

**North Eastern Electricity Supply Company of Orissa Limited (NESCO)  
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Registered Office,  
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**Technical Specification for  
Supply, Installation and  
Commissioning of  
GSM Modem for  
Automatic Meter Reading Project**

**(Tender Notification: CSO/07/AMR)**

**2008 - 2009**

**Date: 28.06.2008**

# Registered Office of NESCO, WESCO & SOUTHCO

## 1. Introduction:

**Electricity Distribution companies in Orissa NESCO, WESCO & SOUTHCO herein after called as Discoms** are seeking to procure GSM 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 reputed vendors having strong R & D and state-of-the art production facilities as well as extensive experience in supply, installation, and commissioning of GSM Modem for Automatic Meter Reading Project.

## 2. The Project:

- 2.1. The system shall periodically or on trigger collects the data from energy meters and analyze the meter data at a central monitoring station of the company. The system shall read the meters through GSM network.
- 2.2. The modems shall be suitable for in bound as well as outbound calls from the modems at energy meter end. In-bound call can be modem or central monitoring station controlled/ triggered.
- 2.3 The Intelligent Automated meter Reading (IAMR) will be suitable for communication for meters at various consumer premises (HT side and LT side) with Optical/ RS232 Interface.
- 2.4 Base Computer Station (BCS) software.

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### 3. Scope of Work

#### QUANTITY AND DELIVERY REQUIREMENT

Name of the DISCOM	Item Description	Requirement		Location
		Total Qty.	Delivery Schedule	
NESCO	GSM Modem	1500 nos.	As per Clause No. 24	Central Stores NESCO, Balasore
WESCO	GSM Modem	1000 nos.	As per Clause No. 24	Central Stores WESCO, Burla
SOUTHCO	GSM Modem	500 nos.	As per Clause No. 24	Central Store SOUTHCO, Berhampur
<b>Total</b>		<b>3000 nos.</b>		

Note: Quantity may vary  $\pm 40\%$  of mentioned total quantity for all material.

The scope of work shall include the following:

- 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 (2950 Nos)
    - 3.2.2.2. Modem to PC (50 Nos)
  - 3.2.3. Regulated power supply
  - 3.2.4. Magnetic mount or fixed Stub Antenna
  - 3.2.5. Base Computer Software (BCS) for data acquisition and analysis

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- 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, which shall be supplied by the Discoms.

### **4. Qualification of the Bidder**

- 4.1. The enquiry is open to bidders who are in a position to assume, complete responsibility, 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.
- 4.3. The bidder should have supplied minimum 50% of the total tender quantity in the past 5 years to utilities.
- 4.4. The vendors having executed similar work in case of Electricity utilities shall be given preference.

### **5. Applicable standards:**

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

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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/Indian accepted standards, which ensure good quality standards mentioned above, is also acceptable.

### 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 : 50° 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 : 10-95%
- 6.1.5. 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.

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### 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. Power supply should be provided with 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 power supply section shall be connected through a suitable 2 core cable directly soldered to the modem using a "Strain Relief" sleeve or it should be directly soldered on to the Modem PCB.
- 7.8. Power Consumption
  - 7.8.1. In idle condition : 3 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/ PCFR enclosure in which meter(s) are installed. In case of metal enclosure the bidder needs to put high gain antenna with magnetic base out side the meter box for proper data fetching from modem and outside world.
- 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.

## Registered Office of NESCO, WESCO & SOUTHCO

- 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 CISPR 22 (class B)
  - 8.11.5. Radiated Emissions as per CISPR 22 (class B)
  - 8.11.6. Radiate Immunity as per IEC 61000-4-3
- 8.12. Modem shall maintain its counter from meter.
- 8.13. Options of interfacing with IAMR via both optical port / RS 232 ports.
- 8.14. Stub mount (fixed to modem body) / Magnetic mount antenna with different cable lengths and different gains suitable to field conditions.

## Registered Office of NESCO, WESCO & SOUTHCO

### 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 modem 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 capability for command buffer.
- 9.7. The modem shall have auto-dial feature.

### 10. SIM Card

- 10.1. A SIM card hold holder shall be provided 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 ESD (Electro-static Discharge) protection for SIM card on PCB. (The Opening and closing of IAMR with human hand should not 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.

## Registered Office of NESCO, WESCO & SOUTHCO

### 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. The modem shall have Inbuilt minimum non-volatile Data memory of 128KB. Complete meter data shall be read and stored in modem memory. Stored data shall be transferred from modem to BCS automatically as and when required. Merely fetching the V, I & PF from meter and storing in modem memory for calculating load survey may not be acceptable. In case of this from billing view point preference would be given to a modem which can read the authenticated meter data, store it in its memory and forward it at BCS on its own.

