

**Technical Specification for
Supply, Installation and
Commissioning of
GSM Modem for
Automatic Meter Reading Project
Specification No AMR/07/04
For GSM/ GPRS Modem**

1. Introduction:

Discoms are NESCO, WESCO & SOUTHCO seeking to procure GSM / GPRS Modems (referred hereafter as “modem”) for reading of energy meters installed in the field and transfer the data to Central Control Station and would like to invite offers from suppliers having a strong R & D and state-of-the art production facilities and an extensive experience in supply, installation, and commissioning GSM Modem for Automatic Meter Reading Project.

2. The Project:

- 2.1. The system shall periodically or on trigger collects the data from meters and analyzing the meter data at a central monitoring station of the company. The system shall read the meters through GSM network.
- 2.3. The modems shall be suitable for in bound as well as outbound calls from the modems at energy meter end.
- 2.4. The IAMR will be suitable for communication with meters from various makes including L&T, Secure Meters and various other major brands at various consumer premises (HT side and LT side) with RS232 Interface.
- 2.5. Base Computer Station (BCS) software common for all branded energy meters (Secure / L&T etc.).

3. The Scope of Work

- 3.1. Single point responsibility turnkey contract including design, engineering, procurement, manufacture, testing, and installation and commissioning of modems at customer’s premises including all other incidental services required for the satisfactory commissioning of modems.
- 3.2. The system shall comprise of following elements
 - 3.2.1. GSM Modems
 - 3.2.2. Communication Cables
 - 3.2.2.1. Modem to Meter (1980 Nos)
 - 3.2.2.2. Modem to PC (20 Nos)
 - 3.2.3. Universal AC Adaptor with power supply Chords

- 3.2.4. Magnetic mount or fixed Screw mount Antenna
- 3.2.5. Suitable Multiplexing devices with communication cables for reading two meters located in the same meter box, if required.
- 3.2.6. Base Computer Software (BCS) for data acquisition and analysis
- 3.3. The tools tackles, transportation, testing equipments etc. required for the intended purpose shall be deemed to be within the scope of vendor's supply.
- 3.4. It is not the intent to specify completely herein all the details of the hardware, software, communication and design of the system. However the system shall conform in all respects to high standards of engineering, design and workmanship and shall be performing in continuous commercial operation in manner acceptable to the purchaser. The offered system shall be complete with all components and softwares necessary for their intended purpose. The design, supply, transportation, installation, testing and commissioning of total system shall be deemed to be within the scope of vendor's supply irrespective of whether those are specifically brought out in this specification and/or the commercial order or not.
- 3.5. The scope does not include supply of Subscriber Identity Module (SIM) cards.

4. Qualification of the Bidder

- 4.1. The enquiry is open to bidders who are in a position to assume, on a turnkey, single point responsibility basis, the full obligation and responsibility for completion of the works within the specified time schedule.
- 4.2. The bidder shall supplement the offer with details about their manufacturing & infrastructure facilities, technical Know-how and collaboration, if any and other capabilities directly related to this project.

5. Applicable standards:

- 5.1. The modem shall conform in all respects to the relevant International Standard Specifications with latest amendments there to unless otherwise specifically mentioned in this specification.

5.2. The modem shall conform to following standards

- 5.2.1. EN60068-2-6 : Vibration 10-500 Hz Sine vibration 5g
- 5.2.2. EN60068-2-30 : Temperature / humidity damp heat cycling
- 5.2.3. EN60068-2-1 : Cold (-40° C)
- 5.2.4. EN60068-2-2 : Dry Heat (+85° C)
- 5.2.5. EN60068-2-14 : Change in temperature (-40° C to +85° C)
- 5.2.6. IEC 68-2-27 : Shock – 3 Shocks / 3mS duration 50g

5.3. The modem conforming to other internationally accepted standards, which ensure equal or higher quality than the standards mentioned above would also, is acceptable. In case of any difference between provisions of these standards and provisions of this specification, the stringent provisions shall prevail.

6. Service Conditions:

6.1. The modem to be supplied against this specification shall be required to operate satisfactorily and continuously (24 x 7) under the following tropical conditions.

