



सत्यम् शिवम् सुन्दरम्

प्रसार भारती  
PRASAR BHARATI  
(Broadcasting Corporation of India)

दूरदर्शन महानिदेशालय  
Directorate General: Doordarshan  
दूरदर्शन भवन, कोपर्निकस मार्ग,

Doordarshan Bhawan, Copernicus Marg  
नई दिल्ली - ११०००१  
New Delhi - 110 001

File No. 19(2)2018-19E1 (P) TV

Dated: 08.02.2019

**Subject:** Draft Specification for Supply of Test Loop Translator (TLT for C- band U/L to L-band) System for 11 Earth Station for 11 Locations.

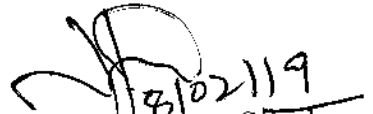
The Draft specification of the upcoming tenders is enclosed herewith to offer comments, if any by due date at e-mail address [ddpurchase401@yahoo.co.in](mailto:ddpurchase401@yahoo.co.in) or on following Address:

Assistant Engineer  
Room No. 403,  
Directorate General: Doordarshan,  
Doordarshan Bhawan,  
Copernicus Marg,  
New Delhi -110001 (India)  
Telephone: 011- 23387620

Specification For: Draft Specification for Supply of Test Loop Translator (TLT for C- band U/L to L-band) System for 11 Earth Station for 11 Locations.

Specification no: SATD/ES\_11 Nos.\_TLT/Jan\_2019 Dated 14.01.2019  
Due Date to offer Comments: **21.02.2019**

Encl.: As above

  
Prabhat Kumar Singh  
Assistant Engineer  
For DG: DD

**Prasar Bharati**  
**Directorate General: Doordarshan**  
**Doordarshan Bhawan: Copernicus Marg**  
**New Delhi-110001**

**Specification for**  
**" Supply of Test Loop Translator (TLT for C-band U/L to L-band) System**  
**For Earth Station for 11 Locations"**

**Specification No.: SATD/ES\_11 Nos. TLT/Jan\_2019**  
**Date: 14/01/2019**

**DRAFT**

129

Specification No.: SATD/ES\_11 Nos. TLT/Jan\_2019

**Technical Specifications for Supply of TLT for Earth Station at 11 Locations"  
(Jalandhar, Shimla, Ahmedabad, Bhopal, Bhubaneswar, Chennai, Jaipur,  
Jammu, Kolkata, Lucknow, Thiruvananthapuram)**

**Index**

Sl. No.	Description	Page no.
1	Introduction	3
2	Scope	3
3	Eligibility Criteria :	4
4	General Requirement	4
5	Technical Specifications of TLT	6
6	Physical, Environmental & Mechanical Specifications	6
7	Complement of Equipment for the Earth Station:	7
8	General	8
8.1	Compliance and Authorization	8
8.2	Documentation	9
8.3	Guarantee	10
8.4	Inspection and Commissioning	11
8.5	Delivery Period	12
8.6	Pre-bid Conference	12
8.7	Check List and Enclosures	12
Annexure I	Suggestive Bill of Material (BOM)	14
Annexure II	CERTIFICATE FOR AUTHORIZATION*	15
Annexure III	CERTIFICATE FOR GUARANTEE	16
Annexure IV	CERTIFICATE FOR AFTER SALES SERVICE SUPPORT	17
Annexure V	DECLARATION BY THE BIDDER	18

**1. Introduction :**

This document lays down technical specifications for “Supply of Test Loop Translator (TLT for C-band U/L to L-band) System for Digital Earth Station at 11 Locations” namely Jalandhar, Shimla, Ahmedabad, Bhopal, Bhubaneswar, Chennai, Jaipur, Jammu, Kolkata, Lucknow and Thiruvananthapuram.

