement of object temperature shall be done to cover the entire temperature range specified. The results shall be satisfactory.
 - (ii) The equipment shall be kept at 50 deg celsius for 4 hours and measurement of temperature shall be done to cover the entire temperature range specified. The results shall be satisfactory.
- c) Drop test of unpacked thermal imager from a height of 2m.
d) IP protection test.

7. ACCEPTANCE TESTS:

All bidders shall have following acceptance test facilities at the place of inspection to carry out acceptance tests :

- a) Verification of all features and functional performance of the equipment (except IP protection) on 10% samples. .

Note : The firm shall also have master calibrator and source to verify the calibration of the instrument during inspection.

- b) Following operating temperature test on one sample out of /after every 100 nos (cumulative) of the model offered for inspection shall be carried out as acceptance test:

The bidders shall preferably have the environmental chamber of temperature range 0 to 50 deg celsius or better to assess the operation of the equipment in operating condition as per T/E. If thermal chamber of suitable rating is not available with the firm, one sample out of /after every 100 nos (cumulative) of the model offered for inspection shall be got evaluated in a central govt lab./ NABL accredited lab.

- (i) The equipment shall be kept at zero deg celsius for 2 hours and measurement of object temperature shall be done to cover the entire temperature range specified. The results shall be satisfactory.

- (ii) The equipment shall be kept at 50 deg celsius for 4 hours and measurement of temperature shall be done to cover the entire temperature range specified. The results shall be satisfactory.

- c) Drop test on one percent sample(min. one number) during every inspection on unpacked thermal imager from a height of 2m.

8. In respect of items to be supplied by Green channel firms, the inspection may be carried out by DGS&D in cases where such inspection is insisted by Indentor. In terms of DGS&D P&C Circular No.54 dt 24-02-2014 the Green Channel firms are required to maintain testing facilities and documents as per rate contract requirements. They shall also declare manufacturing works address and place of inspection at the time of submission of bid and shall be made part of R/C.

9. However, where DGS&D inspection is not involved, the Indentor and consignee shall ensure that quality of stores delivered is as per R/C specification and the supplier is in possession of all relevant documents as specified in the R/C. In respect of imported stores it shall be ensured that the stores being delivered has

reached the country through legal channel and supplier is in possession of all import documents for the manufacturing works.

NOTE FOR USER ORGNIZATIONS :

1. Intended Utility of Imager is enumerated at a glance in specifications portion of technical particulars and tenderer have been advised specifically to list intrinsic capability of system offered by them for each model of scheduled items.
2. While selecting model, special attention shall be paid by purchaser with respect to offered capability and user's requirements to avoid problem/mismatch at latter stage. To avoid such situation complete broucher/catlogue may be downloaded from web to have necessary information about the models.
3. User should also refer to optical calculation furnished by tenderer to have idea about distance to spot size ratio.
4. Users are advised to maintain safe distance from heated / live objects while capturing the image.

Calibration Charges for Thermal Imager

As per General Technical Requirement.

Thermal Imager Hand Held

"GENERAL ATTRIBUTES APPLICABLE TO ALL THE ITEMS OF SCHEDULE"

A. The Infra Red Imaging System :

The infrared imaging system shall be a single unit suitable for hand held operation. This system shall be battery operated and rugged enough for use in the field. The imaging system shall have in-built display system to show the

infrared images on the spot. The system shall be capable of working in open environment and shall not use any cooling system either internally or externally. The on-board image analysis and storage facility shall be provided.

The optics shall include suitable HFOV & VFOV lens for the measurements on the different objects/installation. Generally the infrared imaging system should be suitable for monitoring, measurement, data analysis and storing temperature profile of object for following applications -

1. Detect heat build-up on bust ducts/ bus bars/ isolators and other Electrical Systems.
2. Heat detection of connections on overhead distribution lines/cable termination in HT Circuits, switch board & HT/LT electrical panel up to 132 KV or higher.
3. Scanning of sub stations yards for identification of critical& problematic areas Rated up to 132 KV or higher.