- 6.1.1. Maximum Ambient Air Temperature : 60° Centigrade
- 6.1.2. Minimum Ambient Air Temperature : 0° Centigrade
- 6.1.3. Average Daily Ambient Air Temperature : 40° Centigrade
- 6.1.4. Maximum Relative Humidity : 10-100%
- 6.1.5. Max. Altitude above mean sea level (m) : 4 Meters
- 6.1.6. Average Annual Rainfall (mm) : 1450 mm

6.2. The overall climatic condition is moderately hot, tropical, dusty and humid, conducive to rust and fungus growth.

7. Power Supply

- 7.1. The modem shall be capable of being powered up with 110 Volt & 230 Volts \pm 30%, 50 Hz AC supply.
- 7.2. The modem shall get supply from the incoming terminals of the meters.
- 7.3. The external power circuit shall be provided along with the modem. Adequate electrical protection and isolation devices shall be provided in modem.
- 7.4. The modem should be capable to withstand surges and voltage spikes of minimum 6KV as per IEC 61000-4-5 by providing necessary isolation and/or suppression system in the modem. The bidder shall provide the details of the same along with the offer.
- 7.5. The modem shall safely withstand the usual fluctuations arising during transient and persistent faults in the network without any damage to or mal-operation of the modems
- 7.6. Length of the power supply cable shall be minimum 1.0 meter.
- 7.7. The External power supply section shall be connected through a suitable 2 core cable directly soldered to the modem using a "Strain Relief" sleeve. Or should be directly soldered on to the Modem PCB.
- 7.8. Power Consumption
 - 7.8.1. In idle condition : 2 VA
 - 7.8.2. Max consumption during peak transmission : 10 VA

8. General requirements

- 8.1. The modems to be installed at customer's premises shall be housed in the metal / SMC / Wooden enclosure in which meter(s) are installed.
- 8.2. The offered modems shall be suitable for remote meter reading of the consumer end meters via GSM infrastructure. The communication and reading shall be enabled in the base computer software.
- 8.3. The modem shall read the data from the meter at pre-defined regular interval and stores in the modem's internal memory and

subsequently forwards to the central control station for viewing and analysis via base computer software.

- 8.4. The system shall use optically isolated RS 232 serial port for communication with the meter.
- 8.5. A suitable wall mounting arrangement shall be provided.
- 8.6. The Modem shall comply with IP50 rating.
- 8.7. The modem base and top cover shall have a suitable sealing arrangement so that the GSM card can not be tampered with.
- 8.8. The modem should be compact, rugged and reliable in design. The bidder shall furnish detailed dimensional drawings of the modem and its mounting arrangement along with the offer
- 8.9. All parts, which are subject to corrosion under normal working conditions, shall be protected effectively. Any protective coating shall not be liable to damage by ordinary handling or damage due to exposure to air, under normal working conditions.
- 8.10. The modem shall be designed and constructed in such a way as to avoid introducing any danger in use and under normal conditions so as to ensure specially personnel safety against electric shock.
- 8.11. EMI / EMC requirements
The modem shall meet the following EMI / EMC specification
 - 8.11.1. Electrostatic Discharge as per IEC 61000-4-2
 - 8.11.2. Fast Transient Burst as per IEC 61000-4-4
 - 8.11.3. Surges immunity as per IEC 61000-4-5
 - 8.11.4. Conducted Emissions as per IEC 61000-3-2 and CISPR 22
 - 8.11.5. Radiated Emissions as per CISPR 22
 - 8.11.6. Radiate Immunity as per IEC 61000-4-3
- 8.12. Inbuilt backup battery for main module and a separate second battery unit for GSM module RTC.
- 8.13. Options of interfacing with IAMR via both optical port and RS 232 ports.
- 8.14. Screw mount / Magnetic mount antenna with different cable lengths and different gains suitable to field conditions.

9. GSM

The GSM shall comply the following.

- 9.1. The modem shall operate in dual band GSM 900 and 1800 MHz.
- 9.2. The modem shall be compliant with ETSI GSM Phase 2+ standard.
- 9.3. The GSM engine shall be fully type tested and the supplier is required to submit the test reports along with the offer.
- 9.4. The modem shall be operated at
 - 9.4.1. Class 4 (2 W @ 900 MHz)
 - 9.4.2. Class 1 (1 W @ 1800 MHz)
- 9.5. The modem shall support the following
 - 9.5.1. Short Messaging Service (SMS) features.
 - 9.5.2. Point to point transmission as well as cell broadcast features.
 - 9.5.3. CSD Asynchronous non transparent up to 9.6 kbps.
 - 9.5.4. HSCSD (2+1) up to 28.8 kbps
 - 9.5.5. Serial binary and asynchronous data format for data transfer
- 9.6. The modem shall have command buffer of at least 40 characters.
- 9.7. The modem shall have auto-dial feature.