**2. Scope :**

- 2.1 The scope of the tender shall include “Supply of Test Loop Translator (TLT for C-band U/L to L-band) System for Digital Earth Station at 11 Locations namely Jalandhar, Shimla, Ahmedabad, Bhopal, Bhubaneswar, Chennai, Jaipur, Jammu, Kolkata, Lucknow and Thiruvananthapuram for use in existing chain of Modulator and RF equipment.
- 2.2 The offered system shall meet the International standards for digital satellite broadcasting.
- 2.3 The offered system would also include the standard accessories supplied by the Manufacturer along with the items mentioned in para 2.1

DRAFT

127

### 3 Eligibility Criteria :

The Bidder and original equipment manufacturer (OEM) shall have to meet the following eligibility criteria:-

- 3.1 The bidder should be the original equipment manufacturer (OEM) of TLT system or their authorized representative/dealer in India.
- 3.2 In case bidder is the authorized representative/dealer of TLT system, it should be in the business of sales and supply of Broadcast Equipment for at least past three years. Copies of orders and completion certificates/delivery challans/dispatch certificates/copy of invoice to support this must be provided.
- 3.3 Bidder shall offer TLT system of only those OEMs who are having past experience of:
  - 3.3.1 At least five years of manufacturing similar TLT.
  - 3.3.2 Supplying at least 20 Nos. of offered TLT System in immediate proceeding past five years.
- 3.4 Copies of documentary evidence from OEM i.e. supply order and receipt certificates/delivery challan/factory dispatch documentary/copy of invoice in respect of above said quantities at para 3.3.2 in preceding past five year should essentially be submitted along with the bid document.
- 3.5 The bidder must have his local office/ authorized representative/ dealer in India for after sales support etc.
- 3.6 The cutoff date for the experience shall be the date of NIT.

### 4 General Requirements:

- 4.1 The bidder shall submit only one solution (Single BOM) for the offered system. Bid with multiple options against any requirement is liable to be rejected.
- 4.2 The project will consist of Supply of the TLT System at Jalandhar, Shimla, Ahmedabad, Bhopal, Bhubaneswar, Chennai, Jaipur, Jammu, Kolkata, Lucknow and Thiruvananthapuram as detailed at Clause No. 2, Scope of Tender.
- 4.3 Each and every offered equipment and accessories including software should be from internationally reputed manufacturer and the quoted model should be of high class, high MTBF, field proven and in use by leading

- (126)
- broadcasters/organizations in various continents of the World. Any customized product which is not field proven in the industry will not be acceptable
- 4.4 All software being offered, are to be licensed to Doordarshan on perpetual basis without specifying any time limit or without specifying any end of life of the software. Software upgrades within warrantee period will have to be supplied free of cost
- 4.5 For facilitating maintenance issues, bidder must also submit firm's self certified copies of Bill of Entry/Custom Invoice of all imported items to DG: DD for release of PBG.
- 4.6 The installation, testing and commissioning of the equipment supplied at site will be done by Doordarshan as per procedure laid down in the installation manual of respective equipment. The installation manual should also include list of Do's & Don'ts and step by step procedure for configuration etc. Bidder must submit copy of the installation manual along with the bid.
- 4.7 **Testing and Commissioning at site: Site Acceptance Test (SAT)**
- 4.7.1 The TLT system shall be installed, configured, tested and commissioned at site by Doordarshan as per the instructions contained in the manufacturer's installation manual.
- 4.7.2 However, the local representative of the OEM/bidder shall be responsible for resolving any issues related with installation, configuration, testing and commissioning of the TLT System.
- 4.7.3 If required, local representative of the OEM/bidder may also arrange the visit of OEM Engineer at site.
- 4.8 In the process of technical evaluation Doordarshan can ask for any clarification/ query as required through e-mail/FAX/Post etc, which shall be treated as a part of tender and invariably attended and replied by the bidder within the time stipulated therein.
- 4.9 Bidder may have to demonstrate the features of equipment offered as and when asked as part of technical evaluation of Tender. However it will not bestow any right of acceptance of the bid.
- 4.10 Cross reference in respect of supporting documents, should be given with proper page number and volume no. etc. If required Doordarshan may also ask for any other supporting document to ascertain the claim of bidder and their OEM
- 4.11 The successful bidder along with OEM will be responsible for providing after sales support of all the offered items as per para 8.3.

128

4.12 The bidder must have his local office/authorized representative/dealer in India for after sales support. The local office/authorized representative/dealer in India will be nodal point for resolving issues, related to installation, integration, configuration, testing, commissioning and after sales support. Details of OEM office and its location are to be provided along with bid.

