GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2008/C&IS/UTS/"E"category/ECR/10 **New Delhi, Dated : 23.12.2008**

The General Managers,
All Indian Railways.

Sub : Extension of Unreserved Ticketing Systems at 'E' category stations.

Ref: (i) CRIS's letter No. CRIS/PRS/UTS/253/ECR/Pt.1 dated 25.11.2008 (copy enclosed).
(ii) Board's letter No. 2008/C&IS/UTS/'E' Category/SCR/1 dated 23.10.2008.

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Enclosed please find herewith Rate Contract for modems finalized by CRIS and take necessary action for timely commissioning of UTS locations. Targets for commissioning up to 31.03.2009 have already been communicated vide Board's letter No. 2007/C&IS/Talking Points/GM's Conf/11 dated 13.05.2008.

(Chhatrasal Singh)
Director(C&IS)

DA: As above.

Copy to :- Managing director, CRIS, Chanakyapuri, New Delhi.

रेलवे सूचना प्रणाली केन्द्र
(रेल मंत्रालय भारत सरकार का संगठन)

CENTRE FOR RAILWAY INFORMATION SYSTEMS
(An Organisation of the Ministry of Railways, Govt. of India)

No.CRIS/PRS/UTS/253/ECR/Pt.1 Dated: 25.11.08.

Shri A.K.Rajak,
Dy.CCM/PS,
East Central Railway,
Hajipur.

Sub: Extension of Unreserved ticketing system at 'E' category stations in ECR.

Ref: Your letter No. ECR/CRM/UTS/Phase V/001/07/Pt.II Dated 07.11.2008.

The contents of the letter referred to above in respect of specifications of datacom equipment are in contradiction to the joint circular issued by ED/C&IS and ED/Telecom, Railway Board dated 03.09.07. CRIS had earlier issued tenders for procurement of the datacom equipment using CRIS specifications, in consonance with related directives of the Board. The Tender for procurement of Routers, Switches and LAN Extenders is in advanced stage of finalization and it is not possible to effect any changes in the equipment specifications at this stage. As regards Modems, the Rate Contract for 02 Mbps Modems & 64 Kbps Modems has already been finalized. A copy of the same is enclosed for ready reference. Please advise whether or not CRIS should place the purchase order for Modems for ECR against this R.C.

(R.Badri Narayan)
G.M./UTS.

रेलवे सूचना प्रणाली केन्द्र
(रेल मंत्रालय, भारत सरकार का संगठन)

CENTRE FOR RAILWAY INFORMATION SYSTEMS
(An Organisation of the Ministry of Railways, Govt. of India)

Annual Rate Contact P.O. No.2008/CRIS/RC/1112592 Dated: 19-11-2008

Modification of Purchase Order

M/s. HCL Infosystems Ltd.
E-4, Sector-II,
Noida-201301

Sub: Supply and 03 years comprehensive warrantymentenance of Modems at the Zonal HQ offices
Ref: Annual Rate Contract of even No. dtd. 14-11-2008

With reference to the above, Please read the model and make for 64Kbps Modem as Model "Wirespan 4000"of M/s. AtrieTecnology make. All other terms and conditions are remain unaltered.

(V.K.Jain)
Chief Purchase Manager

चाणक्यपुरी, नयी दिल्ली-110021

रेलवे सूचना प्रणाली केन्द्र
(रेल मंत्रालय भारत सरकार का संगठन)

CRIS
CENTRE FOR RAILWAY INFORMATION SYSTEMS
(An Organisation of the Ministry of Railways, Govt. of India)

Annual Rate Contract P.O.No. 2008/CRIS/RC/112597
Date;- 14-11-2008

M/s

HCL INFOSYSTEMS LTD
E-4, Sector-11,
NOIDA-201301

SUB: - Tender No 2008/CRIS/350 opened on 18-06-2008 for Supply and 03 years comprehensive warranty maintenance of Modems at the Zonal HQ offices.

Ref: -(1) Your offer for the subject tender.
(2) Your Acceptance letter no- NIL Dated 30-10-2008

Your offer for Annual Rate Contract has been accepted with the following terms and conditions.

6.1	Scope of Work	Supply with 3 Years comprehensive Warranty Maintenance of 64/128 Kbps Modem Pair (V.35 & G703)
6.2	Unit Rate	Rs.8530/-
6.3	Unit	Per Pair
6.4	Validity of RC	Above prices are valid for placement of supply order for One Year from the date of issue of Rate contract.
6.5	Duties & taxes	Vat 4% extra
6.6	Delivery	Within 4 to 6 weeks from the date of supply order.
6.7	FOR	All the modem equipment shall be delivered to the respective Consignees at each of the Zonal Railway HQ offices. However, the consignee will arrange transport of the equipment from the consignee location i.e. (headquarters of zonal railways) to field sites (railway stations) for installation by Railways.
6.8	Octroi	Octroi exemption certificate/Road Permit will be issued by the consignee. In case consignee fails to issue the Octroi exemption certificate/Road Permit within 21 days from the date of receipt of request from supplier, the Octroi will be paid extra against documentary evidence.
6.9	Placement of Supply Order	Against this Rate Contact, supply order will be placed by Purchase Office/CRIS/New Delhi only or as authorized by MD/CRIS.
6.10	Payment Terms	80% of the value of complete equipment supplied shall be paid by the purchaser on receipt of material by consignees and upon furnishing the following documents: i) Certificate of receipt of complete equipment in good condition by the consignees.