10. SIM Card

- 10.1. A SIM card hold holder shall be provide on the GSM mother board and shall be accessible only after removal of cover of the GSM modem.
- 10.2. It shall not be possible to insert / remove SIM card without opening the modem enclosure. It is desirable to have further interlocking facility under the modem enclosure.

- 10.3 Separate ESD (Electro-static Discharge) protection for SIM card on PCB. (The Opening and closing of IAMR with human hand may damage SIM inside modem due to ESD).
- 10.4. The bidder shall specify the specification of the SIM card to be used for the offered modem.

11. RF selection

- 11.1. A SMA interface shall be provided on the GSM modem to which either a fixed, removable or wired dual band antenna of 3 dbi gain can be connected.

12. Memory:

- 12.1. The modem shall have sufficient memory to store resident software and data. The memory shall be scalable / upgradeable.
- 12.2. The modem shall have non-volatile memory, so that the registered parameters will not be affected by loss of power.
- 12.3. The nonvolatile memory should have a minimum retention time of 10 years.
- 12.4. Inbuilt 4MB non-volatile Data memory (Expandable to 8MB). Data memory for storing billing data, tamper information, voltages, currents, PF's etc. Inbuilt non-volatile memory for storing unit identification, loading circle, meter number & configuration data.

13. Real Time Clock:

- 13.1. The modem shall have a real time clock and calendar with a battery totally independent of power supply.
- 13.2. Meter time or GSM time would be synchronized in both the BCS and modem to take care of RTC variation errors.

14. Status Indicator

- 14.1. The modem shall have LED in the front which can be visible from the distance.
- 14.2. The LED shall indicate the operational status of the modem like
 - 14.2.1. Continuously glowing LED indicates absence of SIM card or no service or insufficient signal strength.
 - 14.2.2. OFF LED indicates non-availability of power to the modem.

- 14.2.3. Slow blinking LED indicates healthiness of the modem and is registered in the network
- 14.2.4. Fast glowing LED indicates data communication in progress.
- 14.3. The bidder shall supply any other arrangement as a substitute to the above.

15. Baud Rate

- 15.1. The modem shall have capability to send / to receive data in asynchronous mode, transparent and non-transparent up to 14,400 bits per second.
- 15.3. The modem shall have non-transparent data transmission at 1200 / 2400 / 4800 / 9600 bps. The rate shall be selectable.

16. Memory Resident Software

- 16.1. The modem resident software should be reconfigurable in order to select any one or a group of above parameters for load survey. The bidder shall provide details of load survey duration with combination of above parameters.
- 16.2. The modem shall be able to store following information as a part of configuration setting.
 - 16.2.1. No of meters connected to the modem
 - 16.2.2. Service number of the customer(s)
 - 16.2.3. Meter serial number(s)
 - 16.2.4. Name of the customer(s)
- 16.3. The above can be reconfigured from the Base Computer Software.

17. Dialing

The modem shall have following features

- 17.1. Inbound dialing facility
 - 17.1.1. The modem shall have inbound dialing facility to a particular GSM or PSTN number at specified time (Hourly / daily / weekly / monthly etc) for the purpose of meter reading. This configuration of the modem shall be available to the user via offered software.

