

## SECTION – 12

(REVISION -01 dated 23/03/2009)

### 12.0 TERMS OF PAYMENT

#### 12.0.1

The contractor shall submit his monthly RA account bills with all the details required by BHEL on specified date every month covering progress of work in all respects and areas for the previous calendar month. However, first RA Bill shall be released only after signing of Contract Agreement.

#### 12.0.2

Clause 2.6 of general conditions of contract shall be referred to as regards mode of payment, and measurement of the work completed.

#### 12.0.3

Release of payment in each running bill will be restricted to 95% of the value of work admitted, as per the percentage break-up for the stage of work completion stipulated vide clauses hereinafter.

The 5% thus remaining shall be on account of workmanship guarantee of work executed. The same will be released after completion of the guarantee period of **12 months** from the date of completion of entire work as certified by BHEL.

However, on specific request of vendor, this amount may be released on pro rata basis for the value of work executed and accepted by BHEL, along with any RA Bill and onwards, subject to receipt and acceptance of bank guarantee of equal amount in BHEL's prescribed format. The BG shall be kept valid till completion of such guarantee period and an additional six months claim period. This is also subject to the condition that the contractor has started the work and also furnished/remitted the initial Security Deposit as per contract.

#### 12.0.4

The payment for running bills will normally be released within around 30 days of submission of running bill with measurement sheets. Contractor shall make his own arrangement for making payment of impending labour wages and other dues in the meanwhile.

#### 12.0.5

BHEL will release payment through Electronic Fund Transfer (EFT)/RTGS. In order to implement this system, the following details are to be furnished by the Contractor pertaining to his Bank Accounts where proceeds will be transferred through BHEL's banker:

1. Name of the Company
2. Name of Bank
3. Name of Bank Branch
4. City/Place
5. Account Number
6. Account type
7. IFSC code of the Bank Branch
8. MICR Code of the Bank Branch

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BHEL may also choose to release payment by other alternative modes as suitable.

## 12.1 STAGES OF PROGRESSIVE PRO-RATA PAYMENTS

### 12.1.1

The agreed rates for each item shall be paid on pro-rata basis progressively as per the break up given hereunder (aggregating 100%), based on the progress of work in each month. The contractor shall submit his running bills with the details of measurement required by BHEL engineer on or before 26<sup>th</sup> of every month covering progress of work in all respect in the area upto 24<sup>th</sup> day of the same month.(Refer Price Bid part -II Rate Schedule)

<b>EXCITATION SYSTEMS EQUIPMENTS, PANELS: Item nos. AA1(1.1) of Rate Schedule</b>		
SN	DESCRIPTION OF ACTIVITY	PERCENTAGE
01	COLLECTION OF MATERIAL, TRANSPORTATION FROM BHEL STORE TO SITE	10%
02	PLACEMENT, ALIGNMENT, GROUTING, INTER CONNECTION OF BUS BAR AND WIRING, FIXING OF LOOSE COMPONENTS AND AIR EXHAUST OUTLET DUCT FOR REGULATION, FIELD FLUSHING AND THYRISTOR PANELS	60%
04	PRE-COMMISSIONING TESTS	13%
05	UNIT SYNCHRONIZATION AND STABILIZATION, <b>INTEGRATED ELECTRICAL TESTING/ COMMISSIONING WITH ASSOCIATED CONNECTED EQUIPMENT</b>	13%
06	TRIAL RUN AND FULL LOADING	02%
07	COMPLETION OF ALL FACILITIES AND HANDING OVER	02%

<b>AUTO SEQUENCER PANEL (FOR UNITS, FEEDERS &amp; GATES), GENERATOR, GT &amp; UT PROTECTION &amp; METERING PANELS: Item nos. AA2(2.1 to2.16) &amp; BB 1 to BB5 of Rate Schedule</b>		
SN	DESCRIPTION OF ACTIVITY	PERCENTAGE
01	COLLECTION OF MATERIAL, TRANSPORTATION FROM BHEL STORE TO SITE	10%
02	PLACEMENT, ALIGNMENT, GROUTING, INTER CONNECTION OF BUS BAR AND WIRING, FIXING OF LOOSE COMPONENTS	60%
04	PRE-COMMISSIONING TESTS	13%
05	UNIT SYNCHRONIZATION AND STABILIZATION, <b>INTEGRATED ELECTRICAL TESTING/ COMMISSIONING WITH ASSOCIATED CONNECTED EQUIPMENT</b>	13%
06	TRIAL RUN AND FULL LOADING	02%
07	COMPLETION OF ALL FACILITIES AND HANDING OVER	02%