चाणक्यपुरी, नयी दिल्ली-110021

		ii) Submission of PWG Bond for the 20% value of contract for a period up to 3 months beyond the last date of warranty period. Balance 20% shall be paid after acceptance of the equipment to the satisfaction of the consignee and upon furnishing the following documents: i) Acceptance Test certificates as per proforma given in Annexure –C issued by the consignees. ii) Certificate issued by the consignees for successful completion of the training program related to operations & maintenance of the modem product.. iii) Confirmation of the validity of PWG Bond of 20% of the value of the contract for a period up to 3 months beyond the last date of warranty period.
6.11	Post Warranty AMC Charges	11.83% of basic cost per modem per year for 4th & 5th year. These rates are exclusive of service tax @12.36%, which will be extra. However, CRIS reserves the right to enter into AMC after satisfactory completion of Warranty period. If firm refuses to enter in to AMC on completion of warranty period at quoted rates firm's PWG BG is liable to be forfeited.
6.12	Warranty Period	36 months from the date of installation or 42 months from the date of supply of Modems. i) The bidder should have a support office at each of the Zonal Railway Hqr. locations specified vide Annexure B ii) The modems shall have back-to-bench warranty support i.e. the repair /replacement of faulty units during the warranty period has to be ensured at the respective Zonal Railway Hq. Offices after the complaint is lodged at the nearest customer support office. iii) Faulty modem equipment shall be attended at the Zonal Railway Hq offices within 48 hours of (excluding Sunday and National Holiday) lodging the complaint at the nearest customer support office. iv) Failure to repair / replace the faulty Modem equipment at the Zonal Railway Hqrs. within stipulated time frame of 48 hours shall call for penalty @ Rs.200 per day subject to a maximum of 10% of the cost of the unit. v) The firm shall provide a complaint Escalation mechanism for escalation of complaints during the warranty period. vi) The firm should attend each Zonal HQ office at least quarterly for preventive maintenance call.
6.13	Inspection & Acceptance procedure	(i) The physical inspection, testing & Acceptance of the modems shall be done at these Zonal offices by the respective consignees or their authorized representatives. (ii) Acceptance testing shall be done by consignee after receipt of the equipment, in the presence of representatives of the supplier as per the Acceptance test Procedure given in the Annexure A

		(Technical Specifications) and an Acceptance Test certificate as per proforma given in Annexure C will be prepared in 4 copies by the consignee and one copy each shall be handed over to the supplier, Manager Purchase/CRIS and Project Manager, CRIS. (iii) The supplier shall ensure smooth & seamless integration of their supplied equipment with the existing UTS network of the Zonal Railways.
6.14	Documentation	Firm will supply one set of original manuals, support documents and full set of accessories with each modem. Any software for installation of the equipment shall be supplied on a CD/VCD.
6.15	Training	The vendor shall provide 2 days training for 10 persons related to operations and maintenance of the equipment supplied at each Zonal Rly. Hq offices as specified in Annexure – B.
6.16	Consignee	As per supply order but installation sites are subject to changes prior to installation. However, such changes will be restricted to within a particular State. Any modification in the list of sites will be advised only by CRIS.
6.17	Other terms & Condition	As per General Conditions of Contract of CRIS

(Munish Arora)
Chief Manager Purchase

Copy to; Consignee
Accounts Branch
Record File

Annexure-'A'

Technical Specifications for 64 Kbps Modems (V.35 & G.703)

The modems should conform either to TEC Specifications no. IR/DCA – 18/03, Feb 2002 or to TEC Specifications no. IR/DCA – 18/04, Oct 2005 (TEC Specifications no. IR/DCA – 18/03, Feb 2002 - Re-affirmed in Oct 2005 also valid) with the following qualifications/addendum. In both cases the specifications pertaining to IEEE 802.3 Ethernet 10/100 Base Tx Interface viz. Clauses no. 2.1(iv), 2.3 ,7(v) and 1.1.1(vi), 1.5(v) respectively, mentioned in the Interface requirements of the above TEC specifications no. are not applicable.

1) *Clause no. 2 : Digital Interface :*

a) *Item 2.1 (iii) is not applicable*

b) *Item 2.2 : Speed Support*

The speed/s supported at Digital Interface/s shall be with any combination of 64 Kbps between 64 Kbps to 128 Kbps.

2) *Clause no. 7: Items to be Specified in the Interface Approval Certification*

a) *Item 7(i) : Digital Interface/s supported in the equipment*

V.35 via 34-pin Female Connector with one modem
G.703 Co-directional interface with other modem in modem pair

b) *Item 7(ii) : Whether single pair, 2 pair or multi pair working*

2W unloaded twisted pair working

c) *Item 7(iii) : Highest bit rates of the digital interfaces supported*

The highest bit rate of digital interface supported shall be upto 128 Kbps

d) *Item 7(iv) : Maximum distance coverage*

On 0.5 mm diameter underground cable (unloaded), the modem should work upto a minimum of 5.5 kms of distance for 64Kbps data rate.

3) *Clause no. 8 : References :*

ITU – T recommendations K.21, G-703 and V.35 are applicable in this case.

4) The modem shall support following management / diagnostic features :

a) Front Panel indications for PWR(Power), TD(Transmit Data), RD (Receive Data), TEST (To indicate test mode), DCD (Data Carrier detect), Alarm / Error .

b) i) Local Analog Loop Test (for self test of modem)

ii) Local Digital Loop Test (to provide Loop test to the remote modem on local loop)

iii) Remote Digital Loop Test (to take Loop test from the remote modem on local loop) without requiring the manual assistance of any personnel at remote end

d) Built in Bit Error Test using test pattern conforming to ITU-T V.52 (511 test pattern) or ITU-T O.152 (to enable testing of the modems and the local loop)

5) In a modem pair, the modem with V.35 interface shall be operable on normal AC supply whereas the G.703 modem unit shall be operable with both AC and DC power supply , with AC or DC supply being used at any given point of time.

