

**Government of India  
Bhabha Atomic Research Centre, Mysuru**

**NOTICE INVITING e-TENDER**

**TENDER NOTICE No. BARC/MYS/MD/AN/WT/2025/NIT; Date: 23-03-2026**

**I. NIT Details:**

1. Online item-rate tender in two parts i.e. Cover-1 –Techno-commercial Bid and Cover-2 – Financial Bid are hereby invited through e-Tendering mode on behalf of the President of India by Tender Inviting Authority as below, Bhabha Atomic Research Centre, Mysuru, 571130 for the following work from eligible bidders.

i)	Name of Work	:	Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore
ii)	Work Location (s) & Pin Code (s)	:	RMP, BARC, Yelwal, Mysore, Karnataka-571130
iii)	Work/Product Category	:	Anchoring Works
iv)	Tender inviting Authority	:	Chief Engineer, Bhabha Atomic Research Centre, Mysuru. For and on behalf of the President of India
v)	Inviting Officer Address	:	Chief Engineer, Bhabha Atomic Research Centre, Mysuru, P.B No 1, Yelwal, Mysuru-571130.
vi)	Estimated Cost	:	₹1,18,00,000/- + GST as applicable
vii)	Earnest Money	:	₹2,78,480/-
viii)	Cost of tender Document	:	NIL
ix)	Tender Processing Fee	:	NIL
x)	Period of work	:	180 Calendar days including monsoon period.
xi)	'Start/End Date of Download of Bid Documents'	:	08-04-2026 (1700 Hrs.) to 07-05-2026 (1500 Hrs.) To Download – please visit CPPP website on: <a href="https://eprocure.gov.in/eprocure/app.NIT">https://eprocure.gov.in/eprocure/app.NIT</a> is also available on website <a href="http://www.barc.gov.in">www.barc.gov.in</a> , for view only
xii)	Seek clarification Start Date	:	08-04-2026 (1700 Hrs.)
xiii)	Seek clarification End Date	:	23-04-2026 (1700 Hrs.)
xiv)	Site Visit Date & Time	:	On or Before 23-04-2026 (1500 Hrs)
xv)	Pre-Bid meeting Date & Time	:	Pre-Bid meeting will be held at 1500 Hrs. on 23-04-2026. Bidders, who are interested in attending the Pre-Bid meeting, should send their request on or before 23-04-2026 (1000 Hrs.) through e-mail ( <b>to the contact details given in Note section (Page no 14 of 21).</b> )”
xvi)	Pre-Bid meeting Address	:	Bhabha Atomic Research Centre, Mysuru, P.B No 1, Yelwal, Mysuru 571130
xvii)	Bid Submission Start Date	:	08-04-2026 (1700 Hrs)
xviii)	Bid Submission End Date	:	07-05-2026 (1500 Hrs)
xix)	Submission of EMD in physical form.	:	On or before 15-05-2026 (1500 Hrs)

	Address for submission of physical EMD Form.	EMD shall be submitted/Received at following address before due date & time (xix above): <b>“Office of Project Manager, Machines Division, PB. NO.1, Yelwal P.O, Mysuru-571130”</b> in a Sealed superscribed envelope mentioning name of work and Tender Notice No. Note: Original EMD & other documents should be submitted preferably in person. However, documents sent by post or courier will also be considered provided they are received within due date & time.
xx)	Bid opening Date /Date and time of online opening of Cover-1	: 15-05-2026 (1600 Hrs)
xxi)	Bid Opening Place	: Bhabha Atomic Research Centre, Yelwal, Mysuru-571130
xxii)	Tenderer Class	: Not Applicable.
xxiii)	Date of opening of Cover-2 of qualified bidders	: Will be notified at a later date through corrigendum (please visit CPPP website on <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a> for date)
xxiv)	Validity of Tender (in days)	: <b>180 (One Hundred Eighty)</b>

## **II Initial Eligibility Criteria:**

2. i) The bidder shall be compliant to the Public Procurement (Preference to Make in India), Order 2017 (as amended from time to time) issued by Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry. Also bidder must submit undertaking along with the bid declaring local content in % offered by them in subject tender (Refer Annexure – 4).
- ii) Public Procurement (Preference to Make in India), Order 2017 shall be referred for definition of ‘Class-I local supplier’, ‘Class-II local supplier’ and ‘Non local suppliers’. Unless clarified through prebid clarification uploaded by tender inviting authority, a bidder shall be eligible to participate in this tender work if they are able to submit an undertaking indicating they are ‘Class-I local supplier’. The bidders who find themselves as ‘Class-II local supplier’ can also participate provided they suggest for the same by seeking clarification with appropriate noting/ declaration from concerned Govt. Department/ ministries and based on such suggestions the prebid clarification uploaded by the department indicates eligibility of ‘Class-II local supplier’. However, purchase preference as mandated in Manual for Procurement of Works -2022 shall be followed in such instances. Bidders who are not able to submit undertaking either as ‘Class-I local supplier’ or as ‘Class-II local supplier’ shall not be allowed to participate in this tender.
- iii) The bidder should have the following:
  - (a) Bank Solvency Certificate of a Nationalized Bank / Scheduled Bank for a minimum of **₹55.696 Lakhs** and should not be older than one year from the date of opening of tender.
  - (b) Average Annual Financial Turnover of the bidder should be at least **₹139.24 Lakhs** during the immediate last 3 consecutive audited financial years ending **31<sup>st</sup> March 2025**. This should be duly audited by a registered Chartered Accountant and also should have valid Unique Document Identification Number (UDIN) of the practicing Chartered Accountant

- (c) Should not have incurred any loss in more than two years during last five audited financial years **ending 31<sup>st</sup> March 2025**. Profit loss statement signed by a registered Chartered Accountant only shall be considered as proof of this eligibility.
  - (d) Performance Certificates of all completed similar works cited as experience of similar works.
  - (e) Certificate of Registration for GST, EPF (with provident fund code) & ESIC.
  - (f) Permanent Account Number (PAN)
3. The bidder should have satisfactorily completed (based on certification of performance by client of the works) 3 (Three) similar works each of value not less than **₹55.696 Lakhs** or 2 (Two) similar works each of value not less than **₹83.544 Lakhs** or 1 (One) similar work of value at least **₹111.392 Lakhs** /- during the last 7 (Seven) years ending on the last day of the month previous to the one in which the tenders are invited/the works completed up to previous day of the last date of submission of tenders shall also be considered and if the eligible similar works are not carried out in Central Government / State Government / Public Sector Undertaking of Central or State Governments / Central Autonomous bodies, then statement from income tax record should be produced by bidder, when requested by tender evaluating authority. The statement/ records produced should establish payment from the client to the bidder against similar work.

For the purpose, ‘cost of work’ shall mean gross value of the completed work including the cost of materials supplied by the Client, but excluding those supplied free of cost. For the purpose of this eligibility criterion, similar work means **“Works that involved Core Drilling and Chemical Anchoring of Bolts”**. The similar works should have been executed in India.

- 4. The value of executed works shall be brought to the current costing level by enhancing the actual value of work at simple rate of 7 % per annum, calculated from the date of completion to last date of submission of tenders.
- 5. The bidding capacity of the bidder applicable should be equal to or more than the estimated cost of the work put to tender. The bidding capacity shall be worked out by the following formula:

$$\text{Bidding Capacity} = [A \times N \times 2] - B$$

Where,

A = Maximum Value of works executed in any one year during the last five years taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of work for which bids have been invited.

B = Value of existing commitments and ongoing works to be completed during the period of Completion of work for which bids have been invited.

The bidding capacity shall be worked by the bidder with supporting data and submitted for verification. Change of bidding capacity above during tender evaluation due to completion/ award of work shall also be intimated by bidders. Bidding capacity shall be certified from registered Chartered Accountant with UDIN.

- 6. Bidder should be a registered firm in India.