4.13 If required, bidder may have to give a presentation to explain their technical offer within one week from the date of issue of letter, as part of technical evaluation.

## 5. Technical Specifications of Major Equipment : Specifications for Test Loop Translator (TLT for C-band U/L to L-band)

Test Loop Translator (C-band uplink frequency to L-band) is to be used to check the monitoring output of Up- converters & HPAs. Monitoring ports of Up-converter and HPAs will be fed to TLT using a RF patch panel. Output of TLT will be fed to IRD (with L-band input) through patch panel. The Specifications are detailed below:

S. No.	Parameter	Specification
(A)	Input Frequency	5.925 GHz to 6.425 GHz
(B)	Output frequency	L-Band
(C)	Conversion loss	Better than 20 dB $\pm$ 2 dB
(D)	Level Control	25 dB Minimum
(E)	Return loss (input)	15 dB or better
(F)	Return loss (output)	15 dB or better
(G)	Phase noise	IESS 308/309 Compliant

## 6 General Physical, Environmental & Mechanical Specifications

Following specification is to be followed if not mentioned elsewhere in this document:

### 6.1 Power Supply

Equipment shall operate from a wide range of power supply voltages without interruption or damage.

Parameter	Specification
(a) Voltage Range	: 220/240 V AC nominal
(b) Frequency	: 48-52 Hz

### 6.2 Environmental Specifications

Parameter	Specification
(a) Operating Temperature (Indoor)	: 0°C to 45°C
(b) Operating Temperature (Outdoor door)	: - 10°C to 50°C
(c) Storage Temperature	: - 20°C to 60°C
(d) Humidity (Indoor)	: 0 to 85% non- Condensing
(e) Humidity (Outdoor)	0 to 100%
(f) Altitude	0 to 2000 m

### 6.3 Mechanical Specifications

Indoor equipment shall be rack mounted.

Parameter	Specification
(a) Construction	: Modular approach, EIA RS-310C, 19" rack-mount

### 7 Complement of Equipment:

- 7.1 The make and model/part no. of each and every equipment/ item/ installation material etc. should be clearly mentioned in the offered Bill of Material (BoM).
- 7.2 The suggestive Bill of Material (BOM) has been provided in **Annexure-I**. The bidder is required to provide the complete list of equipment, software and accessories etc. offered to meet the specifications requirement. The quantity of each item including sub-module etc. are to be specified clearly and compulsorily, failing which the bid is liable to be rejected summarily. The following is the Proforma for the BOM:

Sl. No.	Description of Item as per Specification (Suggestive BOM)	Description of Item as offered by the Bidder	Qty. per site	Total quantity as per Suggestive BOM	Make	Model
1	2	3	4	5	6	7




7.3 Any substandard equipment included in the offer may result into the rejection of complete offer with the sole responsibility of bidder.

7.4 The offer should also include the detailed technical brochure and technical manual containing all the technical specifications of all the offered equipment, accessories, and software etc.

7.5 General specifications applicable to all equipment wherever applicable have been given in Clause No. 6.

## 8 General

### 8.1 Compliance and Authorization:-

8.1.1 The bidder must submit a point-by-point compliance statement in respect of all the points, sub-points and paras laid down in this specification from page 1 onwards along with the offer.

8.1.2 Mere signature on a copy of Doordarshan specifications shall not be accepted as a compliance statement.

8.1.3 Compliance statement in the format as indicated below shall only be accepted.

Sr. No. of DD specs.	DD Specs.	Compliance (Yes/No)	Performance fig. of equipment offered.	Deviations, in case of non-compliance	Optional items if any required to make the system Compliant to DD specs.	Features in the system offered Which exceed DD specs.	Page No.	Remarks
1								
2								
3								

4								
---	--	--	--	--	--	--	--	--

- 8.1.4 The manufacturer should also record the performance figures of the equipment offered in the quote for which the compliance statement is enclosed.
- 8.1.5 The compliance statement should be supported by highlighted record of these in the technical literature/data sheets enclosed with the tender and a clear reference to the attached supporting document should be given in the remarks column against each & every specs. Any offer without proper supporting document of each & every specs and containing only a commercial hand out/pamphlet is liable to be rejected.
- 8.1.6 Offers without proper & duly completed compliance statement are likely to be rejected with the sole responsibility of bidder and no further claim/ correspondence will be entertained.
- 8.1.7 Data sheets should be submitted in respect of all equipment. Any deviation from the specification detailed in the compliance statement is to be highlighted separately. Page no. of location of data sheet should be given in page no. column above.