6) *Certification :*

Valid and duly attested copy of TEC approval certificate issued to the offered modem product for both V.35 & G.703 interface units.

Acceptance Test Procedure for Modems :

1. Physical Inspection and Testing for compliance to Item nos. 2, 4 & 5 of the technical specifications except Item 2(c) & 2(d) :-

2. TEC approval certificate to verify compliance to Item nos. 1, 2(c), 2(d), 3 & 6 of the technical specifications :-

Technical Specifications for G.SHDSL 2 Mbps (nx64 Kbps) 2 wire Leased Line Modems (V.35 & G.703)

The modems should conform either to TEC Specifications no. IR/DCA – 18/03, Feb 2002 or to TEC Specifications no. IR/DCA – 18/04, Oct 2005 (TEC Specifications no. IR/DCA – 18/03, Feb 2002 - Re-affirmed in Oct 2005 also valid) with the following qualifications/addendum. In both cases the specifications pertaining to IEEE 802.3 Ethernet 10/100 Base Tx Interface vide Clauses no. 2.1(iv), 2.3 ,7(v) and 1.1.1(vi), 1.5(v) respectively, mentioned in the Interface requirements of the above TEC specifications no. are not applicable.

1) *Clause no. 2 : Digital Interface :*

a) *Item 2.1 (iii) is not applicable*

b) *Item 2.2 : Speed Support*

The speed/s supported at Digital Interface/s shall be with any combination of 64 Kbps between 64 Kbps to 2048 Kbps.

2) *Clause no.7 : Items to be Specified in the Interface Approval Certification :*

a) *Item 7(i) : Digital Interface/s supported in the equipment*

V.35 via 34-pin Female Connector with one modem
G.703 interface with other modem in modem pair

b) *Item 7(ii) : Whether single pair, 2 pair or multi pair working*

2W unloaded twisted pair working

c) *Item 7(iii) : Highest bit rates of the digital interfaces supported*

The highest bit rate of digital interface supported shall be up to 2048 Kbps (nx64 Kbps, n = 1to 32)

d) *Item 7(iv) : Maximum distance coverage*

On 0.5 mm diameter underground cable (unloaded), the modem should work upto a minimum of 5.0 kms of distance for 2048 Kbps data rate.

3) *Clause no. 8 : References :*

ITU – T recommendations K.21, G-703 and V.35 are applicable in this case.

The modem shall support following management / diagnostic features :

a) Front Panel indications for PWR(Power), DATA(Transmit/Receive Data), TEST (To indicate test mode), SYNC (Status of DSL line / E1), AIS, ALARM / Error.

b) System status, configuration , diagnostics using LCD display & push buttons or using a Ethernet management interface through Web Telnet & SNMP .

c) ITU–T V.54 compliant loopback diagnostics :

i) Local Analog Loop Test (for self test of modem)

ii) Local Digital Loop Test (to provide Loop test to the remote modem on local loop)

iii) Remote Digital Loop Test (to take Loop test from the remote modem on local loop) without requiring the manual assistance of any personnel at remote end.

d) Built in BERT for test pattern generation & detection.

e) Embedded Operation Channel (EOC) for controlling and monitoring the remote unit, without interfering with the data transmission in compliance with ITU-T G.991.2 requirements.

f) E1 and SHDSL Line performance monitoring and statistics.

5) In a modem pair, the modem with V.35 interface shall be operable on normal AC supply whereas the G.703 modem unit shall be operable with both AC and DC power supply, with AC or DC supply being used at any given point of time.

6) *Certification :*

Valid and duly attested copy of TEC approval certificate issued to the offered modem product for both V.35 & G.703 interface units.

Acceptance Test Procedure for Modems :

1. Physical Inspection and Testing for compliance to Item nos. 2, 4 & 5 of the technical specifications except Item 2(c) & 2(d).
2. TEC approval certificate to verify compliance to Item nos. 1, 2(c), 2(d), 3 & 6 of the technical specifications.

Annexure – B

List of Consignees and Zonal Railway Hqrs.

S.No.	Zone	Head Quarter	Consignee	Quantity (in Pairs)	
				64 Kbps	02 Mbps
1	ECoR	Bhubaneswar	CCM/PS		
2	SECR	Bilaspur	CCM/PS		
3	NCR	Allahabad	CCM/G		
4	CR	CSTM Mumbai	CCM/PM		
5	SCR	Secunderabad	CCM / PM		
6	SER	New Koilaghat	CCM/PS		
7	NFR	Maligaon	CCM/PS		
8	WR	Churchgate Mumbai	CCM/PM		
9	ER	New Koilaghat	CCM/PM		
10	SR	Chennai	CCM/PM		
11	NWR	Jaipur	CCM/PS		
12	NR	New Delhi	CCM/PM		
13	NER	Gorakhpur	CCM/PM		
14	WCR	Jabalpur	CCM/PS		
15	ECR	Patna	Store Incharge UTS Center Karbigahiya Site Patna Junction		
16	SWR	Hubli	CCM/PS		
			Total-->	**4972**	**7294**

रेलवे सूचना प्रणाली केन्द्र

(रेल मंत्रालय भारत सरकार का संगठन)

CENTRE FOR RAILWAY INFORMATION SYSTEMS

(An Organisation of the Ministry of Railways, Govt. of India)

Annual Rate Contact P.O. No.2008/CRIS/RC/1112593 Dated: 19-11-2008

Modification of Purchase Order

M/s. CMC LTD.
Jeevan Vihar
3rd Floor,
3 Sansad Marg
New Delhi-110001

With reference to the above, Please read the model and make for Modems as under : All other terms and conditions are remain unaltered.