## **II. Information:**

- 7. Tender document is prepared in two parts viz. Cover-1 (Techno-commercial Bid) and Cover-2 (Financial Bid). Cover-1 consists of Techno-commercial Bid viz. Section I – Notice Inviting e-Tender, Section II - Form of Agreement and General Rules and Directions for the guidance of

Bidders, Memorandum, Section III – General Conditions of Contract, Additional conditions, Section IV - Special Instructions to Tenderers, Section V – Technical specifications, Section VI - List of Tender Drawings, Section VII – Schedule ‘A’ (Schedule of Materials to be supplied by Department), Appendix ‘B’ – Form of BG bond for performance security, Appendix ‘C’ – Indenture for secured advance (Applicable for civil works), Appendix ‘D’ – Guarantee bond for waterproofing works (Applicable for civil works), Appendix ‘E’ – Guarantee bond for anti-termite treatment (Applicable for civil works), Annexure ‘A’ – Statement of men and machinery, Annexure ‘B’ – List of suggested manufacturer of building materials (Applicable for civil works), all corrigendum to tender documents and Proforma of Schedules ‘A’ to ‘F’. Cover-2 (Financial bid) consists of Schedule ‘B’ - Schedule of Quantities. All the above documents will form part of Agreement after award of work to the successful bidder.

**Obtaining of tender documents:** Prospective Bidders or general public can see and download free of cost **PDF format** of the above documents from CPP Portal & BARC website. Sections II, III, and IV are available for download from BARC website at [www.barc.gov.in](http://www.barc.gov.in) **Tenders and NITs**, **Other Information**. Sections I, V, VI, VII, Proforma of Schedules ‘A’ to ‘F’ are uploaded in CPP Portal. Bidders are advised to refer to **both** websites and follow the instructions provided to obtain the **complete set** of tender documents. Accessing only one site may result in obtaining an **incomplete** set of documents. All the above documents will form part of Agreement after award of work to the successful bidder.

**Note:** For Sections II, III, and IV obtained from the BARC website, wherever "BARC, Mumbai/Trombay" is mentioned, it shall be read as "BARC, Mysore", and wherever "CED (Civil Engineering Division)" is mentioned, it shall be read as "MD (Machines Division)".

### **III. Guidelines for e-Tendering participation in CPPP website:**

To participate in the Tendering process on the CPP Portal, Prospective Bidders require a valid Class III Digital Signature Certificates. Data and copy of all the documents related to the eligibility criteria of tender should be submitted electronically through CPPP portal only. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>.

To participate in the tender, Prospective Bidders are required to download all the excel format of Part ‘A’ – Techno commercial bid containing Techno commercial sheet, and Prequalification Bid containing the following after Login in the Home page of the website <https://eprocure.gov.in/eprocure/app> with their **User ID / Password & Class III Digital Signature Certificate**.

- (i) Letter of transmittal
- (ii) Form ‘A’ - Financial information
- (iii) Form ‘B’ - Form of banker’s Certificate from Scheduled Bank
- (iv) Form ‘C’ - Details of all works of similar class completed
- (v) Form ‘D’ - Projects under execution or awarded
- (vi) Form ‘E’ - Performance report of works referred to in Form “C” & “D” for similar qualifying works – Scanned copy to be uploaded.
- (vii) Form ‘F’ - Structure & organization

- (viii) Form 'G'- Details of technical & administrative personnel proposed to be employed for the work.
- (ix) Form 'H'- Details of construction plant & equipment likely to be used in carrying out the work.

**Prospective bidders are also required to Down Load the excel format of Part 'B'- Financial Bid containing Schedule 'B' after Login in the Home page of the website <https://eprocure.gov.in/eprocure/app> with their User ID / Password & Class III Digital Signature Certificate.**

Prospective bidders have to fill all the excel documents and upload the same without renaming it and fill up and upload the scanned copies of documents in PDF format. Letter of Transmittal is to be copied on bidder's letter head and scanned copy has to be uploaded.

**The bidders have to also upload an affidavit in the following format in ₹100/- Stamp paper attested by a Public Notary.**

"I/ We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in BARC Contracts in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Performance Guarantee."

## **8. Registration**

- (i) Bidders are required to enrol on the e-Procurement module of the Central Public Procurement Portal (URL:<https://eprocure.gov.in/eprocure/app>) by clicking on the link "**Online Bidder Enrolment**" on the CPP Portal which is free of charge.
- (ii) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- (iii) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- (iv) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
- (v) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- (vi) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC /e-Token.

## **9. Searching for Tender Documents**

- (i) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- (ii) Once the bidders have selected the tenders they are interested in, they may download the

required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS/e- mail in case, there is any corrigendum issued to the tender document.

- (iii) The bidder should make a note of the unique Tender ID assigned to each tender, in case, they want to obtain any clarification / help from the Helpdesk.

## 10. Preparation of Bids

- (i) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- (ii) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid. Bidders shall ensure no price bid information gets disclosed through any data/ document/ correspondences submitted by them and available for view before scheduled date of opening of price bid. The tender shall be summarily rejected if any price bid information gets disclosed before scheduled price bid opening date and time.
- (iii) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/ JPGformats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- (iv) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or "Other Important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

**Note:** *My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in My Documents space, this does not automatically ensure these Documents being part of Technical Bid.*

## 11. Submission of Bids

- (i) Bids shall be submitted online only at CPPP website : <https://eprocure.gov.in/eprocure/app>
- (ii) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- (iii) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- (iv) Bidder has to select the payment option as "offline" to pay the EMD as applicable and enter details of the instrument.
- (v) Bidder should prepare the EMD as per the instructions specified in the tender document as applicable. The original should be posted/couriered/given in person to the concerned official,

latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.

- (vi) The agency shall download the pre bid clarification if any for the work and upload the same (scanned copy) duly signed and sealed. The revised documents (if any) shall be uploaded in the tender portal. Submission of bid by a bidder shall mean they have understood the full scope of work and agree to all the tender conditions including amendments vide pre-bid clarification document uploaded by department.
- (vii) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the SKY BLUE coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.
- (viii) Tenderers are advised to upload their documents well in advance, to avoid last minutes rush on the server or complications in uploading. BARC, in any case, shall not be held responsible for any type of difficulties during uploading the documents including server and technical problems whatsoever.
- (ix) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- (x) Submission of the tender documents after the due date and time (including extended period) shall not be permitted.
- (xi) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- (xii) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- (xiii) Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- (xiv) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.
- (xv) Intending Bidders are advised to visit this website regularly till closing date of

submission to keep themselves updated as any change/ modification in the tender will be intimated through this website only by corrigendum / addendum/ amendment.

- (xvi) The technical specifications of some of the items/ materials of the tender suggest makes and brands as general recommendation and guidance for bidders to match performance parameters and tender specifications. Bidders can, however, suggest alternate / equivalent makes and brands subject to achieving the performance parameters and tender specifications, by providing technical details to substantiate the same. In order to ensure equal opportunity and fair and equitable treatment to all the bidders and also to avoid delays during execution of work, the pre-bid clarification stage before submission of bid is the appropriate stage to suggest alternate makes/ brands and recognition of the same by the department in the uploaded pre-bid clarification document after due verification of the submitted technical details. After award of work, delays due to time taken for conveying acceptance/ rejection of alternate / equivalent makes suggested by contractor (if any) shall be attributable to the contractor. Extra cost due to superior specification/ performance of items/ materials shall not be payable.

## **12. Assistance to Bidders**

- 1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- 2) Any queries relating to the process of online bid submission or queries relating to CPP Portalin general may be directed to the 24x7 CPP Portal Helpdesk.

## **Conditions:**

**13.** After opening of Cover-1, tender inviting authority may constitute an evaluation team to evaluate the eligibility of the tenderers based primarily on the following.

- a) Financial capability i.e bank solvency.
- b) Turnover during the last 3 or 4 years.
- c) Profit loss during last 5 or 6 years.
- d) Successful completion and quality of similar works.
- e) Registration of the bidder with PAN, GST, ESIC authorities.
- f) Declaration of local content in % as per Annexure - 4 of tender document along with associated documents if any.