- 17.1.2. If the modem fails to establish connection to modem placed at the central station at specified time then it shall retry the same continuously for number of times. The number of times the modem will try shall be configurable through offered software.
- 17.2. Event Based Dialing
 - 17.2.1. The modem shall initiate a data call in the event of any tamper being logged by the meter and shall be able to send the relevant data to the central control station.
 - 17.2.2. The modem shall also send an SMS of minimum length of 150 characters which shall contain Customer Service Number, Name of the customer, area, mobile number, tamper description, date and time of tamper occurrence / restoration. It shall be possible to select all or group of tampers for initiating SMS service.
 - 17.2.3. When all the voltages are not available, the modem shall be able to detect power-off event and power-on event when supply is restored. Logging of power off event and power on event will be done on the next power up event. The power on and off event will be logged with date and time. A SMS shall be initiated by modem for such event.
 - 17.2.4. The modem shall poll all connected meters for occurrence of an event. The frequency of the polling shall be 30 minutes. If an event is found in the meter, it shall perform a meter reading of the meter and forward this data to the BCS. It shall also send SMS to minimum three predefined mobile devices.
- 17.3. Outbound Dialing
 - 17.3.1. It shall be possible to initiate a data call from the central control station. The connection shall be established by the server to the device using AT commands and transparent communication mode shall be established. Whatever data is coming on the serial port of the modem shall be transferred to the meter and response from the meter shall be transferred to the base computer software.

17.3.2. The user shall have an option to collect the data directly from the meter or data already available in memory of the modem.

17.3.3. Facility to differentiate data inbound or outbound calls resulting in drop calls needs to be provided.

18. Data Transfer between Modem and BCS

There shall be four different ways meter data transfer shall take place between modem and BCS.

18.1. Transparent mode with outbound dialing

BCS initiates reading of meter data on user request or through scheduler.

18.2. Non-transparent mode with outbound dialing

BCS initiates reading of meter data available in the modem memory.

18.3. Non-transparent mode with inbound dialing

The modem shall initiate data transfer at a scheduled time configured in modem. The data stored in the modem is forwarded to the BCS.

18.4. Non-transparent mode with event based outbound dialing

The modem shall initiate data transfer on occurrence of an event registered by the meter. The data stored in the modem is forwarded to the BCS.

19. Base Computer Software

19.1. The base control station shall be equipped with multiple serial communication ports which can be used to collect the data from the meters.

19.2. The base computer software shall support multiple dialing through multiple communication ports at a time.

19.3. The base computer software shall be able to schedule the meter reading. The BCS shall also configure data collection time, type of data to be collected, no of days of load survey data, tamper events as per user requirement.

19.4. It shall be possible to exchange the configuration information (for writing configuration in to the modem or for reading existing configuration from it) of the modem.

19.5. Database Management

The bidder shall describe in detail the database management system for effective management and analysis of data received from all the meters.

19.6. Data Validation

19.6.1. Whenever data is collected, the system will automatically validate the data collected by data validation rules.

19.6.2. During communication with the meter, the system shall verify that the device ID of the meter matches the device ID stored in the BCS.

19.7. Alarms

19.7.1. The system shall be provided with alarm system for any tamper events or excess demand registered by the meter. The same shall not be resetted unless otherwise being acknowledged.

19.7.2. The system shall generate alarm as "Communication fail" on in case of failure of communication system.

19.7.3. Comprehensive Tamper reports with options for 'Balance Tamper', 'Tamper Durations' and 'Filter Tamper' sortable by Location (Zone / Circle / Division / Sub-Division / Region) OR meter number OR Category of customers (Residential, Commercial or Industrial) OR Type of Tamper for quick snapshot of errors in the system.

19.7.4. Upto 8 Flexible time slots (TOD registers) for load control and pricing

19.7.5. Flexible scheduling of meter reading by BCS automatically on a pre-selected daily, weekly or monthly basis. Flexible scheduling of automatic billing data retrieval from IAMR on a pre-selected daily, weekly or monthly basis.

19.7.6. In the BCS Export all database tables to user defined formats as plain text, tab delimiter, character delimiter, word & excel format so that user can integrate the data in the main user system / interface.