4. Scanning of Transformer bushings.
5. Detecting problems with Circuit breakers.
6. Scanning of joints in 25/33 kV overhead equipment & jumpers etc.
7. Scanning of rotating machines of all types.
8. Thermal building diagnostics to detect thermal losses etc for efficient air-conditioning system.

B. Battery & Accessories :

The system shall have on-board battery for hand operation. The accessories shall include one sets of spare rechargeable batteries, AC power adapter, battery charger, carrying case, user manual and software installation CD and any other application S/W that may be essential to make the system complete in all respect.

C. Thermal Imaging Camera :

Thermal Imaging Camera shall have the following features-

1. In typical ambient environments, when the Cameras on/off switch is activated to apply power to the Camera, the Camera shall render a usable thermal image in one minute or less.
2. To ensure the waterproofing integrity of the Camera in all situations, the Camera shall be designed to isolate the internal electronic systems from all user accessible areas.
3. Camera shall not incorporate a sleep mode that turns-off the cameras internal LCD display while the camera is "ON".
4. The Camera shall incorporate an on-screen battery level indicator.
5. The camera shall incorporate an automatic active temperature stabilization system by use of suitable method. When the cameras electronics heat-up to a predetermined critical temperature, the temperature stabilization system automatically activates to dissipate heat from the electronics and move the heat into a heat sink or camera shall be with uncooled

microbolometer

(OEM certificate shall be furnished to this effect).

6. The Camera shall incorporate through-the-lens direct temperature measurement

capability that measures relative surface temperature readings. The direct temperature measurement readings shall be displayed, in numerical form.

7. The camera shall fitted with Li Ion or better chemistry type rechargeable batteries and complete with standard accessories.
8. The camera shall be supplied with one standby rechargeable batteries.

"SPECIFIC REQUIREMENTS"

ITEM NO. 1 Thermal Imager Hand Held with Temperature Range of Objects as -20 to +250 Degree C and Detector Resolution as Minimum 14,000 Pixels

- | | |
|---|---|
| 1. Temp. measurement range | : -20 to +250 Degree C |
| 2. Temp. measurement accuracy | : +/- 5% of reading or better |
| 3. Minimum Focus distance | : 65 Cm |
| 4. Display | : Colour LCD not less than 6 cm |
| 5. Imaging Performance | |
| a) Image capture frequency/
frame rate | : Not less than 9 Hz |
| b) Detector Type | : Uncooled focal plane array (FPA)Vox/
Asi/BST/Silicon |
| c) Thermal sensitivity(NETD) | : Less than or equal to 0.2 degree C |

or
manufacturer
of

Note - Firm will provide OEM certificate
certification from detector
for this parameter for the purpose
registration & inspection.

- d) Infrared spectral band : 8 um to 12 um or better coverage range.
- e) Detector resolution : Shall be 14000 pixels or better.
- 6. Image presentation
 - a) Palettes : Minimum Three
 - b) Image capture, review and save mechanism : One handed image capture, review and save capability
 - c) Storage medium : Mini SD card/SD Memory card/USB stick of 2 GB (min.)
 - d) File formats : JPEG format or enhanced format
- 7. Visual Camera : Built-in digital camera with > 0.5 Mpixel
- 8. Field of View : Horizontal - 20 Degree or more
Vertical - 14 Degree or more
- 9. IFOV : Not more than 3.5 mRad
- 10. Emissivity setting/correction : User selectable from 0.1 to 1.0
- 11. Operating functions : Details to be furnished by the tenderer
- 12. Operating Temperature : 0 to 50 degree centigrade.
- 13. Control and adjustments : The set up menu should provide the facility for the adjustment/selection of the time/date etc.
- 14. Software : With compatible software and hardware for downloading on PC with Windows(Latest)
- 15. Image output : Image shall be able to be viewed on PC or readable through Mini SD card/SD Memory card/USB stick storage medium
- 16. Battery back up : Min. 3 hours
(suitable charger shall be built-in or supplied separately)
- 17. AC Battery charging : Details to be indicated by the tenderer
- 18. Power Management : Automatic shut down /User Selectable
- 19. Safety Certifications : Equipment shall be UL or CE certified
- 20. Size : To be declared by tenderer
- 21. Weight (including batteries) : To be declared by tenderer
- 22. IP Protection : IP 54 or better