64 Kbps – Model Realgain 2'
2 Mbps – Model Realgain 4'
of M/s. Realtime System Ltd.

(V.K.Jain)
Chief Purchase Manager

रेलवे सूचना प्रणाली केन्द्र

(रेल मंत्रालय भारत सरकार का संगठन)

Annual Rate Contract P.O No- 2008/CRIS/RC/112558

CENTRE FOR RAILWAY INFORMATION SYSTEMS

(An Organisation of the Ministry of Railways, Govt. of India)

M/s
CMC Limited
Jeevan Vihar 2nd floor,
3 Sansad Marg
New Delhi. 110001.

Dated;- 14-11-2008

fax: - 91-11-23746025

SUB: - Tender No 2008/CRIS/350 opened on 18-06-2008 for Supply and 03 years comprehensive warranty maintenance of Modems at the Zonal HQ offices.

Ref: -(1) Your offer for the subject tender.
(2) Your Acceptance letter no- NIL Dated 04-11-2008

Your offer for Annual Rate Contract has been accepted with the following terms and conditions.

6.1	Scope of Work	Supply with 3 Years comprehensive Warranty Maintenance of (i) 64/128 Kbps Modem Pair (V.35 & G703) & (ii) 2 Mbps G.SHDSL (nx64) Modem Pair (V.35 & G703) as per specification given in Annexure - A
6.2	Unit Rate	(i) Rs.8530/- (ii) Rs.11925/-
6.3	Unit	Per Pair
6.4	Validity of RC	Above prices are valid for placement of supply order for One Year from the date of issue of Rate contract.
6.5	Duties & taxes	For item (i) Vat 4% extra & item (ii) inclusive of 4% VAT
6.6	Delivery	Within 4 to 6 weeks from the date of supply order.
6.7	FOR	All the modem equipment shall be delivered to the respective Consignees at each of the Zonal Railway HQ offices. However, the consignee will arrange transport of the equipment from the consignee location i.e. (headquarters of zonal railways) to field sites (railway stations) for installation by Railways.
6.8	Octroi	Octroi exemption certificate/Road Permit will be issued by the consignee. In case consignee fails to issue the Octroi exemption certificate/Road Permit within 21 days from the date of receipt of request from supplier, the Octroi will be paid extra against documentary evidence.
6.9	Placement of Supply Order	Against this Rate Contact, supply order will be placed by Purchase Office/CRIS/New Delhi only or as authorized by MD/CRIS.
6.10	Payment Terms	80% of the value of complete equipment supplied shall be paid by the purchaser on receipt of material by consignees and upon furnishing the following documents: i) Certificate of receipt of complete equipment in good condition by the consignees. ii) Submission of PWG Bond for the 20% value of contract for a period up to 3 months beyond the last date of warranty period.

		Balance 20% shall be paid after acceptance of the equipment to the satisfaction of the consignees and upon furnishing the following documents: i) Acceptance Test certificates as per proforma given in Annexure –C issued by the consignees. ii) Certificate issued by the consignees for successful completion of the training program related to operations & maintenance of the modem product. iii) Confirmation of the validity of PWG Bond of 20% of the value of the contract for a period up to 3 months beyond the last date of warranty period.
6.11	Post Warranty AMC Charges	11.83% of basic cost per modem per year for 4th & 5th year. These rates are exclusive of service tax @12.36%, which will be extra. However, CRIS reserves the right to enter into AMC after satisfactory completion of Warranty period. If firm refuses to enter in to AMC on completion of warranty period at quoted rates firm's PWG BG is liable to be forfeited.
6.12	Warranty Period	36 months from the date of installation or 42 months from the date of supply of Modems. i) The bidder should have a support office at each of the Zonal Railway Hqr. locations specified vide Annexure B ii) The modems shall have back-to-bench warranty support i.e. the repair /replacement of faulty units during the warranty period has to be ensured at the respective Zonal Railway Hq. Offices after the complaint is lodged at the nearest customer support office. iii) Faulty modem equipment shall be attended at the Zonal Railway Hq offices within 48 hours of (excluding Sunday and National Holiday) lodging the complaint at the nearest customer support office. iv) Failure to repair / replace the faulty Modem equipment at the Zonal Railway Hqrs. within stipulated time frame of 48 hours shall call for penalty @ Rs.200 per day subject to a maximum of 10% of the cost of the unit. v) The firm shall provide a complaint Escalation mechanism for escalation of complaints during the warranty period. vi) The firm should attend each Zonal HQ office at least quarterly for preventive maintenance call.
6.13	Inspection & Acceptance procedure	(i) The physical inspection, testing & Acceptance of the modems shall be done at these Zonal offices by the respective consignees or their authorized representatives. (ii) Acceptance testing shall be done by consignee after receipt of the equipment, in the presence of representatives of the supplier as per the Acceptance test Procedure given in the Annexure A (Technical Specifications) and an Acceptance Test certificate as per proforma given in Annexure C will be prepared in 4 copies by