- 19.7.7 Whenever data is collected, the system will automatically validate the data collected by universally applicable data validation rules.
- 19.7.8 Provision of importing bulk data of new consumer details to database from Excel worksheet itself with complete data validation rules in BCS.
- 19.7.9 Single message broadcasting to group of energy meters searchable by Meter number, Consumer number or Zone / Circle / Division / Sub-Division / Region.
- 19.7.10 Multi-level configurable password control with complete event logging (Audit Trail).
- 19.7.11 "Received Messages" counter in status bar of the main screen (for Tamper reporting, instant values, cumulative Energy, MD, Signal Strength and billing values) instead of pop-up menus for ease of operation.
- 19.7.12 Alert generation on schedule incoming / outgoing data failure to and from meter for complete control on overall system at any given time.
- 19.7.13 Scalable, based on continuous user expansion with versatile hardware architecture and flexible software.
- 19.7.14 The IAMR shall send an SMS in case of tamper occurrence to the BCS and any 3 pre-assigned user defined cell numbers for automated tamper / theft detection. The sms shall contain Customer Service Number, Name of the customer, area, tamper description, date and time of tamper occurrence / restoration and voltage, current and PF values of the meter.
- 19.7.15 BCS optimized for minimal operational cost of running the system by having capability of selecting / de-selecting kind of tampers which would automatically send SMS from IAMR (example Power Failure tamper switched on in only 1 IAMR versus the complete in a certain Zone).
- 19.7.16 The IAMR shall initiate data transfer at a scheduled time configured in modem. The data stored via 'store & forward mechanism' in the modem is forwarded to the BCS, thus enabling data transfer speeds of 9600 bps as versus the

traditional 1200 bps in conventional modem reading set-ups.

19.7.17 Minimum **6** COM ports / GSM modems connected to Single window screen on PC due to “multi-threading” feature, thus minimizing manpower / hardware costs of running the system.

19.7.18 Single window for all open COM ports connected to BCS modems.

19.7.19 The modem should have provision in future for I/O points.

19.8. Reports

19.8.1. The system shall be able to generate various exceptional reports on tamper events and energy data.

19.8.2. The format of the reports will be given while defining User Requirement Specification (URS) and Detailed Functional Specification (DFS).

19.8.3. All these meter information shall be available in simple and easily understandable format and shall be possible to export in industry standard office suits.

19.9. The BCS shall ensure that the data extracted from the meters using manufacturer specific algorithms in the software up to downloading to the BCS remains secure during the process.

19.10. The bidder shall provide demonstration CD of the BCS along with the offer.

20. Installation and Commissioning of Modem at customers' premises

20.1. The modem installation work shall be carried out as per the standard operating procedure to be established by the purchaser.

20.2. The supplier shall inform the customer about installation of modem at its premises.

20.3. The team of supplier shall wear proper dress (preferably uniform) with identify cards tagged on the shirt.

20.4. The team should have a toolkit with proper tools and tackles for speedy installation of modems.

- 20.5. The contractor shall have adequate experience of working on live LV network, which helps the contractor to connect the modem on live LV network.
- 20.6. Adequate numbers of technical people shall be posted at sites to complete the job within scheduled time.
- 20.7. A supervisor with adequate academic qualification and experience shall be made available for a group of teams for on-site technical assistance and conflict resolution.
- 20.8. The quantity of sites, installation program and schedules shall be decided by the purchaser.
- 20.9. Modalities and duration of the work shall be decided mutually.
- 20.10. The work carried out by the supplier shall be certified as being "satisfactory completed" by our representative at work site. In case of correction to be carried out, contractor shall have to carry out the said corrections free of cost.

21. Safety Code:

- 21.1. The contractor shall ensure adequate safety precautions at site as required under the law of land and shall be entirely responsible for the safety of the people and the equipments.
- 21.2. The contractor shall ensure cleanliness and quietude of the site during the execution of work.

22. Test Certificates:

The modem shall be tested for functionality and test reports of the same shall be submitted along with the modem.

23. Quality Assurance

- 23.1. All the material and electronic components used in the manufacture of the modem shall be of highest quality and reputed make to ensure higher reliability and longer life.
- 23.2. The bidders should submit the list of all imported and indigenous components indicating the name of firm from whom these are procured.
- 23.3. All design, manufacturing, processing, testing and inspection operations affecting the equipment or material shall be governed by Quality Assurance procedures.

- 23.5. For the site installation, test and commissioning work, the Supplier shall prepare contract specific quality assurance procedures in agreement with the Purchaser prior to commencements of such works.

24. Completion Schedule

- 24.1. The Work is to be successfully completed within Six (6) months from the date of issue of commercial order
- 24.2. The time and date of completion of the work shall be deemed to be the essence of the Contract. The TSP shall so organize his resources and perform so as to complete the work not later than the aforesaid date.