**8.2 Documentation**

- 8.2.1 One set of technical manual for all equipment are to be provided along with the tender to facilitate the technical evaluation, otherwise the tender is liable to be ignored.
- 8.2.2 The successful bidder will have to supply set of printed technical manuals and installation manual along with factory test report for all equipment.
- 8.2.3 Technical Manual and installation for all equipment should also be supplied on CD/DVDs with search facility.
- 8.2.4 All offered software should have perpetual validity and should be in the name of Doordarshan. All software backups should also be supplied on CD/DVDs.
- 8.2.5 For facilitating maintenance issues, the bidder must submit the firm's self certified copies of Bill of Entry/Bill of Laden/Custom Invoice of all imported items to DG:DD at the time of release of PBG

(12)

### 8.3 Guarantee

- 8.3.1 The manufacturer shall guarantee satisfactory working of the offered TLT system without any fault and defect for three years from the date of receipt of last accepted consignment.
- 8.3.2 Any defect or failure of any module/equipment during the guarantee period shall be repaired/replaced free of charge by the successful bidder at site. For repairing of any defective module/equipment during guarantee period, the defective module or equipment requiring repairs will be handed over to local office/local authorized representative/dealer who will arrange repairs locally at site or send/export the defective modules to OEM factory and re-import/send back after repairs.
- 8.3.3 It is the responsibility of local office/ Authorized representative/ dealer of the bidder to arrange the repair/ replacement of faulty items for Doordarshan i.e. transportation charges would not be paid by DD for transporting the defective/ repaired items, if required to be removed from site, during the guarantee period.
- 8.3.4 Guarantee period is to be extended corresponding to the outage period if the failure rectification takes more than 15 days time.
- 8.3.5 Bidder shall provide the guarantee/warranty through the OEM. A certificate duly signed by the OEM on the OEM's letterhead, in this regard of offered TLT system must be submitted with the offer by the bidder in the format as prescribed in Annexure III.
- 8.3.6 After sales service support for additional 2 (TWO) years for the repairs/maintenance of TLT system after the completion of guarantee/warranty period shall also be provided by the OEM of the TLT system either directly or through his representative in India. In this regard a certificate, duly signed by the OEM on the letterhead, must be submitted with the offer by the bidder.
- 8.3.7 The successful bidder will be responsible for providing after sales service support of all the offered equipment for Five years from the date of receipt of last accepted consignment including three (3) years warranty period. The bidder must submit undertaking for providing

after sales service support for additional Two (2) years after the end of warranty period along with bid.

8.3.8 If bidder is not the OEM of the offered equipment, then after sales service support for the repairs/maintenance for 3 years warranty period and for 2 years after the completion of guarantee/warranty period shall also be provided by the OEM either directly or through its representative in India. A certificate, on the letterhead, in this regard duly signed by the OEM must be submitted with offer by the bidder in the format as prescribed in Annexure IV

**8.4 Inspection and Commissioning:**

8.4.1 All equipment to be supplied against the supply order for this tender shall be subjected to pre-dispatch inspection in India. The successful bidder should produce the factory test reports of all the offered equipment to facilitate inspection.

8.4.2 The inspection of the equipments will be carried out by a team of Doordarshan based on approved Acceptance Test procedure (ATP). A copy of ATP (Acceptance Test procedure) must be submitted by the bidder within one month of issue of AT (Acceptance of Tender) for approval by Doordarshan. ATP should describe the standard test procedure of individual equipments. The factory test report will not be treated as ATP. The accepted ATP/ approved ATP with or without changes shall be sent back to the bidder to be used for inspection of ES equipments by DD Engineer(s) at inspection site.