<b>24 VOLT BATTERY &amp; BATTERY CHARGER Item no.CC1 to CC2 OF Rate Schedule</b>		
SN	DESCRIPTION OF ACTIVITY	%AGE
01	COLLECTION OF MATERIAL, TRANSPORTATION FROM BHEL STORES TO SITE	15%
02	ON COMPLETIONOF ASSEMBLY OF BATTERY RACKS, PLACEMENT OF BATTERIES ON RACK, FITTING OF CELL INTERCONNECTING SHORTING LINK, NUMBER PLATES, DC FUSE BOARD ETC	55%
03	ERECTION OF BATTERY CHARGERS	10%
04	TESTING COMMISSIONING OF BATTERY CHARGER, BATTERY CHARGING /DISCHARGING, CONDUCTING THE CAPACITY TEST ETC.	15%
05	TRIAL RUN AND FULL LOADING	5%

<b>11 SWITCHGEAR BOARDS, ACCESSORIES: Item nos. LL 1 to LL4 of Rate Schedule</b>		
SN	DESCRIPTION OF ACTIVITY	PERCENTAGE
01	COLLECTION OF MATERIAL AND TRANSPORTATION FROM BHEL STORES TO SITE	10%
02	PLACEMENT ON FOUNDATION, ASSEMBLIES ETC.	20%
03	ADJUSTMENT, ALIGNMENT, GROUTING, ELECTRICAL INTER-CONNECTIONS, INTER PANEL WIRING AND BUS BAR, INSTALLATION OF LOOSE ACCESSORIES ETC.	35%
04	PRE-COMMISSIONING AND ELECTRICAL TEST, MECHANICAL/ELECTRICAL CHECKS INCLUDING PROTECTION, INTERLOCK TESTING AND MAKING THE SYSTEM READY BY ENERGIZATION	13%
05	<b>INTEGRATED ELECTRICAL TESTING/ COMMISSIONING WITH ASSOCIATED CONNECTED EQUIPMENT</b>	08%
05	ENERGIZATION OF SWITCH GEAR BOARD AND TRIAL OF INDIVIDUAL FEEDERS ON LOAD	10%
06	COMPLETION OF TRIAL RUN OF MAIN TG SET/FULL LOADING	02%
07	COMPLETION OF ALL FACILITIES AND HANDING OVER	02%

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<b>TRANSFORMERS (GT, ST): Item nos NN1 to NN2 of Rate Schedule</b>		
SN	DESCRIPTION OF ACTIVITY	PERCENTAGE
01	COLLECTION OF MATERIALS, TRANSPORTATION POSITIONING ON FOUNDATION AND ALIGNMENT AS PER LAYOUT DRAWING	15%
02	INTERNAL INSPECTION OF CORE AND WINDING TAPS SWITCH OFF-LOAD/ON-LOAD, H.V./L.V. BUSHING TURRET ASSEMBLY, VACUUM PULLING, OIL FILTERATION AND FITTING OF OIL UPTO CORE AND WINDING LEVEL	15%
03	ASSEMBLY OF ALL ACCESSORIES, PIPES AND FITTINGS, CONSERVATOR TANK, COOLER BANK/RADIATOR BANK, BUSHINGS, MARSHALLING BOX, CABLING FROM MARSHALLING BOX TO FIELD DEVICES, FANS AND PUMPS ETC.	20%
04	OIL FILLING IN COMPLETE ASSEMBLED TRANSFORMERS, COMPLETION OF DRY OUT AND FILTERATION OF OIL OF COOLING BANK, ACCEPTANCE OF DRY OUT.	15%
05	PRE-COMMISSIONING CHECKS, ELECTRICAL TESTS, CALIBRATION AND PROTECTION AND INTER LOCK CHECKS	15%
06	<b>INTEGRATED ELECTRICAL TESTING/ COMMISSIONING WITH ASSOCIATED CONNECTED EQUIPMENT</b> , BACK CHARGING/FORWARD CHARGING	12%
07	FINISH PAINTING	05%
08	TRIAL RUN AND FULL LOADING	02%
09	COMPLETION OF ALL FACILITIES AND HANDING OVER	01%