		the consignee and one copy each shall be handed over to the supplier, Manager Purchase/CRIS and Project Manager, CRIS. (iii) The supplier shall ensure smooth & seamless integration of their supplied equipment with the existing UTS network of the Zonal Railways.
6.14	Documentation	Firm will supply one set of original manuals, support documents and full set of accessories with each modem. Any software for installation of the equipment shall be supplied on a CD/VCD.
6.15	Training	The vendor shall provide 2 days training for 10 persons related to operations and maintenance of the equipment supplied at each Zonal Rly. Hq offices as specified in Annexure – B.
6.16	Consignee	As per supply order but installation sites are subject to changes prior to installation. However, such changes will be restricted to within a particular State. Any modification in the list of sites will be advised only by CRIS.
6.17	Other terms & Condition	As per General Conditions of Contract of CRIS

(Munish Arora)
Chief Manager Purchase

Copy to;- Accounts Branch
Record Copy
Consignee

Annexure-'A'

Technical Specifications for 64 Kbps Modems (V.35 & G.703)

The modems should conform either to TEC Specifications no. IR/DCA – 18/03, Feb 2002 or to TEC Specifications no. IR/DCA – 18/04, Oct 2005 (TEC Specifications no. IR/DCA – 18/03, Feb 2002 - Re-affirmed in Oct 2005 also valid) with the following qualifications/addendum. In both cases the specifications pertaining to IEEE 802.3 Ethernet 10/100 Base Tx Interface viz. Clauses no. 2.1(iv), 2.3 ,7(v) and 1.1.1(vi), 1.5(v) respectively, mentioned in the Interface requirements of the above TEC specifications no. are not applicable.

1) *Clause no. 2 : Digital Interface :*

a) *Item 2.1 (iii) is not applicable*

b) *Item 2.2 : Speed Support*

The speed/s supported at Digital Interface/s shall be with any combination of 64 Kbps between 64 Kbps to 128 Kbps.

2) *Clause no. 7: Items to be Specified in the Interface Approval Certification*

a) *Item 7(i) : Digital Interface/s supported in the equipment*

V.35 via 34-pin Female Connector with one modem
G.703 Co-directional interface with other modem in modem pair

b) *Item 7(ii) : Whether single pair, 2 pair or multi pair working*

2W unloaded twisted pair working

c) *Item 7(iii) : Highest bit rates of the digital interfaces supported*

The highest bit rate of digital interface supported shall be upto 128 Kbps

d) *Item 7(iv) : Maximum distance coverage*

On 0.5 mm diameter underground cable (unloaded), the modem should work upto a minimum of 5.5 kms of distance for 64Kbps data rate.

3) *Clause no. 8 : References :*

ITU – T recommendations K.21, G-703 and V.35 are applicable in this case.

4) The modem shall support following management / diagnostic features :

a) Front Panel indications for PWR(Power), TD(Transmit Data), RD (Receive Data), TEST (To indicate test mode), DCD (Data Carrier detect), Alarm / Error .

b) i) Local Analog Loop Test (for self test of modem)

ii) Local Digital Loop Test (to provide Loop test to the remote modem on local loop)

iii) Remote Digital Loop Test (to take Loop test from the remote modem on local loop) without requiring the manual assistance of any personnel at remote end

d) Built in Bit Error Test using test pattern conforming to ITU-T V.52 (511 test pattern) or ITU-T O.152 (to enable testing of the modems and the local loop)

5) In a modem pair, the modem with V.35 interface shall be operable on normal AC supply whereas the G.703 modem unit shall be operable with both AC and DC power supply , with AC or DC supply being used at any given point of time.

6) *Certification :*

Valid and duly attested copy of TEC approval certificate issued to the offered modem product for both V.35 & G.703 interface units.

<u>Acceptance Test Procedure for Modems</u> :

1. Physical Inspection and Testing for compliance to Item nos. 2, 4 & 5 of the technical specifications except Item 2(c) & 2(d) :-

2. TEC approval certificate to verify compliance to Item nos. 1, 2(c), 2(d), 3 & 6 of the technical specifications :-

Technical Specifications for G.SHDSL 2 Mbps (nx64 Kbps) 2 wire Leased Line Modems (V.35 & G.703)

The modems should conform either to TEC Specifications no. IR/DCA – 18/03, Feb 2002 or to TEC Specifications no. IR/DCA – 18/04, Oct 2005 (TEC Specifications no. IR/DCA – 18/03, Feb 2002 - Re-affirmed in Oct 2005 also valid) with the following qualifications/addendum. In both cases the specifications pertaining to IEEE 802.3 Ethernet 10/100 Base Tx Interface vide Clauses no. 2.1(iv), 2.3 ,7(v) and 1.1.1(vi), 1.5(v) respectively, mentioned in the Interface requirements of the above TEC specifications no. are not applicable.

1) *Clause no. 2 : Digital Interface :*

a) *Item 2.1 (iii) is not applicable*

b) *Item 2.2 : Speed Support*

The speed/s supported at Digital Interface/s shall be with any combination of 64 Kbps between 64 Kbps to 2048 Kbps.

2) *Clause no.7 : Items to be Specified in the Interface Approval Certification*

a) *Item 7(i) : Digital Interface/s supported in the equipment*

V.35 via 34-pin Female Connector with one modem
G.703 interface with other modem in modem pair

b) *Item 7(ii) : Whether single pair, 2 pair or multi pair working*

2W unloaded twisted pair working

c) *Item 7(iii) : Highest bit rates of the digital interfaces supported*

The highest bit rate of digital interface supported shall be up to 2048 Kbps (nx64 Kbps, n = 1to 32)

d) *Item 7(iv) : Maximum distance coverage*

On 0.5 mm diameter underground cable (unloaded), the modem should work upto a minimum of 5.0 kms of distance for 2048 Kbps data rate.