8.4.3 As the local office/authorized representative/dealer will be nodal point for resolving issues related to testing, the local representative of the OEM/bidder may also arrange the visit of OEM's Engineer at site if required or any issue with ATP. The factory test report will not be treated as ATP.

8.4.4 The accepted ATP / approved ATP with or without changes shall be sent back to the successful bidder for their reference, which will be used for inspection and commissioning of ES equipments by DD Engineer(s) at site.

119

## 8.5 Delivery Period

Within 4 months from the date of issue of purchase order provided by DD in respect of all equipment.

## 8.6 Pre-bid Conference

8.6.1 A pre bid conference on technical Specifications and other issues shall be held on date and time specified in the NIT. All prospective bidders may attend the pre bid conference to discuss their queries and suggestions.

8.6.2 All the queries and suggestions should be sent to Doordarshan at least 2 days before the date of pre bid conference. No queries/ suggestions shall be entertained after pre bid conference.

8.6.3 Amendments subsequent to the pre bid conference shall be sent to prospective bidders, who have purchased tender document, by e-mail/ fax/ post.

8.6.4 It shall be bidder's responsibility to check for any amendments/ addendum on the website before submitting their duly completed bids.

## 8.7 Check List and Enclosures

The bidders may ensure the following check list while submitting the bid including some important list of enclosures for ease of technical evaluation (Annexure V).

8.7.1 Whether documents related to fulfilment of the eligibility criteria as per Clause 3 have been submitted.

8.7.2 Whether point-by-point compliance statement of the bidder in respect of all the points, sub-points and Paras laid down in this specification from page 1 onwards along with the offer as given in Clause 8.1.1 has been included.

8.7.3 Whether point-by-point compliance statement of OEM in respect of all the points, sub-points and Paras laid down in the specification of respective equipment and their authorization mentioned in Clause 8.1.2 & 8.1.3 have been included. Authorization and Compliance Statement

from OEMs will only be acceptable and not from the authorized dealer of the OEMs.

- 8.7.4 Whether the Compliance has been submitted in the prescribed format as given in Clause 8.1.3.
- 8.7.5 Ensure that all equipment and accessories as given in the Suggestive bill of material have been included in the offered BOM.
- 8.7.6 Whether the page numbers of the relevant enclosed technical data sheet/manual against each parameter of the specifications have been given in the compliance statements.
- 8.7.7 Whether the requisite undertakings for after sales support by OEMs and bidder have been submitted.
- 8.7.8 Ensure that no alternate item has been offered.
- 8.7.9 Ensure that the relevant technical brochures containing all the parameters of technical specifications of all the offered equipment and accessories have been included with proper indexing for ease of identification.
- 8.7.10 Ensure that the Un-priced BOM has been included.
- 8.7.11 Any other item mentioned elsewhere in the tender.

DRAFT

117

**Suggestive Bill of Material (BOM)**

**Supply of TLT system for Earth Station-11 Locations**

(Jalandhar, Shimla, Ahmedabad, Bhopal, Bhubaneswar, Chennai, Jaipur, Jammu, Kolkata, Lucknow, and Thirunanathapuram)

(Bidders must submit BOM as per Proforma given in Clause 7)

Sr. No.	Description of Item as per Specification (Suggestive BOM)	Description of Item as offered by Bidder	Qty. per site	Total Qty. as per suggestive BOM	Remarks	Make	Model
A.	TLT (C-Band uplink frequency to L-Band Down Converter) along with rack mounting kit.		SET	11 Sets			
B.	<b><u>Training</u></b>						
a)	In India: One day on site training (including Theoretical (along with basic study material) & Practical training, hands on experience) of TLT (C-Band uplink frequency to L-Band Down Converter) and other supplied material for Doordarshan personnel at each site. (Note: Training will not be treated as part of the delivery period)		1 Lot	11 Lots			
C.	<b><u>Documentation</u></b>						
	<b>Equipment manuals consisting of:</b>		1 Lot	11 Lots			
a)	Operation/User Manual and installation manual Hard copy and Soft copy on CDs with Search facility for all the supplied equipment. (2 Sets for each Kendra, 1 Set for DG:DD and 1 Set each for ADG(NZ)/ ADG(SZ)/ ADG(EZ)/ ADG(WZ)).						
b)	All software backups are to be supplied on CDs.						