25. Pre-dispatch inspection at Manufacturer's works:

- 25.1. All acceptance tests and inspection shall be carried out at the place of manufacturer unless otherwise specially agreed upon by the supplier and purchaser at the time of purchases.
- 25.2. The acceptance of any material prior to shipment shall in no way relieve the supplier of any of his responsibilities for meeting all the requirements of the specification and shall not prevent subsequent rejection if such materials are found to be defective.
- 25.3. The manufacturer shall offer the inspector representing the purchaser all the reasonable facilities free of charge, for inspection and testing, to satisfy him that the material is being supplied in accordance with this specification.

26. Warranty

The supplier shall provide a warranty in respect of the equipment and systems to be furnished by him the following:

- 26.1. All equipment and materials shall be new and in accordance with the specification, all equipment shall be free from any defect due to faulty design, materials and/or workmanship.
- 26.2. The equipment shall perform satisfactorily and the performance and efficiencies of the specified equipment shall not be less than the respective guaranteed values.
- 26.3. The above warranty is to be for 18 months from date of supply or 12 months from date of commissioning, whichever is earlier.

27. Additional Documentation

In addition to what specifically mentioned in the specification, the bidders shall provide the following:

- 27.1. Brief background of your company.
- 27.2. Manufacturing & Infrastructure facilities available
- 27.3. Technical Know-how and collaboration, if any.
- 27.4. Quality systems and quality assurance plan
- 27.5. Bidder's experience
- 27.6. Any other specific qualifications, experiences and capabilities directly related to this enquiry.

28.0 General Instructions

28.01 All the Bids shall be prepared and submitted in accordance with these instructions.

28.01.1 The Bidder should submit an amount equal to **1% (one percent)** of the quoted price in shape of BG from a recognised/ Nationalised Bank in favour of NESCO Ltd; payable at Bhubaneswar.

28.01.2 The Bidder who wants to purchase the tender document from the Regd. Office at Bhubaneswar can purchase by submitting a Bank Draft/ Demand Draft of **Rs. 5250.00 (Five Thousand Two Hundred Fifty Only)** in favour of NESCO Ltd; payable at Bhubaneswar.

28.02 Bidder shall bear all costs associated with the preparation and delivery of its Bid, and the Purchaser will in no case shall be responsible or liable for these costs.

28.03 The Bid should be submitted by the Bidder in whose name the bid document has been issued and under no circumstances it shall be transferred/sold to the other party.

28.04 The Purchaser reserves the right to request for any additional information and also reserves the right to reject the proposal of any Bidder, if in the opinion of the Purchaser, the data in support of Specification requirement is incomplete.

28.05 The Bidder is expected to examine all instructions, forms, terms & conditions and specifications in the Bid Documents. Failure to furnish all information required in the Bid Documents or submission of a Bid not substantially responsive to the Bid Documents in every respect may result

in rejection of the Bid. However, the Purchaser's decision in regard to the responsiveness and rejection of bids shall be final and binding without any obligation, financial or otherwise, on the Purchaser.

29.00 Prices basis for supply of materials

Bidder to quote their prices on Landed Cost Basis and separate price for each items.

For Supply to NESCO/ WESCO/ SOUTHCO ORISSA (Discoms of Orissa) the price shall be inclusive of all taxes & duties & other Levies of whatever nature , transportation to store , all transit insurances except entry tax which will be borne by the purchaser. The Bidder should quote as per the table given in the format in Annexure-C.

The above supply prices shall also include unloading at site stores. Transit insurance will be arranged by Supplier.

Purchaser shall issue Form 'C' and accordingly bidder to consider applicable taxes in the quoted price. The way bill should be issued by the DISCOMS to the Supplier for the transportation of materials from the Factory to respective DISCOM's store.

30.0 Terms of payment and billing

30.01 For Supply & Installation of Equipments:

- 100% payment on prorata basis shall be made within 45 days from the date of commissioning of material at site against submission of 10 % performance BG valid for a period as per 26.3. (Refer 26.3)
- Installation & Commissioning report issued by site (Authorised Representative of DISCOM).

30.02 Bidder to submit the following documents against dispatch of each consignment:

- i. Consignee copy of LR
- ii. Supplier detailed invoice showing commodity description, quantity, unit price, total price and basis of delivery.
- iii. Original certificate issued by NESCO/WESCO/SOUTHCO Orissa (DISCOM of Orissa) confirming receipt of material at site and acceptance of the same.
- iv. Dispatch clearance / inspection report in original issued by the inspection authority
- v. Packing List.
- vi. Test Reports
- vii. Guarantee Certificate.
- viii. Insurance policy to be obtained by supplier

31.0 Price Validity

31.01 All bids submitted shall remain valid, firm and subject to unconditional acceptance by NESCO/WESCO/SOUTHCO Orissa (DISCOM of Orissa) for 120 days post bid-date. For awarded suppliers, the prices shall remain valid and firm till contract completion.