ITEM NO. 2 Thermal Imager Hand Held with Temperature Range of Objects as
-20 to +350 Degree C and Detector Resolution as Minimum 19,000
Pixels

- 1. Temp. measurement range : -20 to +350 Degree C
- 2. Temp. measurement accuracy : +/- 2% of reading or better
- 3. Minimum Focus distance : 65 Cm
- 4. Display : Colour LCD not less than 6 cm
- 5. Imaging Performance
 - a) Image capture frequency/ frame rate : Not less than 9 Hz
 - b) Detector Type : Uncooled focal plane array (FPA)Vox/Asi/BST/Silicon
 - c) Thermal sensitivity(NETD) : Less than or equal to 0.1 degree C

or
manufacturer

Note - Firm will provide OEM certificate
certification from detector
for this parameter for the purpose

of

- d) Infrared spectral band : 8 um to 12 um or better coverage range.
- e) Detector resolution : Shall be 19000 pixels or better.
- 6. Image presentation
 - a) Palettes : Minimum Four
 - b) Image capture, review and save mechanism : One handed image capture, review and save capability
 - c) Storage medium : Mini SD card/SD Memory card/USB stick of 2 GB (min.)
 - d) File formats : JPEG format or enhanced format
- 7. Visual Camera : Built-in digital camera with > 0.5 Mpixel
- 8. Field of View : Horizontal - 20 Degree or more
Vertical - 14 Degree or more
- 9. IFOV : Not more than 3.5 mRad
- 10. Emissivity setting/correction : User selectable from 0.01 to 1.0
- 11. Operating functions : Details to be indicated by the tenderer
- 12. Operating Temperature : 0 to 50 degree centigrade.
- 13. Control and adjustments : The set up menu should provide the facility for the adjustment/selection of the time/date etc.
- 14. Software : With compatible software and hardware for downloading on PC with Windows(Latest)
- 15. Image output : Image shall be able to be viewed on PC or readable through Mini SD card/SD Memory card/USB stick storage medium
- 16. Battery back up : Min. 3 hours
(suitable charger shall be built-in or supplied separately)
- 17. AC Battery charging : Details to be indicated by the tenderer
- 18. Power Management : Automatic shut down /User Selectable
- 19. Safety Certifications : Equipment shall be UL or CE certified
- 20. Size : To be declared by bidder
- 21. Weight (including batteries) : To be declared by tenderer
- 22. IP Protection : IP 54 or better

ITEM NO. 3 Thermal Imager Hand Held with Temperature Range of Objects as -20 to +500 Degree C and Detector Resolution as Minimum 75,000 Pixels

- 1. Temp. measurement range : -20 to +500 Degree C
- 2. Temp. measurement accuracy : +/- 2% of reading or better
- 3. Minimum Focus distance : 20 Cm
- 4. Display : Colour LCD not less than 3.5 inches.
- 5. Imaging Performance
 - a) Image capture frequency/ frame rate : Not less than 9 Hz
 - b) Detector Type : Uncooled focal plane array (FPA)Vox/Asi/BST/Silicon
 - c) Thermal sensitivity(NETD) : Less than or equal to 0.08 degree C
Note - Firm will provide OEM certificate

or

manufacturer

of

- d) Infrared spectral band : 8 um to 14 um or better coverage range.
- e) Detector resolution : Shall be 75000 pixels or better.
- 6. Image presentation