**OEM LETTER HEAD**

**CERTIFICATE FOR AUTHORIZATION**

**Date:**

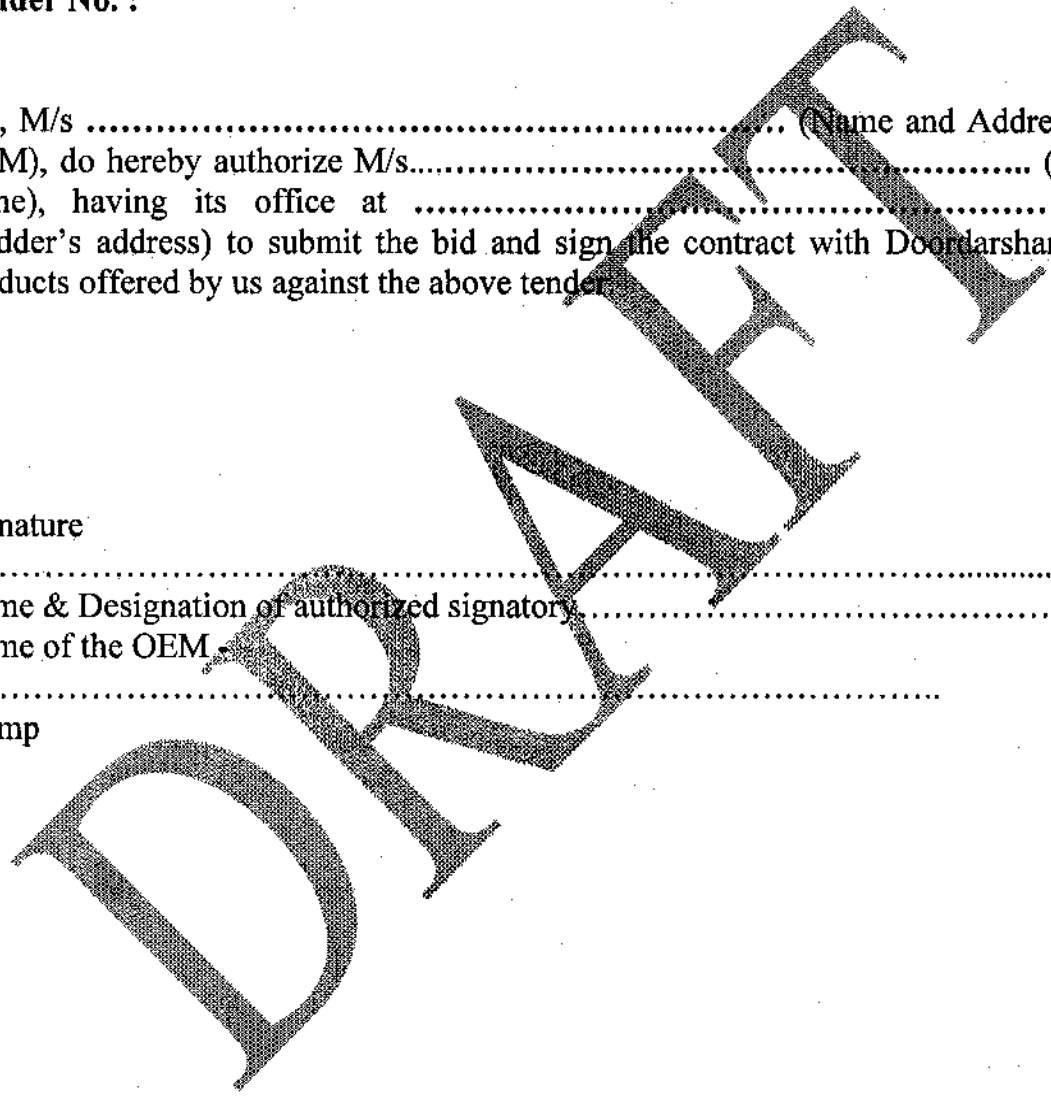
**Tender No. :**

We, M/s ..... (Name and Address of the OEM), do hereby authorize M/s..... (Bidder's name), having its office at ..... (Bidder's address) to submit the bid and sign the contract with Doordarshan for the products offered by us against the above tender

**Signature**

.....  
Name & Designation of authorized signatory.....  
Name of the OEM.....