32.0 Performance Guarantee

32.01 Within fourteen (14) days from the date of the Award notice, supplier shall establish a performance bond in favor of The Chief Executive Officer NESCO/WESCO/SOUTHCO respectively an amount not less than ten percent (10%) of the total price of the Contract (the "Performance Bond"). The Performance Bond shall be valid for a period of one (1) years from the date of the commissioning of the Modem or one and half (1 ½) years from the date of receipt of material at site which ever is earlier. It shall be in accordance with one of the following terms:

- (a) Depositing pay order /demand draft of the relevant amount directly with NESCO/WESCO/SOUTHCO Orissa (DISCOM of Orissa) at the address listed or as otherwise specified by NESCO/WESCO/SOUTHCO Orissa (DISCOM of Orissa), either of which shall constitute the Performance Bond hereunder; or
- (b) Bank guarantee from any nationalized bank in favour of The Chief Executive Officer NESCO/WESCO/SOUTHCO respectively. The performance Bank guarantee shall be in the format as specified by NESCO/WESCO/SOUTHCO Orissa (DISCOM of Orissa).

33.0 Penalty for Delay

33.01 If supply of items / equipments is delayed beyond the supply schedule as stipulated in purchase order then the Supplier shall be liable to pay to the Purchaser as penalty for delay, a sum of 0.5% (Half percent) of the contract price for every week delay or part thereof for individual mile stone deliveries.

33.02 The total amount of penalty for delay under the contract will be subject to a maximum of Five percent (5%) of the contract price

33.03 The Purchaser may, without prejudice to any method of recovery, deduct the amount for such damages from any amount due or which may become due to the Supplier or from the Performance Bond or file a claim against the supplier.

34. Deviations:

The Bidders are not allowed to deviate from the principal requirements of the Specifications. However, the Bidder is required to submit with his bid in the relevant schedule a detailed list of all deviations without any ambiguity. In the absence of a deviation list in the deviation schedules, it is understood that such bid conforms to the Bid Specifications and no post-bid negotiations shall take place in this regard.

35.0 The Laws and Jurisdiction of Contract:

35.01 The laws applicable to this Contract shall be the Laws in force in India.

35.02 All disputes arising in connection with the present Contract shall be settled amicably by mutual consultation failing which shall be finally settled as per the rules of Arbitration and Conciliation Act, 1996 at the discretion of Purchaser. The venue of arbitration shall be at Bhubaneswar, Orissa in India only.

36. Time schedule of the bidding process

The bidders on this Specification package should complete the following within the dates specified as under:

Sl. No.	Steps	Activity description	Due date
1	Technical Queries	<ul style="list-style-type: none"> ▪ All Queries related to Specification 	16 th June' 2007
2	Technical Offer	<ul style="list-style-type: none"> ▪ It include clause by clause Quality report ▪ Bidder qualification data 	2 nd July 2007, 14.00 Hrs
3	Commercial Officer	<ul style="list-style-type: none"> • Price for GSM Modem • Break up regarding basic price and taxes (for supply & installation). • Delivery/ Commissioning commitment 	2 nd July 2007, 14.00 Hrs
4	Samples (2nos.)	<ul style="list-style-type: none"> • Sample as per bidder offer 	2 nd July 2007, 14.00 Hrs
5	Performance guarantee quality system report	<ul style="list-style-type: none"> • As per Specification 	Only for successful bidders
6	Opening of Technical Bid	<ul style="list-style-type: none"> • As per Specification 	2 nd July 2007, 16.00 Hrs.

This is a two part bid process. Bidders are to submit the bids a) Technical Bid b) Price Bid. Both these parts should be furnished in separate sealed covers super scribing specification no. validity etc, with Particulars as Part –I Technical Particulars & Commercial Terms & Conditions and Part-II “price bid” and these sealed envelopes should again be placed in another sealed cover which shall be submitted before the due date & time specified.