### 13. Counter for Real Time Clock:

13.1. It is desirable to have a counter for maintaining its time and calendar inside a modem. The method of its working is such that the modem counter is being maintained from meter RTC.

13.2. Meter time or GSM time would be synchronized in both the BCS and modem to take care of RTC variation errors by sending time correction commands to a single or group of meters from central station.

## Registered Office of NESCO, WESCO & SOUTHCO

### 14. Status Indicator

- 14.1. The modem shall have single 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. ..

### 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.
- 15.2 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 nos of load survey days for a particular meter.
- 16.2 The modem shall be able to store following information as a part of configuration setting.
  - 16.2.1. SMS nos of user at the time of any event on meter
  - 16.2.2. BCS dialing no. of the customer(s)
  - 16.2.3. Meter serial number
  - 16.2.4. No. of Load survey days to be read from meter
- 16.3 The above can be reconfigured from the Base Computer Software.

## Registered Office of NESCO, WESCO & SOUTHCO

### 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 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. The modem shall poll all connected meters for occurrence of an event. The frequency of the polling shall be 5-60 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

## Registered Office of NESCO, WESCO & SOUTHCO

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. . . .

### 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(BCS)

- 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.

## Registered Office of NESCO, WESCO & SOUTHCO

- 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. Event Notifications
- 19.7.1. The system shall be provided with a system for any tamper events or excess demand registered by the meter.
- 19.7.2. The system shall log all the communication happening to its single or multiple ports at BCS and should show messages as "Communication fail" etc in case of failure of communication system to any running schedule at BCS.
- 19.7.3. Comprehensive Tamper reports with options for 'Balance Tamperers', '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. 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.
- 19.7.5. 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. Formats and importing

## Registered Office of NESCO, WESCO & SOUTHCO

to relevant data/ information shall be jointly reviewed with bidder or bidder can submit various reports as a sample for board to its review and further approval.

- 19.7.6 Whenever data is collected, the system will automatically validate the data collected by universally applicable data validation rules.
- 19.7.7 Provision of importing bulk data of new consumer details to database from Excel worksheet itself with complete data validation rules in BCS. Formats and importing to relevant data/ information shall be jointly reviewed with bidder or bidder can submit various reports as a sample basis for board review and further action.
- 19.7.8 Single message broadcasting to group of energy meters searchable by Meter number, Consumer number or Zone / Circle / Division / Sub-Division / Region.
- 19.7.9 Multi-level configurable password control.
- 19.7.10 "Received Messages" (for Tamper reporting etc).
- 19.7.11 Event generation on schedule incoming / outgoing data failure to and from meter for complete control on overall system at any given time.
- 19.7.12 Scalable, based on continuous user expansion with versatile hardware architecture and flexible software.
- 19.7.13 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 meter Number, , tamper description, date and time of tamper occurrence / restoration and its reading should be passed to BCS for detailing out the Billing, Energy, Load survey, voltage, current and PF etc values of the meter.
- 19.7.14 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).

## Registered Office of NESCO, WESCO & SOUTHCO

- 19.7.15 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.
- 19.7.16 Minimum 8 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.
- 19.7.17 Single window for all open COM ports connected to BCS modems.
- 19.7.18 The maximum time for reading the meter data including billing tamper and load survey for 30 days should not exceed 5minutes
- 19.8. 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
- 19.9. 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 Discom.
- 20.2. The Discom shall give prior intimation to the customer about installation of modem at its premises.
- 20.3. The team of the 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 to be engaged by the supplier 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.

## **Registered Office of NESCO, WESCO & SOUTHCO**

- 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 mutually decided.
- 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 the representative of the Discom at work site. In case of correction to be carried out, contractor/supplier shall have to carry out the said corrections free of cost.

### **21. Safety Code:**

- 21.1. The contractor/supplier 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/supplier 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.
- 23.4. For the site installation, test and commissioning work, the Supplier shall prepare contract specific quality assurance procedures in

## Registered Office of NESCO, WESCO & SOUTHCO

agreement with the Purchaser prior to commencements of such works.

### 24. Completion Schedule

- 24.1. The entire scope of work is to be successfully completed within Six (6) months from the date of issue of commercial order as per the following schedule

#### Supply

Date	Qty
End of 2 <sup>nd</sup> month	First 1500 No.s
End of 3 <sup>rd</sup> month	Next 1500 No.s

Installation @ 750 consumers per month starting from the 3<sup>rd</sup> month upto 6<sup>th</sup> month.