3) *Clause no. 8 : References :*

ITU – T recommendations K.21, G-703 and V.35 are applicable in this case.

The modem shall support following management / diagnostic features :

a) Front Panel indications for PWR(Power), DATA(Transmit/Receive Data), TEST (To indicate test mode), SYNC (Status of DSL line / E1), AIS, ALARM / Error.

b) System status, configuration , diagnostics using LCD display & push buttons or using a Ethernet management interface through Web Telnet & SNMP .

c) ITU–T V.54 compliant loopback diagnostics :

   i) Local Analog Loop Test (for self test of modem)

   ii) Local Digital Loop Test (to provide Loop test to the remote modem on local loop)

   iii) Remote Digital Loop Test (to take Loop test from the remote modem on local loop) without requiring the manual assistance of any personnel at remote end.

d) Built in BERT for test pattern generation & detection.

e) Embedded Operation Channel (EOC) for controlling and monitoring the remote unit, without interfering with the data transmission in compliance with ITU-T G.991.2 requirements.

f) E1 and SHDSL Line performance monitoring and statistics.

5) In a modem pair, the modem with V.35 interface shall be operable on normal AC supply whereas the G.703 modem unit shall be operable with both AC and DC power supply, with AC or DC supply being used at any given point of time.

6) Certification :

Valid and duly attested copy of TEC approval certificate issued to the offered modem product for both V.35 & G.703 interface units.

Acceptance Test Procedure for Modems :

1. Physical Inspection and Testing for compliance to Item nos. 2, 4 & 5 of the technical specifications except Item 2(c) & 2(d).
2. TEC approval certificate to verify compliance to Item nos. 1, 2(c), 2(d), 3 & 6 of the technical specifications.

रेलवे सूचना प्रणाली केन्द्र
(रेल मंत्रालय भारत सरकार का संगठन)

CRIS
CENTRE FOR RAILWAY INFORMATION SYSTEMS
(An Organisation of the Ministry of Railways, Govt. of India)

Annual Rate Contact P.O. No.2008/CRIS/RC/1112591 Dated: 19-11-2008

Modification of Purchase Order

M/s. Tulip Telecom Ltd.
C-160, Okhla Industria Area Phase-I
New Delhi-110020

Sub: Supply and 03 years comprehensive warrantymentenance of Modems at the Zonal HQ offices
Ref: Annual Rate Contract of even No. dtd. 14-11-2008

With reference to the above, Please read the model and make for 2 Mbps modem as Model"Nomus Gateway I/2M/2W/LX-2Mbps-2 wire with LCD front panel" of M/s. Nomus communication system make. All other terms and conditions are remain unaltered.

(V.K.Jain)
Chief Purchase Manager

चाणक्यपुरी, नयी दिल्ली-110021
CHANAKYAPURI, NEW DELHI-110021
टेलीफोन/TELEPHONE : 24104525, 24106717 फैक्स/FAX : 91-11-26877893

रेलवे सूचना प्रणाली केन्द्र
(रेल मंत्रालय, भारत सरकार का संगठन)
CRIS CENTRE FOR RAILWAY INFORMATION SYSTEMS
(An Organisation of the Ministry of Railways, Govt. of India)

Annual Rate Contract P.O No 2008/CRIS/RC/350
Date:- 14-11-2008

Fax:- 91-11-41683002

M/s

Tulip Telecom Ltd
C-160, Okhla Industrial Area Phase-I,
New Delhi-
110020

SUB: - Tender No 2008/CRIS/350 opened on 18-06-2008 for Supply and 03 years comprehensive warranty maintenance of Modems at the Zonal HQ offices.

Ref: -(1) Your offer for the subject tender.
(2) Your Acceptance letter no NIL dated 06-11-2008

Your offer for Annual Rate Contract has been accepted with the following terms and conditions.

6.1	Scope of Work	Supply with 3 Years comprehensive Warranty Maintenance of 2 Mbps G.SHDSL (nx64) Modem Pair (V.35 & G703) as per specification given in Annexure - A
6.2	Unit Rate	Rs.11925/-
6.3	Unit	Per Pair
6.4	Validity of RC	Above prices are valid for placement of supply order for One Year from the date of issue of Rate contract.
6.5	Duties & taxes	Inclusive of 4% VAT
6.6	Delivery	Within 4 to 6 weeks from the date of supply order.
6.7	FOR	All the modem equipment shall be delivered to the respective Consignees at each of the Zonal Railway HQ offices. However, the consignee will arrange transport of the equipment from the consignee location i.e. (headquarters of zonal railways) to field sites (railway stations) for installation by Railways.
6.8	Octroi	Octroi exemption certificate/Road Permit will be issued by the consignee. In case consignee fails to issue the Octroi exemption certificate/Road Permit within 21 days from the date of receipt of request from supplier, the Octroi will be paid extra against documentary evidence.
6.9	Placement of Supply Order	Against this Rate Contact, supply order will be placed by Purchase Office/CRIS/New Delhi only or as authorized by MD/CRIS.
6.10	Payment Terms	80% of the value of complete equipment supplied shall be paid by the purchaser on receipt of material by consignees and upon furnishing the following documents: i) Certificate of receipt of complete equipment in good condition by the consignees. ii) Submission of PWG Bond for the 20% value of contract for a