- a) Palettes : Minimum Four
- b) Image capture, review and save mechanism : One handed image capture, review and save capability
- c) Storage medium : Mini SD card/SD Memory card/USB stick of 2 GB (min.)
- d) File formats : JPEG format or enhanced format
- 7. Visual Camera : Built-in digital camera with > 1 Mpixel
- 8. Field of View
 - a) Standard Lens : Horizontal - 20 Degree or more
Vertical - 14 Degree or more
 - b) Telephoto Lens : Horizontal - 9 Degree or more
Vertical - 7 Degree or more
- 9. IFOV
 - a) Standard Lens : Not more than 2.1 mRad
 - b) Telephoto Lens : Not more than 1.0 mRad
- 10. Emissivity setting/correction : User selectable from 0.01 to 1.0
- 11. Operating functions : Details to be furnished by the tenderer
- 12. Operating Temperature : 0 to 50 degree centigrade.
- 13. Control and adjustments : The set up menu should provide the facility for the adjustment/selection of the time/date etc.
- 14. Software : With compatible software and hardware for downloading on PC with Windows(Latest)
- 15. Image output : Image shall be able to be viewed on PC or readable through Mini SD card/SD Memory card/USB stick storage medium
- 16. Battery back up : Min. 3 hours
(suitable charger shall be built-in or supplied separately)
- 17. AC Battery charging : Details to be indicated by the tenderer
- 18. Voice Annotation : Not mandatory.If available details to be furnished.
- 19. Power Management : Automatic shut down /User Selectable
- 20. Safety Certifications : Equipment shall be UL or CE certified
- 21. Size : To be declared by tenderer
- 22. Weight (including batteries) : To be declared by tenderer
- 23. IP Protection : IP 54 or better

ITEM NO. 4 Thermal Imager Hand Held with Temperature Range of Objects as +30 to +42 Degree C and Detector Resolution of Minimum 1,00,000 Pixels for fever measurement and Animal Husbandry

- 1. Temp. Measurement range : +30 to +42 Degree C
- 2. Temp. Measurement accuracy : +/- 0.3 deg. C or lesser
- 3. Minimum Focus distance : 0.1m
- 4. Display : Colour LCD not less than 3.5 Inch.or better
- 5. Imaging Performance
 - a) Detector Type : Focal Plane Array (FPA)
Uncooled Micro bolometer
 - b) Thermal sensitivity : 60 mk or lesser at 30 deg.C
Note - Firm will provide OEM certificate or certification from detector manuufacturer for this parameter for the purpose of registration and inspection.
 - c) Infrared spectral band : 8 um to 14 um or better

- e) Detector resolution : Shall be 100000 min. pixels or better.
- 6. Image presentation
 - a) Palettes : min. 10
 - b) Image capture, review and save mechanism : One handed image capture, review, & save mechanism
 - c) Storage medium : Mini SD card/SD Memory card/USB stick of 2 GB (min.)
 - d) File formats : JPEG format or enhanced format
- 7. IFOV (spatial resolution) : 1.4 mrad or lesser
- 8. Emissivity setting/correction : User selectable from 0.01 to 1.0
- 9. Operating Temperature : 0 to 50 degree centigrade.
- 10. Control and adjustments : Date/time, temperature unit etc.
- 11. Software : With compatible software and hardware for downloading on PC with Windows 7 or higher
- 12. Image output : Image shall be able to be viewed on PC or readable through Mini SD card/SD Memory card/USB stick storage medium
- 13. Battery backup : Min. 3 hours or more Li-ion battery (suitable charger for 230V+or-10% ,50Hz operation shall be provided)
- 14. Size : To be declared by tenderer
- 15. Weight (including batteries) : To be declared by tenderer
- 16. IP Protection : IP 54 or better.
- 17. Focus : manual/auto
- 18. Interface : USB

LIST OF ALL AMENDMENTS

For RC No. T I SYSTEM/IT-4/RC-D20C0000/0516/84/F0177/2159

NOTE: No Amendments issued till date 29-SEP-15