- 24.2. The time and date of completion of the work shall be deemed to be the essence of the Contract. The supplier/contractor 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:

## Registered Office of NESCO, WESCO & SOUTHCO

- 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 Installation, 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.  
Format of Bid Security Bank Guarantee is enclosed as per Annexure – 'A'

**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. 5200.00 (Five Thousand Two Hundred Only)** in favour of NESCO Ltd; payable at Bhubaneswar.

**28.01.3** The tender document can also be downloaded from website [www.nescoorissa.com](http://www.nescoorissa.com) [www.wescoorissa.com](http://www.wescoorissa.com)

## Registered Office of NESCO, WESCO & SOUTHCO

[www.southcoorissa.com](http://www.southcoorissa.com) , tender document cost ( **Rs. 5200.00 (Five Thousand Two Hundred Only)** ) in favour of NESCO Ltd; payable at Bhubaneswar) should be submitted along with the bid in a separately sealed envelope. Bids not accompanying the tender document cost would be rejected.

- 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 Discoms 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 Discoms, 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 Discom'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-B.

**Bidder shall quote separately for installation charges along with all applicable taxes.**

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

Discom shall issue Form 'C' for availing concessional sale tax. The way bill shall be issued by the DISCOMS to the Supplier for the entry of materials from outside the state of Orissa to respective DISCOM's store.

## Registered Office of NESCO, WESCO & SOUTHCO

### 30.0 Terms of payment and billing

#### 30.01 For Supply of Equipments:

- 80% payment on prorata basis shall be made within 45 days from the date of receipt of material at stores
- Balance 20% on prorata basis shall be made within 45 days from the date of commissioning of material at site.

#### For Installation portion:

- 100% on monthly prorata basis shall be made within 45 days from the date of commissioning of material at site.

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
- ix. Receipted copy of Way Bill

### 31.0 Price Validity

**31.01** All bids submitted shall remain valid, firm and subject to unconditional acceptance by NESCO/WESCO/SOUTHCO Orissa Discoms for 120 days post commercial bid opening date. For suppliers who are awarded the Purchase Orders, 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 five percent (5%) of the total price of the Contract (the "Performance Bond").

## Registered Office of NESCO, WESCO & SOUTHCO

The Performance Bond shall be valid for a period of one (1) year 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) By means of Bank guarantee from any scheduled bank in favour of The Chief Executive Officer NESCO/WESCO/SOUTHCO respectively. The performance Bank guarantee shall be in the format as enclosed in Annexure –‘C’

### **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.

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

**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.

## Registered Office of NESCO, WESCO & SOUTHCO

### 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"> <li>▪ All Queries related to Specification</li> </ul>	10 <sup>th</sup> July' 2008
2	Technical Offer Submission	<ul style="list-style-type: none"> <li>▪ It include clause by clause Quality report</li> <li>▪ Bidder qualification data</li> </ul>	15 <sup>th</sup> July' 2008, 14.00 Hrs
3	Commercial Offer Submission	<ul style="list-style-type: none"> <li>• Price for GSM Modem</li> <li>• Break up regarding basic price and taxes (for supply &amp; installation).</li> <li>• Delivery/ Commissioning commitment</li> </ul>	15 <sup>th</sup> July' 2008, 14.00 Hrs
4	Samples (2nos.)	<ul style="list-style-type: none"> <li>• Sample as per bidder offer</li> </ul>	15 <sup>th</sup> July' 2008, 14.00 Hrs
5	Performance guarantee quality system report	<ul style="list-style-type: none"> <li>• As per Specification</li> </ul>	15 <sup>th</sup> July' 2008, 14.00 Hrs
6	Opening of Technical Bid	<ul style="list-style-type: none"> <li>• As per Specification</li> </ul>	15 <sup>th</sup> July' 2008, 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. Commercial bid would be opened only for technically qualified bidders, date would be specified later.

**Note: Bidder should quote separate rate for Supply and Installation with taxes as applicable separately as per Annexure “B”.**

## Registered Office of NESCO, WESCO & SOUTHCO

### 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** : Mr. Pankaj Arora (Vice President)

**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. csobbsr@gmail.com

# Registered Office of NESCO, WESCO & SOUTHCO

Annexure - A

## FORMAT FOR BID SECURITY BANK GUARANTEE

*(To be issued in a Non Judicial Stamp Paper of Rs. 50/- purchased in the name of the bank)*

Whereas [name of the Bidder] (hereinafter called "the Bidder") has submitted its bid dated [date of submission of bid] for the supply of [name and/or description of the goods] (hereafter called "the Bid").