Additional/ alternate/ substituted document shall be sought by the department by e-mail correspondences for confirmation in respect of eligibility of bidders. The documents thus sought be submitted by reply mail within allowed time for the competent authority to decide on the eligibility. In case required documents are not made available by reply mail within the allowed time, the bid shall be liable for rejection.

**14.** Department would also assess the capability and readiness of the bidder to carry out the job and highlight improvements required.

- g) Technical capabilities of the company in the light of subject work.
- h) Nature of works executed by the tenderer during last 7 years.
- i) Organizational structure of the company.
- j) Necessary Resource required by company to carry out the subject work.
- k) Time & quality consciousness.

- l) Tendency of the company with regard to making extraneous claims and disputes.
- m) Site planning ability.
- n) Tendency of the company to award the work on back-to-back / subletting.

➤ Cancellation of tender by competent authority: The competent authority reserves the right to cancel any or all tenders or to allot part of works to different agencies without incurring any liability to the Department and without assigning any reason thereof

**15.** As per the security procedure in force in Bhabha Atomic Research Centre, award of work to the successful bidder shall be vetted by the Security Section of BARC before award of the work.

**16.** No modifications in the tender shall be allowed after opening Cover-1.

**17.** Tenders with any condition including conditional rebate shall be rejected. However, tenders with unconditional rebate will be accepted.

**18.** Debaring of bidder from participating in tenders of BARC/ DFAE:

(i) If any information furnished by the applicant is found to be incorrect at a later stage, they shall be liable to be debarred from tendering / taking up works in BARC. Also, if such a violation comes to the notice of BARC before deposit of performance security, BARC shall forfeit the entire amount of EMD along with debaring. If such a violation comes to the notice of Department after deposit of performance security, BARC shall forfeit the entire amount of Performance Guarantee, EMD (if not released) along with debaring.

(ii) A bidder / contractor shall be debarred from participating in any procurement / tenders in BARC / DAE, as decided by the Competent Authority of BARC, if the competent authority of BARC finds the bidder has rendered themselves liable for action under Rule 151 & 175 (1) of General Financial Rules 2017 or its amendment(s) [<https://doe.gov.in/ordercircular/general-financial-rules2017-0>]; and / or clause 7.5 and sub-clauses (chapter 7) of Manual of Procurement of Works 2022 or its amendment(s) [<https://doe.gov.in/manuals/manual-procurement-works-updated-june-2022>]; and/or clause 2.4 and sub-clauses (chapter 2) Manual for Procurement of Consultancy & Other Services 2022 or its amendments [<https://doe.gov.in/divisions/manual-procurement-consultancy-other-services>]. Decision of Competent Authority of BARC in this regard shall be final and binding on the bidder.

(iii) Bidders must inform unambiguously if they have been debarred to bid for any duration OR an awarded work was terminated due to poor performance OR they are informed by client agency that an awarded work had been relinquished by them before completion in respect of any Government, Semi Government clients. Competent authority of BARC shall review the case and decide if the restriction to bid is applicable for current work.

**19.** The time allowed for carrying out the work will be reckoned normally from the 15<sup>th</sup> day after date of written order to commence the work or from the first day of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the tender documents. The date of commencement may be modified during award of work which shall be intimated in the work order.

**20.** Tender will be kept valid for **180** days from the Last date of closing of online submission of tenders.

21. In case the last date of receipt of “EMD” in physical form and opening of tender come on a holiday or declared as holiday, the respective dates shall be treated as postponed to the date of next working day.
22. Earnest Money in physical form to be submitted in the form of Fixed Deposit Receipt / Demand Draft / Bankers Cheque / Pay Order of a Scheduled Bank, issued in favour of “**Pay and Accounts Officer, BARC, Mysore**”. **The beneficiary bank name and address are: State Bank of India, Main Branch, Mysuru, IFSC SBIN0003130.** A part of Earnest Money is acceptable in the form of Bank Guarantee also. In such case minimum 50 % of the Earnest Money or Rs. 20.00 Lakhs, whichever is less, shall be in the form prescribed above and balance can be accepted in the form of Bank Guarantee issued by a Scheduled Bank as per Appendix ‘A’ of Tender document. Further, Receipt of Hard copy of EMD shall be submitted at afore-mentioned place given in Sr No. 1, sealed, super scribed envelope mentioning name of work and NIT Number.  
Further, EMD in physical form should be submitted preferably in person. **It should not be put in drop box or any other location.** Dispatch by post or courier may be considered subject to the condition the delivery is received within due date & time on said address given in Sr No. 1. Submission of EMD is compulsory. Bid of bidder shall not be opened in case EMD of respective bidder in recommended physical form is not received within due date and time.
23. The bidder whose tender is accepted will be issued letter of acceptance (LOA) by BARC. After receipt of LOA, the bidder shall be required to deposit an amount equal to 3% of the tendered value of the contract as performance security and after acceptance of performance security by BARC, work order shall be awarded to the bidder. Time allowed for submission of Performance Guarantee shall be 15 days from the date of issue of letter of acceptance. This period can be further extended at the written request of the bidder by E-I-C for a maximum period ranging from 1 to 15 days with late fee @0.1% per day of Performance Guarantee amount. Performance Security of 3% can also be accepted in the form of Bank guarantees (in case Performance Security exceeds ₹ 1.00 lakhs), fixed deposit receipts of Scheduled Banks or in the form of Government Securities. If letter of acceptance is issued, Earnest Money Deposit (EMD) of L1 bidder shall be returned / refunded after acceptance of Performance Security Deposit. If letter of acceptance is not issued EMD of L1 bidder shall be returned / refunded after cancellation of job by BARC or lapse of validity of offer whichever is earlier. EMD of L2 and other bidders shall be returned back / refunded after acceptance of Comparative Financial statement (CST) by competent authority of BARC. In case of two/ three bid system EMD of unsuccessful bidders during technical bid evaluation shall be returned within 30 days of uploading of technical bid evaluation in CPPP.
24. The bidder will be required to furnish by way of security deposit for the due fulfilment of his contract, such sum will be amounting to 2.5% (Two-point five Percent) of the tendered value of work. The Security Deposit will be collected by deducting @ 2.5% of the gross amount of the running bill of the bidder till the total security deposit recovered becomes 2.5% of the tendered value of work. The Security deposit will also be accepted in the form of Government Securities, Fixed Deposit Receipts of Scheduled Bank and Nationalized Bank. These shall be endorsed in favour of the Accounts Officer, BARC, Mysore.
25. If the successful tenderer, fails to furnish the prescribed performance guarantee on or before stipulated dates as mentioned in letter of acceptance, BARC shall without prejudice to any other right or remedy, reserves the right to forfeit EMD and further debarment procedure as per extant GFRs.

26. The acceptance of tender shall rest with department which does not bind itself to accept the lowest tender and reserves to itself the authority to reject any or all of the tenders received, without assigning any reason. All tenders in which any of the prescribed conditions are not fulfilled or incomplete in any respect are liable to be rejected.
27. Canvassing in connection with tenders is strictly prohibited and the tenders submitted by the bidders who resort to canvassing will be liable for rejection.
28. On acceptance of the tender, the name of the accredited representative(s) of the bidder who would be responsible for taking instructions from the Engineer-In-charge shall be communicated to the Engineer-In-charge.
29. The department reserves the right to accept the whole or only part of the tender and the tenderer shall be bound to perform the same at the rates quoted.
30. i) GST shall mean Goods and Service Tax – Central, State and Inter State.  
ii) All tendered rates quoted in Schedule-B shall be excluding GST but inclusive of all other taxes , royalties, levy or cess applicable on last stipulated date of receipt of tender including extension “if any”.  
iii) GST as applicable duly certified by Chartered Accountant on this work contract is reimbursable by BARC subject to production of original documentary proof of GST payment for this work. EPF & ESIC payments shall be re-imbursed as per clause given below. Any other taxes, insurance expenses, charges in respect of inputs or outputs for this contract shall be payable by the Bidder and Government will not entertain any claim whatsoever in respect of the same.  
iv) The bidders should ensure that they are GST compliant and their quoted tax structure /rates are as per GST Law.  
v) 2% TDS on GST, Labour welfare cess @1% of gross value of work done shall be recovered from each bill paid to the bidder.  
vi) Income tax and cess as applicable shall be deducted from each bill paid to the bidder.  
vii) Bidder should be registered under EPF & ESIC and as per law. Bidder shall pay EPF & ESIC of contract workers to concerned Department and it will be reimbursed to him by BARC after satisfying that it has been genuinely paid by the bidder based on documentary evidence. The bidder shall not consider EPF & ESIC in his rates. Bidder shall comply provisions of the EPF Act, 1952 in respect of all the eligible employees / workers/ labours and submit the documentary proof regularly with every RA Bill.  
viii) Any other taxes / cess as per Government directives shall be deducted from each bill paid to the bidder from time to time.
31. If any tenderer withdraws his tender within the validity period and before award of work whichever is earlier or make any modifications in the terms and conditions of the tender which are not acceptable to the department, then BARC shall without prejudice to any right or remedy, be at liberty to forfeit 50 % (Fifty Percent) of the Earnest Money Deposit.