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		period up to 3 months beyond the last date of warranty period. Balance 20% shall be paid after acceptance of the equipment to the satisfaction of the consignee and upon furnishing the following documents: i) Acceptance Test certificates as per proforma given in Annexure –C issued by the consignees. ii) Certificate issued by the consignees for successful completion of the training program related to operations & maintenance of the modem product. iii) Confirmation of the validity of PWG Bond of 20% of the value of the contract for a period up to 3 months beyond the last date of warranty period.
6.11	Post Warranty AMC Charges	11.83% of basic cost per modem per year for 4th & 5th year. These rates are exclusive of service tax @12.36%, which will be extra. However, CRIS reserves the right to enter into AMC after satisfactory completion of Warranty period. If firm refuses to enter in to AMC on completion of warranty period at quoted rates firm's PWG BG is liable to be forfeited.
6.12	Warranty Period	36 months from the date of installation or 42 months from the date of supply of Modems. i) The bidder should have a support office at each of the Zonal Railway Hqr. locations specified vide Annexure B ii) The modems shall have back-to-bench warranty support i.e. the repair /replacement of faulty units during the warranty period has to be ensured at the respective Zonal Railway Hq. Offices after the complaint is lodged at the nearest customer support office. iii) Faulty modem equipment shall be attended at the Zonal Railway Hq offices within 48 hours of (excluding Sunday and National Holiday) lodging the complaint at the nearest customer support office. iv) Failure to repair / replace the faulty Modem equipment at the Zonal Railway Hqrs. within stipulated time frame of 48 hours shall call for penalty @ Rs.200 per day subject to a maximum of 10% of the cost of the unit. v) The firm shall provide a complaint Escalation mechanism for escalation of complaints during the warranty period. vi) The firm should attend each Zonal HQ office at least quarterly for preventive maintenance call.
6.13	Inspection & Acceptance procedure	(i) The physical inspection, testing & Acceptance of the modems shall be done at these Zonal offices by the respective consignees or their authorized representatives. (ii) Acceptance testing shall be done by consignee after receipt of the equipment, in the presence of representatives of the supplier as per the Acceptance test Procedure given in the Annexure A (Technical Specifications) and an Acceptance Test certificate as

		per proforma given in Annexure C will be prepared in 4 copies by the consignee and one copy each shall be handed over to the supplier, Manager Purchase/CRIS and Project Manager, CRIS. (iii) The supplier shall ensure smooth & seamless integration of their supplied equipment with the existing UTS network of the Zonal Railways.
6.14	Documentation	Firm will supply one set of original manuals, support documents and full set of accessories with each modem. Any software for installation of the equipment shall be supplied on a CD/VCD.
6.15	Training	The vendor shall provide 2 days training for 10 persons related to operations and maintenance of the equipment supplied at each Zonal Rly. Hq offices as specified in Annexure – B.
6.16	Consignee	As per supply order but installation sites are subject to changes prior to installation. However, such changes will be restricted to within a particular State. Any modification in the list of sites will be advised only by CRIS.
6.17	Other terms & Condition	As per General Conditions of Contract of CRIS

(Munish Arora)
Chief Manager Purchase

Copy to;- Consignee
Record File
Accounts Branch

Annexure-'A'

Technical Specifications for 64 Kbps Modems (V.35 & G.703)

The modems should conform either to TEC Specifications no. IR/DCA – 18/03, Feb 2002 or to TEC Specifications no. IR/DCA – 18/04, Oct 2005 (TEC Specifications no. IR/DCA – 18/03, Feb 2002 - Re-affirmed in Oct 2005 also valid) with the following qualifications/addendum. In both cases the specifications pertaining to IEEE 802.3 Ethernet 10/100 Base Tx Interface viz. Clauses no. 2.1(iv), 2.3 ,7(v) and 1.1.1(vi), 1.5(v) respectively, mentioned in the Interface requirements of the above TEC specifications no. are not applicable.

1) *Clause no. 2 : Digital Interface :*

a) *Item 2.1 (iii) is not applicable*

b) *Item 2.2 : Speed Support*

The speed/s supported at Digital Interface/s shall be with any combination of 64 Kbps between 64 Kbps to 128 Kbps.

2) *Clause no. 7: Items to be Specified in the Interface Approval Certification :*

a) *Item 7(i) : Digital Interface/s supported in the equipment*

V.35 via 34-pin Female Connector with one modem
G.703 Co-directional interface with other modem in modem pair

b) *Item 7(ii) : Whether single pair, 2 pair or multi pair working*

2W unloaded twisted pair working

c) *Item 7(iii) : Highest bit rates of the digital interfaces supported*

The highest bit rate of digital interface supported shall be upto 128 Kbps

d) *Item 7(iv) : Maximum distance coverage*

On 0.5 mm diameter underground cable (unloaded), the modem should work upto a minimum of 5.5 kms of distance for 64Kbps data rate.

3) *Clause no. 8 : References :*

ITU – T recommendations K.21, G.703 and V.35 are applicable in this case.