**Stamp**





**OEM LETTER HEAD**

**CERTIFICATE FOR GUARANTEE**

**Date:**

**Tender No. :**

We, M/s ..... (Name and address of the OEM), do hereby confirm that:

1. All the offered equipment shall be guaranteed against any defect for a period of 3 (THREE) years from the date of Commissioning.
2. Any part failing during the guarantee period shall be repaired/replaced free of charge by the successful bidder at site. For repairing of any defective equipment during guarantee period, the defective module or equipment requiring repairs will be handed over to local office/local authorized representative/ dealer who will arrange repairs locally at site or send/export the defective modules to OEM factory and re-import/send back after repairs.
3. It is the responsibility of M/s -----, ( their local office/ Authorized representative/ dealer of the bidder) to arrange the repair/ replacement of faulty items for Doordarshan i.e. no transportation charges would be paid by DD for transporting the defective/ repaired items, if required to be removed from site, during the guarantee period.
4. Guarantee period may be extended corresponding to the outage period if the failure rectification takes more than 15 days' time.
5. All software being offered, are to be licensed to Doordarshan on perpetual basis without specifying any time limit or without specifying end of life of the software. Software upgrades within warranty period will have to be supplied free of cost.

Signature

.....  
....

Name & Designation of authorized signatory.....

Name of the OEM -

.....

Stamp

**OEM LETTER HEAD**

**CERTIFICATE FOR AFTER SALES SERVICE SUPPORT**

**Date:**

**Tender No. :**

We, M/s ..... (Name and address of the OEM), do hereby confirm that after sales service support for additional Two (2) years for the repairs/maintenance of offered products after the completion of three (3) Years guarantee/ warranty period shall be provided through our representatives/authorized dealer/service provider for the offered equipment and accessories in India as mentioned below:

S. No.	Name of the authorized person	After sales & support office address	Telephone/ Fax	Email of concerned personnel
1				

**Signature**

.....  
Name & Designation of authorized signatory.....

Name of the OEM -

.....  
**Stamp**

**BIDDER LETTER HEAD**

**DECLARATION BY THE BIDDER**

- 1. Bill of Material (BOM)- : [Yes/No]
- 2. Bidder's compliance (As per specs clause no. 8.1.1) : [Yes/No]
- 3. The copy of Dealer Possession License in case of possession of RF equipment (as per clause no. 3.6) : [Yes/No]
- 4. Copy of the Memorandum of Understanding (MOU) (if any) of partnership (as per clause no. 3.7) : [Yes/No]
- 5. OEM Compliance for following equipment from their respective OEMs (as per clause no. 8.1.2):

S. No.	Name of equipment	Name of OEM	OEM compliance submitted (Yes/ No)
i.	TLT (C-Band uplink frequency to L-Band Down Converter)		

- 6. Certificate for Authorization for following equipment from their respective OEMs:

S.No.	Name of equipment	Name of OEM	Authorization certificate submitted (Yes/ No)
i.	TLT (C-Band uplink frequency to L-Band Down Converter)		
ii.			
iii.			
.			
.			

7. Certificate for Guarantee for following equipment from their respective OEMs:

S.No.	Name of equipment	Name of OEM	Guarantee certificate submitted (Yes/ No)
i.	TLT (C-Band uplink frequency to L-Band Down Converter)		
ii.			
iii.			
.			
.			
.			

8. Certificate for After sales service support for following equipment from their respective OEMs:

S.No.	Name of equipment	Name of OEM	After sales service support certificate submitted ( Yes/ No)
i.	TLT (C-Band uplink frequency to L-Band Down Converter)		
ii.			
iii.			
.			
.			
.			

9. Datasheet for the offered equipment as per offered BOM: [Yes/No]

- i. TLT (C-Band uplink frequency to L-Band Down Converter)
- ii.
- iii.

Signature

.....  
 Name & Designation of authorized signatory.....  
 Name of the Bidder -

.....  
 Stamp