Further, the bidder shall not be allowed to participate in the re-tendering process of the work.

32. After award of work to the successful bidder, the bidder shall submit time schedule & cash flow statement for approval of Competent Authority which will form part of Agreement.

33. The Successful bidder whose tender is accepted will be required to obtain Police Verification Certificate (PVC) issued by Special Branch of Police at his own cost for all his workmen i.e. Engineers, Supervisors and Labourer's to work BARC Premises and should quote accordingly. The PVC will be valid for three years.

In case of receipt of any adverse charter and antecedent remarks/ notification against the Bidder/ Company/ firm/proprietor and/ or his contract personnel, consequent to the security vetting, BARC reserves absolute right to terminate the contract forthwith without assigning reason/ show cause notice. Under the circumstance the Bidder will have no right to claim good any losses/liability that may be incurred as consequence to the above action initiated by BARC. BARC also reserves the right to forfeit in part/full performance security and/ or security deposit in possession of the Government for failure on the part of the bidder to abide/adhere to the Security instruction issued by DAE/ BARC from time to time.

**Instructions:**

34. The bidder should be registered with <https://eprocure.gov.in/eprocure/app>. Those bidders not registered on the website mentioned above, are required to get registered.
35. The intending bidder must have valid class-III digital signature for Request for purchase / Download of Tender Document (excel / word formats). The bid should only be submitted/uploaded after providing details of Fixed Deposit Receipts and or Bank Guarantee of any Scheduled Bank towards Earnest Money Deposit and other documents as specified
36. Tenders will be received online up to time & date as mentioned in the NIT details above. Cover-1 will be opened on the time & date as mentioned in the NIT details above. After opening of Cover-1, for evaluation, the bidder's Techno-commercial Bid related documents shall be evaluated and accordingly tenderers will be qualified/disqualified by the Competent Authority. The Cover-2 (Financial Bid) of the qualified tenderers shall then be opened at notified date and time. Date of opening of Cover-2 (Financial Bid) will be intimated to all bidders through the CPP Portal website.
37. The Financial Proposal/Commercial bid / BOQ format is provided as BOQ\_XXXX.xls along with this tender document at <https://eprocure.gov.in/eprocure/app>. Bidders are advised to download this BOQ\_XXXX.xls as it is and quote their offer/rates in the permitted column and upload the same in the commercial bid. **Bidder shall not tamper/modify downloaded price bid template in any manner.** In case if the same is found to be tampered/modified in any manner, tender will be completely rejected.
38. On opening date, the bidder can login and see the status of Bids after opening.
39. Bidder must ensure to quote rate of each item. The column meant for quoting rate in figures appears in SKY BLUE colour. While selecting any of the cells a warning appears to **mandatorily fill all such cells with any value, including "0" (ZERO).**

Note: **Prospective agencies shall satisfy themselves of fulfilling all the NIT criteria before submission of tender. Department reserves the right of non-consideration of tender of the agencies not fulfilling the stipulated criteria.**

40. **Eligible source countries:**

Any Bidder, from a country which shares a land border with India must comply to the Order (Public Procurement No.1) & Order (Public Procurement No. 2) issued by Public Procurement Division, Department of Expenditure, ministry of Finance, Government of India vide F. No. 6/18/2019-PPD dated 23.07.2020 and its addendum from time to time. Also, the bidder shall provide a certificate as per proforma given 'Appendix- F' of tender document. If such declaration or certificate is found to be false or to be incorrect at any time of submission of Bid or after awarding the Contract, then the said Contract will be terminated, along with such other actions as may be permissible under the relevant law of India.

41. This tender being a works contract no preference/ exemption for MSME firms is applicable for this tender as per manual of procurement of works updated June 2022

42. **List of Documents** to be scanned from original & uploaded within the period of bid submission by bidder:

- i. Financial Turn Over certified by CA with valid Unique Document Identification Number (UDIN) of the practicing Chartered Accountant. (Form "A")
- ii. Profit & Loss statement certified by CA with valid Unique Document Identification Number (UDIN) of the practicing Chartered Accountant. (Form "A")
- iii. Latest Bank Solvency Certificate. (Form "B")
- iv. List of Similar Works completed in last seven years indicating Agency for whom executed, Value of work, Stipulated and Actual time of completion, Performance certificates of the eligible similar works from the clients, along with Form "C".
- v. List of Works in Hand indicating: Agency, Value of Work, Stipulated time of completion / present position, along with Form "D".
- vi. Form 'E' - Performance report of works referred to in Form "C" & "D"
- vii. Form 'F' - Structure & organization
- viii. Form 'G' - Details of technical & administrative personnel proposed to be employed for the work along with supporting documents for Pre-Qualification (Refer Sl. No. 13).
- ix. Form 'H' - Details of construction plant & equipment likely to be used in carrying out the work for the work along with supporting documents for Pre-Qualification (Refer Sl. No. 13).
- x. Bidding Capacity Form 'I' - Certified by Chartered Accountant.
- xi. Certificates:
  - a) Valid Electrical Class-I License/ Electrical Super Grade Contractor license or license issued by any government/ Aided officials in India, suitable for execution of the electrical works of the tender.  
Or  
The Consent letter of such proposed agency for associating with the bidder along with supporting documents has to be submitted by the bidder.
  - b) Certificate of Registration for GST.
  - c) PAN (Permanent Account Number) Registration
  - d) Certificates of Registration for EPF & ESIC
- xii. Undertaking/Declarations - Annexure 1 to Annexure-6
- xiii. List of occasions of debarment/ blacklisting/ termination due to poor performance/ of the bidder by any client firm. If no such adverse case a Nil list to be enclosed. If no list is submitted, it shall be considered the bidder confirms they have not encountered any such adverse occasion.
- xiv. Earnest Money Deposit (EMD) for this work.

Note: During technical evaluation missing documents, if any, or additional/ substitute documents can be asked by evaluation committee for submission.