4) The modem shall support following management / diagnostic features :

a) Front Panel indications for PWR(Power), TD(Transmit Data), RD (Receive Data), TEST (To indicate test mode), DCD (Data Carrier detect), Alarm / Error .

b) i) Local Analog Loop Test (for self test of modem)

ii) Local Digital Loop Test (to provide Loop test to the remote modem on local loop)

iii) Remote Digital Loop Test (to take Loop test from the remote modem on local loop) without requiring the manual assistance of any personnel at remote end

d) Built in Bit Error Test using test pattern conforming to ITU-T V.52 (511 test pattern) or ITU-T O.152 (to enable testing of the modems and the local loop)

5) In a modem pair, the modem with V.35 interface shall be operable on normal AC supply whereas the G.703 modem unit shall be operable with both AC and DC power supply , with AC or DC supply being used at any given point of time.

6) *Certification :*

Valid and duly attested copy of TEC approval certificate issued to the offered modem product for both V.35 & G.703 interface units.

Acceptance Test Procedure for Modems :

1. Physical Inspection and Testing for compliance to Item nos. 2, 4 & 5 of the technical specifications except Item 2(c) & 2(d) :-

2. TEC approval certificate to verify compliance to Item nos. 1, 2(c), 2(d), 3 & 6 of the technical specifications :-

Technical Specifications for G.SHDSL 2 Mbps (nx64 Kbps) 2 wire Leased Line Modems (V.35 & G.703)

The modems should conform either to TEC Specifications no. IR/DCA – 18/03, Feb 2002 or to TEC Specifications no. IR/DCA – 18/04, Oct 2005 (TEC Specifications no. IR/DCA – 18/03, Feb 2002 - Re-affirmed in Oct 2005 also valid) with the following qualifications/addendum. In both cases the specifications pertaining to IEEE 802.3 Ethernet 10/100 Base Tx Interface vide Clauses no. 2.1(iv), 2.3 ,7(v) and 1.1.1(vi), 1.5(v) respectively, mentioned in the Interface requirements of the above TEC specifications no. are not applicable.

1) *Clause no. 2 : Digital Interface :*

a) *Item 2.1 (iii) is not applicable*

b) *Item 2.2 : Speed Support*

The speed/s supported at Digital Interface/s shall be with any combination of 64 Kbps between 64 Kbps to 2048 Kbps.

2) *Clause no.7 : Items to be Specified in the Interface Approval Certification :*

a) *Item 7(i) : Digital Interface/s supported in the equipment*

V.35 via 34-pin Female Connector with one modem
G.703 interface with other modem in modem pair

b) *Item 7(ii) : Whether single pair, 2 pair or multi pair working*

2W unloaded twisted pair working

c) *Item 7(iii) : Highest bit rates of the digital interfaces supported*

The highest bit rate of digital interface supported shall be up to 2048 Kbps (nx64 Kbps, n = 1to 32)

d) *Item 7(iv) : Maximum distance coverage*

On 0.5 mm diameter underground cable (unloaded), the modem should work upto a minimum of 5.0 kms of distance for 2048 Kbps data rate.

3) *Clause no. 8 : References :*

ITU – T recommendations K.21, G-703 and V.35 are applicable in this case.

4) The modem shall support following management / diagnostic features :

a) Front Panel indications for PWR(Power), DATA(Transmit/Receive Data), TEST (To indicate test mode), SYNC (Status of DSL line / E1), AIS, ALARM / Error.

b) System status, configuration , diagnostics using LCD display & push buttons or using a Ethernet management interface through Web Telnet & SNMP .

c) ITU–T V.54 compliant loopback diagnostics :

i) Local Analog Loop Test (for self test of modem)

ii) Local Digital Loop Test (to provide Loop test to the remote modem on local loop)

iii) Remote Digital Loop Test (to take Loop test from the remote modem on local loop) without requiring the manual assistance of any personnel at remote end.

d) Built in BERT for test pattern generation & detection.

e) Embedded Operation Channel (EOC) for controlling and monitoring the remote unit, without interfering with the data transmission in compliance with ITU-T G.991.2 requirements.

f) E1 and SHDSL Line performance monitoring and statistics.

5) In a modem pair, the modem with V.35 interface shall be operable on normal AC supply whereas the G.703 modem unit shall be operable with both AC and DC power supply, with AC or DC supply being used at any given point of time.

6) Certification :

Valid and duly attested copy of TEC approval certificate issued to the offered modem product for both V.35 & G.703 interface units.

Acceptance Test Procedure for Modems :

1. Physical Inspection and Testing for compliance to Item nos. 2, 4 & 5 of the technical specifications except Item 2(c) & 2(d).
2. TEC approval certificate to verify compliance to Item nos. 1, 2(c), 2(d), 3 & 6 of the technical specifications.

Annexure – B

List of Consignees and Zonal Railway Hqrs.

S.No.	Zone	Head Quarter	Consignee	Quantity (in Pairs)	
				64 Kbps	02 Mbps
1	ECoR	Bhubaneswar	CCM/PS		
2	SECR	Bilaspur	CCM/PS		
3	NCR	Allahabad	CCM/G		
4	CR	CSTM Mumbai	CCM/PM		
5	SCR	Secunderabad	CCM / PM		
6	SER	New Koilaghat	CCM/PS		
7	NFR	Maligaon	CCM/PS		
8	WR	Churchgate Mumbai	CCM/PM		
9	ER	New Koilaghat	CCM/PM		
10	SR	Chennai	CCM/PM		
11	NWR	Jaipur	CCM/PS		
12	NR	New Delhi	CCM/PM		
13	NER	Gorakhpur	CCM/PM		
14	WCR	Jabalpur	CCM/PS		
15	ECR	Patna	Store Incharge UTS Center Karbigahiya Site Patna Junction		
16	SWR	Hubli	CCM/PS		
			Total-->	**4972**	**7294**