<b>TRANSFORMERS : Item nos NN3 to NN6 of Rate Schedule</b>		
SN	DESCRIPTION OF ACTIVITY	PERCENTAGE
01	COLLECTION OF MATERIALS, TRANSPORTATION POSITIONING ON FOUNDATION AND ALIGNMENT AS PER LAYOUT DRAWING	15%
02	INTERNAL INSPECTION OF CORE AND WINDING TAPS SWITCH OFF-LOAD/ON-LOAD, H.V./L.V. BUSHING TURRET ASSEMBLY,	15%
03	ASSEMBLY OF ALL ACCESSORIES, MARSHALLING BOX, CABLING FROM MARSHALLING BOX TO FIELD DEVICES, FANS.	30%
04	PRE-COMMISSIONING CHECKS, ELECTRICAL TESTS, CALIBRATION AND PROTECTION AND INTER LOCK CHECKS	20%
05	<b>INTEGRATED ELECTRICAL TESTING/ COMMISSIONING WITH ASSOCIATED CONNECTED EQUIPMENT</b> , BACK CHARGING/FORWARD CHARGING	12%
06	FINISH PAINTING	05%
07	TRIAL RUN AND FULL LOADING	02%

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<b>TRANSFORMERS : Item nos NN3 to NN6 of Rate Schedule</b>		
08	COMPLETION OF ALL FACILITIES AND HANDING OVER	01%

**12.1.2 OTHERS: Item nos. OO (1 to 9), MM (1to4), V V OF Rate Schedule)**

Unit rate payment shall be made for other systems ( Local Starter Boxes) as per the rate schedule and percentage break-up for erection, testing, commissioning shall be as per detailed break-up given below: -

1. 80% of the agreed unit rates on completion of erection, testing and commissioning.
2. 12% after completion of the individual system commissioning.
3. 5% after trial operation or unit handing over whichever is earlier.
4. 3% on completion of facilities and handing over.

**12.1.3 Testing of Commissioning of Equipment erected by other agencies: Item nos. PP,QQ,RR ,SS,TT,UU of Rate Schedule**

1. 80% of the agreed unit rates on completion of testing and off-load commissioning.
2. 10% after on-load commissioning of each item.
3. 5% after completion of trial operation of unit.
4. 5% on completion of facilities and handing over.

**12.1.4 Cables [Item nos.EE (1to 17),FF (1 to 2), GG (1to 4),HH (1to 6),II (1),JJ (1to 2), KK(1) ] Rate Schedule**

1. 60 %after laying of cable.
2. 10% after termination.
3. 10 % after testing of cables
4. 05% after dressing of cables
5. 05% after completion of Facilities and Handing Over.

**12.1.5 Cable tray Item no. (DD 1 to 11)**

- 1 80% after erection of trays in position
2. 15% after completion of welding/ bolting.
3. 05% after completion of facilities and handing over

**12.1.6 Field and Panel mounted Instrumentation (Items no.xx1 to xx10)**

1. 80% after erection
2. 20 % after calibration and testing.

**12.1.7 SCADA system and MIMIC Panel (item no.yy1 to yy 5)**

1. 75% after erection.
2. 25% after commissioning and testing.

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## **12.2 PAYMENT FOR THE WORK COMPLETED**

### **12.2.1**

For the items where the payment is to be made against unit of weight, the actual weight of items erected by contractor will be paid after assessing the weight on the basis of shipping list or standard engineering practice. BHEL engineer's decision will be final and binding on contractor in this regard.

### **12.2.2**

The bidder shall quote separate unit rates for each item of work listed in the rate schedule.

## **12.3 Measurement for Payment**

### **12.3.1**

In rate schedule, unit rates called for erection, testing and commissioning for various devices and equipment and payment shall be made accordingly.