43. The Bidder is required to fill and submit the following complete in all respect:

- Cover-1: Techno-commercial cum PQ Bid, along with EMD
- Cover-2: Financial Bid (Schedule - 'B')

**Notes:**

1. Interested agencies may visit website <https://eprocure.gov.in/eprocure/app> for registration and Bid Submission.
2. Contact for assistance/ clarifications related to tender documents: 0821240 6640/6779/6731/ 6203
3. Contact for assistance for registration and participation in e-Tendering:
  - 3.1) 24x7 CPP Portal Helpdesk - 0120-4001 002, 0120-4001 005, 0120-6277 787
  - 3.2 ) email at [support-eproc@nic.in](mailto:support-eproc@nic.in)
4. Bidders who would like to visit site shall email to following email ids with details of Visitor(s) name, his/her ID details (Government issued ID like Aadhaar Card/PAN Card/Passport/Voter ID Card/Driving License, and address of bidder. Visitor has to carry original ID while visiting BARC.
5. Email Ids for sending request for site visit/ clarifications related to tender documents:

**To:** [shasri@barc.gov.in](mailto:shasri@barc.gov.in) (0821 240 6616)  
[manojnain@barc.gov.in](mailto:manojnain@barc.gov.in) (0821 240 6582)  
[amdoffice@barc.gov.in](mailto:amdoffice@barc.gov.in) (0821 240 6201)

**Sd/-**  
**Chief Engineer**  
Bhabha Atomic Research Centre, Mysuru  
For and on behalf of the President of India

**TENDER ACCEPTANCE LETTER  
(To be given on Company Letter Head)**

**Date :**

**To,**

**Chief Engineer  
Bhabha Atomic Research Centre,  
P.B. No.1, Yelwal P.O  
MYSORE-571 130**

**Sub: Acceptance of Terms & Conditions of Tender.**

**Tender Reference No: BARC//**

**Dated \_\_\_\_\_**

**Name of Tender / Work : -**

Dear Sir,

1. I / We have downloaded / obtained the tender document(s) for the above-mentioned Tender / Work from the web site(s) namely: <https://eprocure.gov.in/eprocure/app> and [www.barc.gov.in](http://www.barc.gov.in) as per your advertisement, given in the above mentioned website(s).
2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents which will form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.
3. The corrigendum(s) issued from time to time by your department/ organisation too have also been taken into consideration, while submitting this acceptance letter.
4. I / We hereby unconditionally accept the tender conditions of above-mentioned tender document(s)/ corrigendum(s) in its totality /entirety.
5. I / We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking

**OR**

Instances of debar/black listing is attached separately

6. I / We certify that all information furnished by our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organisation shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including actions taken by Department.

**Yours Faithfully,**

**(Signature of the Bidder, with Official Seal)**

**(To be given on Company Letter Head)  
TO WHOMSOEVER IT MAY CONCERN**

**Undertaking Pursuant to Section 206 AB of the Income Tax Act 1961  
Declaration confirming filing of Income Tax Return from immediate two preceding Years.**

I, \_\_\_\_\_ [Name], in the capacity of Individual / Proprietor/ Partner/ Director/Authorized signatory of \_\_\_\_\_ [Entity Name] with PAN \_\_\_\_\_, do hereby make the following declaration as required under the relevant provisions of the Income Act, 1961 (hereinafter referred as 'the Act'):

1. That I/We am /are authorized to make this declaration in the capacity as Individual / Proprietor/Partner/Director.
2. I/We hereby declare and confirm that I/We do not fall under the definition of 'specified person' as provided in section 206AB of the IT Act.
3. I/We have duly filed return of income for FY 20-21 & FY 21-22 within due date as per Section 139 (1) of the Income-tax Act, 1961 -**Yes/No (strike out whichever is not applicable)**.
- 4.
5. If return has been filled the details are as follows:

I/We, \_\_\_\_\_ having PAN \_\_\_\_\_, hereby confirm that the provision of Section 206 AB is not applicable in my/our case as I/we am/are regular in filling of Income Tax Return. The details (along with proof of documents) of acknowledgement numbers and date of filing of Income Tax Returns for last two financial years are furnished below:

S. No.	Financial Year / ( Assessment Year)	Date of Filing Income Tax Return	ITR Acknowledgement Number
1			
2			

6. I /We hereby take responsibility for any loss/liability fully including any tax, interest, penalty, etc. that may arise due to incorrect reporting of above Information.

All the aforesaid representations are true and correct, and we /I agree to furnish any evidence required at any time in support thereof.

On behalf of \_\_\_\_\_

<< Name of the authorised signatory >>

<< Designation >>                      Name of the Entity:

**GST UNDERTAKING BY FIRMS/AGENCY  
(To be given on Company Letter Head)**

**Name of Tender / Work: -**

---

Dear Sir,

1. I/We are registered under GST and compliant to GST provisions.
2. In case non-compliance of GST provisions and blockage of any input credit by us, I/we shall be responsible to indemnify BARC.
3. All the input credits for this work shall be/have been passed on to BARC by us.

Place:

Date:

Yours Faithfully,

**(Signature of the Bidder, with Official Seal)**

**Local Content Certification by Bidder**

**Following Declaration on bidder's letter head as under shall be submitted along with Technical Bid:**

**Name of Tender / Work: -**

---

Dear Sir,

"I/We \_\_\_\_\_ (Name of bidder) undertake that we meet the mandatory Local Content (LC) requirement for qualifying as 'Class I Local Supplier' as per the PP-LC Policy, against tender no. \_\_\_\_\_ . The percentage of Local Content in the bid is \_\_\_\_\_ %"

Signature of the Bidder(s), with seal

**Undertaking as per Clause 11- Conditions of Contract.**

(To be submitted on Bidder's Letter head)

**CLAUSE 11: WORK TO BE EXECUTED AS PER SPECIFICATIONS, DRAWINGS, ORDERS, ETC.**

I / We, hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F', viz., Schedule of Quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in General Rules & Directions and Clause - 11 of the Conditions of Contract and with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

Place:

Date:

Signature of the Bidder(s), with seal

**ANNEXURE- 6**

(To be submitted on ₹100/- Stamp paper attested by a Public Notary)

I/ We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in BARC Contracts in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Performance Guarantee.

Place:

Date:

Signature of the Bidder(s), with seal

## **APPENDIX - F**

### **FORM OF CERTIFICATE FOR ELIGIBLE SOURCE COUNTRIES**

**(To be submitted on Bidder's Letter head)**

I/We, ..... (Name of the Bidder) ....., have read the NIT clauses regarding restrictions on procurement from a Bidder of a country which shares a land border with India, and I/we am/are not from such a country'' or, from such a country (indicate country.....), have been registered with Competent Authority and submit a certificate herewith as an evidence of valid registration by the Competent Authority''.

I/We, ..... (Name of the Bidder) ....., have read the NIT clauses regarding restrictions on sub-contracting to contractors of a country which shares a land border with India. I/We hereby certify that I/We will not sub-contract any work to a contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. This clause is applicable only if sub-contracting is allowed in the tender document.

I/We hereby certify that I/We am/are fulfilling all requirements in this regard and eligible to be considered, in accordance to NIT clauses.

I/We acknowledge the right of the Employer that absence of such a certificate in the bid, if the Bidder belongs to such country stated above, shall disqualify the Bidder.

I/We acknowledge the right of the Employer to terminate the Bidder for false declaration or certificate, along with such other actions as may be permissible under law.



**Government of India  
Bhabha Atomic Research Centre Mysuru**

**Government of India  
Department of Atomic Energy  
Bhabha Atomic Research Centre, Mysuru**



**TENDER DOCUMENT**

**Name of Work: Core Drilling and Chemical Anchoring of Bolts at  
BARC, Mysore**

**Tender Notice No.: BARC/MYS/MD/AN/WT/2025/NIT**



**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

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**Government of India  
Bhabha Atomic Research Centre Mysuru**

**SECTION-I**

**NOTICE INVITING e-TENDERS (N.I.T)  
(UPLOADED SEPARATELY)**



**Government of India  
Bhabha Atomic Research Centre Mysuru**

**SECTION-II**

**FORM OF AGREEMENT AND GENERAL RULES AND  
SECTIONS FOR THE GUIDENCE OF CONTRACTORS**

**MEMORANDUM**



# Government of India Bhabha Atomic Research Centre Mysuru

## ITEM RATE TENDER & CONTRACT FOR WORKS

### FORM OF TENDER AND GENERAL RULES AND DIRECTIONS FOR THE GUIDENCE OF CONTRACTOR

#### GENERAL RULES AND DIRECTIONS

1. All works proposed for execution by contract will be notified in a form of invitation to tender pasted in public places and signed by the Officer inviting tender or by publication in Newspapers/ websites as the case may be.

This form will state the work to be carried out as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the application, and the amounts of Security Deposit and Performance Guarantee to be deposited by the successful tenderer and the percentage, if any, to be deducted from the bills. Copies of the specifications, designs and drawing and any other documents required in connection with the work signed for the purpose of identifications by the Officer inviting tender shall also be open for inspection by the contractor at the office of the Officer inviting tender, during office hours.