KNOW ALL PEOPLE by these presents that WE [name of bank] at [Branch name and address], having our registered office at [address of the registered office of the bank] (hereinafter called "the Bank"), are bound unto North Eastern Electricity Company of Orissa Ltd., with its Registered Office at Plot 123, Sector A, Zone A, Mancheswar Industrial Estate, Bhubaneswar – 751 010, (hereinafter called "the Purchaser") in the sum of Rs .....for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

THE CONDITIONS of this obligation are:

1. If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
2. If the Bidder, having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity:
  - (a) fails or refuses to execute the Contract Form, if required; or
  - (b) fails or refuses to furnish the performance security, in accordance with the Instructions to Bidders/ GENERAL CONDITIONS.;

We undertake to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that is its demand the purchaser will note that amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including thirty (30) days after the period of bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

\_\_\_\_\_  
(signature of the bank)

Signature of the witness

**Registered Office of NESCO, WESCO & SOUTHCO**

**ANNEXURE-B**

**SPECIFICATION NO. CSO/07/AMR**

**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 Modem for AMR Project Inclusive of software	NESCO 1500 nos. WESCO 1000 nos. SOUTHCO 500 nos.	Shall commence within two months 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.

**Registered Office of NESCO, WESCO & SOUTHCO**

**PROFORMA FOR BANK GUARANTEE FOR CONTRACT PERFORMANCE**

**Annexure -C**

*(To be issued in a Non Judicial Stamp Paper of Rs. 50/- purchased in the name of the bank)*

Bank Guarantee No.....  
Date.....  
Ref. ....

To

**NESCO/ WESCO /SOUTHCO (As the case may be)  
Registered Office at :  
Plot No. 123, Sector – A, Zone – A  
Mancheswar Industrial Estate  
Bhubaneswar – 751 010**

Dear Sirs,

In consideration of the (WESCO/NESCO/SOUTHCO) here in after termed as “Purchaser” having awarded to M/s. .... with its Registered Office/Head Office at..... (hereinafter referred to as the `Contractor` which expression shall unless repugnant to the context meaning thereof, include its successors administrators, executors and assigns), a Contract by issue of Letter of Award No. ....dated.....and the same having been acknowledged by the Contractor, resulting in a Contract bearing No. .... dated.....valued at.....for.....and the Contractor having agreed to provide a Contract Performance Guarantee for the faithful performance of the entire Contract equivalent to \*.....% (.....percent) of the said value of the Contract to the Purchaser.

We.....(Name & Address) having its Registered Office at..... hereinafter referred to as the `Bank`, which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby Guarantee and undertake to pay the Purchaser, on demand any and all monies payable by the Contractor to the extent of.....\*\*.....as aforesaid at any time upto .....(days/month/year) without any demur, reservation, contest, recourse or protest and/or without any reference to the Supplier. Any such demand made by the Purchaser on the Bank shall be conclusive and binding notwithstanding any difference between the Purchaser and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this Guarantee during its currency without previous consent of the Purchaser and further agrees that the Guarantee herein contained shall continue to be enforceable till the Purchaser discharges this Guarantee.

The Purchaser shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee, from time to time to extend the time for performance of the Contract by the

**Registered Office of NESCO, WESCO & SOUTHCO**

Contractor. The Purchaser shall have the fullest liberty, without affecting this Guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor, and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Purchaser and the Contractor or any other course or remedy or security available to the Purchaser. The Bank shall not to be released of its obligations under these presents by any exercise by the Purchaser of its liberty with reference to the matters aforesaid or any of them or by reason of any other act of forbearance or other acts of omission or commission on the part of the Purchaser or any other indulgences shown by the Purchaser or by any other matter or thing whatsoever which under law would, but for this provision have the effect of relieving the Bank.

The Bank also agrees that the Purchaser at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against Supplier and notwithstanding any security or other Guarantee the Purchaser may have in relation to the Contractor's liabilities.

Notwithstanding anything contained hereinabove our liability under this Guarantee is restricted to .....and it shall remain in force upto and including ..... and shall be extended from time to time for such period (not exceeding one year),as may be desired by M/s..... on whose behalf this Guarantee has been given.

Dated this..... day of ..... 20..... at.....

WITNESS

(Signature)..... (Signature).....

(Name)..... (Name).....

..... (Official Address)  
(Designation with Bank Stamp)

Attorney as per Power of Attorney No.....  
Dated.....

**NOTE:**

1. \*This sum shall be five percent (5%) of the Contract price.  
  
\*\*The date will be ninety (90) days after the end of Warranty Period as specified in the Contract.
2. The stamp papers of appropriate value shall be purchased in the name of issuing bank.
3. Performance security is to be provided by the successful bidder in the form of a bank guarantee, which should be issued by any Scheduled Bank.