37.0 Contact Information

37.01 NESCO/WESCO/SOUTHCO Orissa (DISCOM of Orissa) **Contact:** All communication as regards this Specification shall be made (i) in English, (ii) in writing and (iii) sent by mail, facsimile to

CONTACT NAME : Chief Executive Officer

ADDRESS : Regd. Office, (NESCO, WESCO & SOUTHCO)
Plot No- 123, Sector-A, Zone-A,
Mancheswar Industrial Estate,
Bhubaneswar-751010

FAX NO. : 0674-2586343
Phone. 0674-2582728, Mail. cso@satyam.net.in

QUANTITY AND DELIVERY REQUIREMENT

Name of the DISCOM	Item Description	Requirement		Location
		Total Qty.	Delivery Schedule	
NESCO	GSM Modem	800 nos.	As per Clause No. 24	Central Stores NESCO, Balasore
WESCO	GSM Modem	900 nos.	As per Clause No. 24	Central Stores WESCO, Burla
SOUTHCO	GSM Modem	300 nos.	As per Clause No. 24	Central Store SOUTHCO, Berhampur

Note: Quantity may vary \pm 40% of above mentioned total quantity for all material. Initial confirm order will be placed for 50% quantity.

Note:

- 1. Bidder should quote separate rate for Supply and Installation with taxes as applicable separately as per Annexure "C".**
- 2. Bidder to provide and provide cost of modem and the cost of software separately in option1 and Cost of Modem including software in option2.**

ANNEXURE-C (Option 1)

SPECIFICATION NO. AMR/07/04

SCHEDULE OF QUANTITY AND PRICES

Sl. No.	Description of Materials detailed in Section – III & Section-IV	Qty. As per RFQ in No's	Purchaser's Delivery Schedule	Qty. Offered by the Tenderer	Whether Firm or Variable	Free at Destination Stores		Excise Duty	Cess on E.D	Sales Tax/ VAT	Other Taxes if any	Entry Tax	Total value per unit	Remarks/ Discount if any
						Ex-Works prices per unit including packing	Forwarding freight and insurance							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	GSM/ GPRS Modem for AMR Project including Software	NESCO 800 nos. WESCO 900 nos. SOUTHCO 300 nos.	Shall commence within One month from the date of receipt of LOA/ Confirmed Order and complete within 6 months											
(a)	Supply													
(b)	Installation													
2.	Supply of BCS Software													

- Note:**
1. The Prices shall be **Firm. Bidder should quote separate rate for Supply & Installation (for installation tax as applicable).**
 - *2. **Separate price schedule shall be filled for NESCO/WESCO/SOUTHCO.**
 3. Columns 5 to 15 are to be filled in by the tenderer.
 4. The tenders received without breakup of Ex-works, F&I, E.D, Education Cess and CST/VAT are liable for rejection.
 5. Indicate exact percentage of taxes in figures and words.

SIGNATURE OF THE TENDERER

ANNEXURE-C (Option 2)
SPECIFICATION NO. AMR/07/04
SCHEDULE OF QUANTITY AND PRICES

Sl. No.	Description of Materials detailed in Section – III & Section-IV	Qty. As per RFQ in No's	Purchaser's Delivery Schedule	Qty. Offered by the Tenderer	Whether Firm or Variable	Free at Destination Stores		Excise Duty	Cess on E.D	Sales Tax/ VAT	Other Taxes if any	Entry Tax	Total value per unit	Remarks/ Discount if any
						Ex-Works prices per unit including packing	Forwarding freight and insurance							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	GSM/ GPRS Modem for AMR Project i	NESCO 800 nos. WESCO 900 nos. SOUTHCO 300 nos.	Shall commence within One month from the date of receipt of LOA/ Confirmed Order and complete within 6 months											
(a)	Supply													
(b)	Installation													

- Note:**
1. The Prices shall be **Firm. Bidder should quote separate rate for Supply & Installation (for installation tax as applicable).**
 - *2. **Separate price schedule shall be filled for NESCO/WESCO/SOUTHCO.**
 3. Columns 5 to 15 are to be filled in by the tenderer.
 4. The tenders received without breakup of Ex-works, F&I, E.D, Education Cess and CST/VAT are liable for rejection.
 5. Indicate exact percentage of taxes in figures and words.

SIGNATURE OF THE TENDERER