2. In the event of the tender being submitted by a firm, it must be signed separately by each partner, thereof, or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power-of-attorney authorizing him to do so, such power of attorney to be produced with the tender and it must disclose that the firm is duly registered under the Indian Partnership Act 1952.
3. Receipts for payments made on account of work when executed by a firm must also be signed by all the partners, except where the contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners or by some other person having due authority to give effectual receipts for the firm.
4. a) For e-Tendering

Any person, who submits a tender, must ensure to quote rate of each item in the SOQ downloaded from e-Tendering website. The column meant for quoting rate in figures appears in SKY BLUE colour. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other condition of any sort including conditional rebates, will be summarily rejected.

#### b) For Manual tendering (Offline mode)

Any person, who submits a tender, shall fill up the usual printed form, stating at what rate he is willing to undertake each item of the work. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort, including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate



## Government of India Bhabha Atomic Research Centre Mysuru

tender for each. Tender shall have the name and number of the works to which they refer, written on the envelopes.

The rate(s) must be quoted in decimal coinage. Amounts must be quoted in full rupees by ignoring fifty paise and considering more than fifty paise as rupee one.

5. The Officer inviting tender or his duly authorized assistant, will open tenders in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a Comparative Statement in a suitable form. In the event of a tender being accepted, a receipt for the earnest money shall thereupon be given to the contractor who shall thereupon for the purpose of identifications sign copies of the specifications and other documents mentioned in Rule 1. In the event of a tender being rejected, the earnest money shall thereupon be returned to the contractor remitting the same, without any interest.
6. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.
7. The receipt of an accountant or clerk for any money paid by the contractor will not be considered as an acknowledgment of payment to the Officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the Officer inviting tender or a duly authorized cashier.
8. The memorandum of work tendered for and the schedule of materials to be supplied by the Bhabha Atomic Research Centre and their issue rates shall be filled in and completed in the office of the Officer inviting tender before the tender form is issued. If a form is issued to an intending tenderer without having been so filled in and incomplete, he shall request the office to have this done before he completes and delivers his tender.
9. The tenderers shall sign a declaration under the officials Secret Act 1923, for maintaining secrecy of the tender documents drawings or other records connected with the work given to them. The unsuccessful tenderers shall return all the drawings given to them.
- 9A. Use of correcting fluid, anywhere in tender document is not permitted. Such tender is liable for rejection.

10. a) For e-Tendering

In the case of item rate tenders, only rates quoted shall be considered. Any tender containing percentage below/above the rates quoted is liable to be rejected. The intending bidder can quote his rates in figures only. The rates in words, amount of each item and total is generated automatically. **Therefore, the rate quoted by the bidder in figures is to be taken as correct.** In event no rate has been quoted for any item(s), leaving space in figure(s) and amount blank it will be presumed that the contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and the work will be required to be executed accordingly. In Lump sum contracts the amount quoted in figures is to be taken as correct.

b) For Manual tendering (Offline mode)



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In the case of item rate tenders, only rates quoted shall be considered. Any tender containing percentage below/above the rates quoted is liable to be rejected. Rates quoted by the contractor in Item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found the rate which correspond with the amount worked out by the contractor shall unless otherwise proved be taken as correct. If the amount of an Item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct. Where the rates quoted by the contractor in figures and in words tally, but the amount is not worked out correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount. In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s) and amount blank, it will be presumed that the contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and the work will be required to be executed accordingly.

11. In case of any tender where unit rate of any item / items appear unrealistic, such tender will be considered as unbalanced and in case the tenderer is unable to provide satisfactory explanation, such a tender is liable to be disqualified and rejected.
12. a) For e-Tendering: Deleted.  
b) For Manual tendering (Offline mode)

All rates shall be quoted on the tender form. The amount for each item should be worked out and requisite totals given. Special care should be taken to write the rates in figures as well as in words and the amount in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the word `Rs.` should be written before the figure of rupees and word `P` after the decimal figures, e.g., `Rs.2.15 P` and in case of words the word `Rupees` should precede and the word `Paise` should be written at the end. Unless the rate is in whole rupees and followed by the word `only` it should invariably be up to two decimal places. While quoting the rate in schedule of quantities, the word `only` should be written closely following the amount and it should not be written in the next line.

13. (i) The contractor whose tender is accepted, will be required to furnish performance guarantee of 3% (Three percent) of the tendered amount within the period specified in Schedule 'F'. This guarantee shall be in form of cash (in case guarantee amount is less than Rs. 10,000/-) or Deposit at call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand draft of any scheduled bank/Pay order of any scheduled bank (in case guarantee amount is less than Rs.1,00,000/-) or Government securities or Fixed Deposit Receipts or Guarantee Bonds of any scheduled bank or the State Bank of India in accordance with the prescribed form.
- (ii) The contractor whose tender is accepted will also be required to furnish by way of security deposit for the fulfilment of his contract, an amount equal to 2.5% of the tendered value of the work. The security deposit will be collected by deductions from the running bills as well as final bill of the contractor at the rates mentioned above. The security amount will also be accepted in cash or in the shape of government



## Government of India Bhabha Atomic Research Centre Mysuru

securities. Fixed Deposit Receipt of scheduled bank or State Bank of India will also be accepted for this purpose provided confirmatory advice is enclosed.

14. On acceptance of the tender the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated in writing to the Engineer-in-Charge.
15. GST or any other taxes applicable in respect of inputs procured by the Contractor for this contract shall be payable by the Contractor and Government will not entertain any claim whatsoever in respect of the same. However, component of GST at time of supply of services (as provided in CGST Act 2017) provided by the contractor shall be varied if different from that applicable on the last date of receipt of tender including extension if any and shall be reimbursable to the contractor against submission of Chartered Accountant certification and original documentary proof of GST payment for this work.
16. The contractor shall give a list of both gazetted and non-gazetted BARC employees related to him.
17. The tender for the work shall not be witnessed by a contractor or contractors who himself/themselves has/have tendered or who may and has/have tendered for the same work. Failure to observe this condition would render, tenders of the contractors tendering, as well as witnessing the tender, liable to summary rejection.
18. The tender for composite work includes, in addition to building work, all other works such as sanitary and water supply installations, drainage installations, electrical work, horticulture work, roads and paths etc. The tenderer apart from being a registered contractor (B&R) of appropriate class, must associate himself with agencies of appropriate class which are eligible to tender for sanitary and water supply drainage, electrical and horticulture works in the composite tender.
19. The contractor shall submit list of works which are in under execution or awarded and certifying that the list of works are complete and no works have been left out in the following form:

### PROJECTS UNDER EXECUTION OR AWARDED

Sl. No.	Name of work/project and location	BAR C or spons oring organi sation	Cost of work in Lakhs Rupees	Date of commencement as per contract	Stipulated date of completion	Upto date percentage progress of work	Slow progress if any and reasons thereof	Name and address / telephone number of officer to whom reference may be made	Remarks
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**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

20. The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be breach of the contract and the Superintending Engineer/ Executive Engineer may in his discretion, without prejudice to any other right or remedy available in law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.



**Government of India  
Bhabha Atomic Research Centre Mysuru**

**GOVERNMENT OF INDIA**

**BHABHA ATOMIC RESEARCH CENTRE**

**MYSORE**

**Division:**

**Sub Division:**

**Item Rate Tender and Contract for Works**

(A) Tender for the work of:

.....  
.....

(i) To be uploaded by..... hours on ..... to..... /upload  
at.....

To be submitted by..... hours on.....to (time) (date) \*

(ii) To be opened in presence of tenderers who may be present at .....hours  
on.....in the Office  
of.....

Issued to: .....\*

Signature of officer issuing the documents .....\*

Designation .....\*

Date of Issue: .....\*

\* Not Applicable for e-tendering

**TENDER**

I/We have read & examined the notice inviting tender, Schedule A, B, C, D, E & F, Specifications applicable & Drawings, General Rules & Directions, Conditions of Contract, clauses of contract, Special Conditions & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We, hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F' viz., Schedule of Quantities and in accordance in all respects with the specifications, drawings and instructions in writing referred to in Rule-1 of General



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Rules and directions and in Clause -11 of the conditions of contract and with such materials as are provided for, by and in respect in accordance with such conditions so far as applicable.

We agree to keep the tender open for the period mentioned in the NIT and not to make any modifications in its terms and conditions.

A sum of Rs. \_\_\_\_\_ is hereby forwarded in receipt treasury challan / deposit at call receipt of a scheduled bank / fixed deposit receipt of scheduled bank / demand draft of a scheduled bank/ Banker's Cheque issued by any scheduled Bank / bank guarantee issued by a scheduled bank as earnest money. If I / we, fail to furnish the prescribed performance guarantee within prescribed period, I / we agree that the said President of India or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I / we fail to commence work as specified, I / we agree that President of India or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely. The said performance guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form.

Further, I / we agree that in case of forfeiture of earnest money or both Earnest Money & Performance guarantee as aforesaid, I / we shall be debarred for participation in the re-tendering process of the work.

I / We hereby declare that I / We shall treat the tender documents drawings and other records connected with the work as secret / confidential documents and shall not communicate information derived therefrom to any person other than a person to whom I / We am / are authorized to communicate the same or use the information in any manner prejudicial to the safety of the state.

Signature of contractor  
Postal Address

Dated the ..... day of..... 20.....

Witness .....

Address .....

.....

Occupation.....



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### ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for & on behalf of President of India for a sum of Rs. ....  
(Rupees.....)  
.....)

The letters referred to below shall form part of this contract agreement.

- a)
- b)
- c)

For & on behalf of the President of India.

Signature.....

Dated.....

Designation.....



**Government of India  
Bhabha Atomic Research Centre Mysuru**

**SECTION-III**

**CONDITIONS OF CONTRACT, SAFETY CODE, MODEL RULES FOR THE  
PROTECTION OF HEALTH & SANITARY ARRANGEMENTS FOR WORKERS,  
CONTRACTOR'S LABOUR REGULATIONS AND ADDITIONAL CONDITIONS**



**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

**SECTION-III (i)**

**CONDITIONS OF CONTRACT**



# Government of India Bhabha Atomic Research Centre Mysuru

## SECTION – III (i)

### CONDITIONS OF CONTRACT

#### **DEFINITIONS:**

1. The **‘Contract’** means the documents forming the tender and acceptance thereof and the formal agreement executed between the Bhabha Atomic Research Centre, Mysore on behalf of President of India and the Contractor together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together shall be deemed to form one contract and shall be complementary to one another.
2. In the contract the following expression shall unless the context otherwise requires, have the meanings hereby respectively assigned to them.
  - i) The expression **‘Works’** or **‘Work’** shall unless there be something either in the subject or context repugnant to such construction be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent and whether original, altered, substituted or additional.
  - ii) The **‘Site’** shall mean the land and/or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
  - ii) The **‘Contractor’** shall mean the individual, firm or company whether incorporated or not undertaking the works and shall include the legal personnel representative or such individual or the persons composing such firm or company or the successors of such firm or company and the permitted assignees of such individual or firm or firms or company.
  - iv) The **‘President’** means the President of India and his successors.
  - v) The **‘Engineer-in-Charge’** means the Engineer Officer who shall supervise and be in charge of the work and who shall sign the contract on behalf of the President as mentioned in Schedule ‘F’ hereunder.
  - vi) **‘Government’** or **‘Government of India’** shall mean the President of India.
  - vii) The term C.E. represents Chief Engineer, of the Bhabha Atomic Research Centre, Mysore.
  - viii) Accepting Authority: shall mean the authority mentioned in Schedule ‘F’
  - ix) Excepted risk are risks due to riots (other than those on account of contractors employees), war (whether declared or not) invasion act of foreign enemies, hostilities, civil war, rebellion, revolution, insurrection, military or usurped power, any acts of government, damages from air craft, acts of God such as earthquake, lightning and unprecedented floods and other causes over which the contractor has no control and accepted as such by the Accepting authority or causes solely due to use or occupation by Government of the part of the works in respect of which a



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certificate of completion has been issued or a cause solely due to government's faulty design of works.

- x) **Market Rate** shall be the rate as decided by the Engineer-in-Charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in schedule 'F' to cover, all overheads and profits.
  - xi) **Schedule(s)** referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard schedule of rates of the government mentioned in Schedule 'F' hereunder, with the amendments thereto issued up to the date of receipt of the tender.
  - xii) **Department** means Department means Bhabha Atomic Research Centre (BARC) Mysore, Department of Atomic Energy, Government of India which invites tenders on behalf of President of India as specified in Schedule 'F'.
  - xiii) District specifications mean specifications followed by State Government in the area where the work is to be executed. Provided that this is specifically mentioned in Schedule 'F' of the tender.
  - xiv) **'Tendered value'** means the value of the entire work as stipulated in the letter of award.
  - xv) **Date of commencement of work:** The date of commencement of work shall be the date of start as specified in Schedule 'F', in accordance with the phasing if any, as indicated in the tender document.
  - xvi) **GST** shall mean Goods and Service Tax – Central, State and Inter State.
3. Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.
4. Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.
5. The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications, Schedule of rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract.
6. The work to be carried out under the contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Schedule of Quantities (relevant schedules) shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognised principles.



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7. The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.
8. The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.
- 8.1 In the case of discrepancy between the schedule of quantities, the Specifications and/or the Drawings, the following order of preference shall be observed.
  - i) Description of Schedule of Quantities.
  - ii) Particular Specification and Special Condition, if any.
  - iii) Drawings.
  - iv) BARC Specifications.
  - v) Indian Standard Specifications of B.I.S.
- 8.2 If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.
- 8.3 Any error in description, quantity or rate in Schedule of Quantities or any omission there from shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract.
9. The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority shall, within 15 days from the stipulated date of start of work, sign the contract consisting of: -
  - i) The notice inviting tender, all the documents including drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
  - ii) Standard BARC form enclosed as mentioned in Schedule 'F' consisting of:
    - a) Various standard clauses with corrections up to the date stipulated in Schedule 'F'; along with annexure thereto.
    - b) B.A.R.C safety Code.
    - c) Model Rules for the protection of health, sanitary arrangements for workers employed by BARC or its contractors.
    - d) BARC Contractor's Labour Regulations.
    - e) List of Acts and omissions for which fines can be imposed.
  - iii) No payment for the work done will be made unless contract is signed by the contractor.



# Government of India Bhabha Atomic Research Centre Mysuru

## CLAUSES OF CONTRACT

### CLAUSE 1: PERFORMANCE GUARANTEE

- i) The contractor shall submit an irrevocable Performance Guarantee of 3% (Three Percent) of the tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of letter of acceptance/ Work order. This period can be further extended by the Engineer-in-Charge up to a maximum period as specified in Schedule 'F' on written request of the contractor stating the reason for delays in procuring the Performance Guarantee, to the satisfaction of the Engineer-in-Charge. This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10,000/-) or deposit at call receipts of any scheduled bank/bankers cheque of any scheduled bank/demand draft of any scheduled bank/pay order of any scheduled bank (in case guarantee amount is less than Rs.1.00 Lakhs) or Government securities or Fixed Deposit receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed as Appendix hereto. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Government as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Government to make good the deficit.
- ii) The Performance Guarantee shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest.
- iii) The Engineer-in-Charge shall not make a claim under the Performance guarantee except for amounts to which the President of India is entitled under the contract (notwithstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
  - (a) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance guarantee.
  - (b) Failure by the contractor to pay President of India any amount due, either as agreed by contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge
- iv) In the event of the contract being determined or rescinded under provisions of any of the clause /condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the President of India.

### CLAUSE 1-A: RECOVERY OF SECURITY DEPOSIT:



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The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit Government at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 2.5% of the gross amount of each running and final bill till the sum deducted will amount to security deposit of 2.5% of the tendered value of the work. Such deductions will be made and held by Government by way of Security Deposit unless he/they has/have deposited the amount of Security at the rate mentioned above in cash or in the form of Government Securities or fixed deposit receipts. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Government as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Government to make good the deficit.

All compensation or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising there from, or from any sums which may be due to or may become due to the contractor by Government or any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in cash or fixed deposit receipt tendered by the State Bank of India or by scheduled banks or Government Securities (if deposited for more than 12 months) endorsed in favour of the Accounts Officer, BARC, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof. The security deposit shall be collected from the running bills and the final bill of the contractor at the rates mentioned above.

The security deposit as deducted above can be released against bank guarantee issued by a scheduled bank, on its accumulations to a minimum of Rs. Five (5) Lakhs subject to the condition that amount of such bank guarantee, except last one, shall not be less than Rs. Five (5) Lakhs.

Provided further that the validity of bank guarantee including one given against the earnest money shall be in conformity with provisions contained in Clause 17 which shall be extended from time to time depending upon extension of contract granted under provisions of Clause 2 and Clause 5.

**NOTE 1:** Government papers tendered as security will be taken at 5% (five per cent) below its market price or at its face value, whichever is less. The market price of Government papers would be ascertained by the Engineer-in-Charge at the time of collection of interest and the amount of interest to the extent of deficiency in value of the Government paper will be withheld if necessary.

**NOTE 2:** Government Securities will include all forms of securities mentioned in Rule No. 274 of the G.F. Rules except fidelity bond. This will be subject to the observance of the condition mentioned under the rule against each form of security.

**NOTE 3:** Note 1 & 2 above shall be applicable for both Clauses 1 & 1A.

### **CLAUSE 2: COMPENSATION FOR DELAY**

If the contractor fails to maintain the required progress in terms of Clause 5 or to complete the work and clear the site on or before the contract or extended date of completion, he shall,



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without prejudice to any other right or remedy available under the law to the Government on account of such breach pay as agreed compensation the amount calculated at the rates stipulated below as the authority specified in Schedule 'F' (whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day/month (as applicable) that the progress remains below that specified in Clause 5 or that the work remains incomplete.

This will also apply to items or group of items for which a separate period of completion has been specified.

i) Compensation for delay of work - @1.5% per month of delay to be computed on per day basis.

Provided always that the total amount of compensation for delay to be paid under this Condition shall not exceed 10% of the Tendered Value of work or of the Tendered Value of the item or group of items of work for which a separate period of completion is originally given.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the Government. In case, the contractor does not achieve a particular mentioned milestone in Schedule 'F', or the re-scheduled milestone (s) in terms of Clause 5.4, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of Extension of Time. Withholding of this amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s) the withheld amount shall be released.

In case the contractor fails to make up for the delay in subsequent milestone(s) amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever shall be payable on such withheld amount.

### **CLAUSE 2A: INCENTIVE FOR EARLY COMPLETION**

In case the contractor completes the work ahead of scheduled completion time, a bonus @ 1% (one percent) of the tendered value per month computed on per day basis, shall be payable to the contractor, subject to a maximum limit of 5% (five percent) of the tendered value. The amount of bonus, if payable, shall be paid along with final bill after completion of work. Provided always that provision of the Clause 2A shall be applicable only when so provided in Schedule 'F'.

### **CLAUSE 3: DETERMINATION OF CONTRACT: POWERS OF ENGINEERS-IN-CHARGE:**

Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other right or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and/ or any other provisions of this contract or otherwise and whether the date for completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:



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- i. If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or unworkman-like manner shall omit to comply with the requirements of such notice for a period of seven days thereafter.
- ii. If the contractor has, without reasonable cause suspended the progress of work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continue to do so after a notice in writing of 7 days from the Engineer-in-Charge.
- iii. If the contractor fails to complete the work within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date(s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-Charge.
- iv. If the contractor persistently neglects to carry out his obligations under the contract and/ or commits default in complying with any of the items and conditions of the contract and does not remedy it or take effective steps to remedy it within Seven (7) days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.
- v. If the contractor shall offer or give or agree to give to any person in government service or any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for government.
- vi. If the contractor shall enter into a contract with government in connection with which commission has been paid or agree to be paid by him or to his knowledge unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge.
- vii. If the contractor shall obtain a contract with government as a result of wrong tendering or other non-bonafide method of competitive tendering.
- viii. If the contractor being an individual or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do or if any application be made under any insolvency act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.
- ix. If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
- x. If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.
- xi. If the contractor assigns, transfers, sublets (engagements of labour on a piece work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be



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subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer-in-Charge.

When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the President of India shall have powers:

- a) To determine the contract as aforesaid (of which termination notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination the earnest money deposit, security deposit already recovered and performance guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the Government.
- b) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof as shall be un-executed out of his hands and to give it to another contractor to complete the work. The contractor, whose contract is determined or rescinded as above, shall not be allowed to participate in the tendering process for the balance work.

In the event of above courses being adopted by the Engineer-in-Charge the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provisions aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

### **CLAUSE 3A:**

In case the work cannot be started due to reasons not within the control of the contractor within 1/8<sup>th</sup> of the stipulated time for completion of work, either party may close the contract. In such eventuality, the Performance Guarantee of the contractor shall be refunded, but no payment on account of interest, loss of profit or damages etc. shall be payable at all.

### **CLAUSE 4: CONTRACTOR LIABLE TO PAY COMPENSATION EVEN IF ACTION NOT TAKEN UNDER CLAUSE 3.**

In any case in which any of the powers conferred upon the Engineer-in-Charge by clause 3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge all or any tools, plant, materials and stores, in or upon the works, or the site thereof, belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge whose certificate thereof shall be final and



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binding on the contractor, clerk of the works, foreman or other authorised agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice); in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and at his risk in all respects and the certificate of the Engineer-in-Charge as to the expense of any such removal and the amount of the proceeds and expense of any such sale shall be final and conclusive against the contractor.

### **CLAUSE 5: TIME AND EXTENSION FOR DELAY**

The time allowed for execution of the Works as specified in the Schedule 'F' or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the works shall commence from such time period as mentioned in Schedule 'F'. If the Contractor commits default in commencing the execution of the work as aforesaid, Government shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the performance guarantee absolutely.

5.1 As soon as possible after the Contract is concluded the Contractor shall submit a Time and Progress Chart for each milestone and get it approved by the Department. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the Contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per milestones given Schedule 'F'.

5.2 If the work(s) be delayed by: -

- I. Force majeure, or
- II. Abnormally bad weather or
- III. Serious loss or damage by fire, or
- IV. Civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- V. Delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or
- VI. Non-availability of stores, which are the responsibility of Government to supply or
- VII. Non-availability or break down of tools and plant to be supplied or supplied by Government or
- VIII. Any other cause which in the absolute discretion of the Engineer-in-Charge is beyond the Contractor's control.

Then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the authority as indicated in Schedule 'F' but shall nevertheless use constantly his best endeavours to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.



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- 5.3 Request for rescheduling of milestones and extension of time to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form authority as indicated in Schedule 'F'. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.
- 5.4 In any such case the authority as indicated in Schedule 'F' may give a fair and reasonable extension of time and reschedule the milestones for completion of work. Such extension shall be communicated to the Contractor by the authority as indicated in Schedule 'F' in writing, within 3 months of the date of receipt of such request. Non application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the authority as indicated in Schedule 'F' and this shall be binding on the contractor.

### **CLAUSE 6: MEASUREMENTS OF THE WORK DONE**

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value in accordance with the contract of work done.

All measurement of all items having financial value shall be entered in Measurement Book and/or level field book so that a complete record is obtained of all works performed under the contract.

All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorized representative and by the contractor or his authorized representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties.

If for any reason the contractor or his authorized representative is not available and the work of recording measurements is suspended by the Engineer-in-Charge or his representative, the Engineer-in-Charge and the Department shall not entertain any claim from contractor for any loss or damages on this account. If the contractor or his authorized representative does not remain present at the time of such measurements after the contractor or his authorized representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer-in-Charge or his representative shall be deemed to be accepted by the Contractor.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.

Except where any general or details description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian, Standards and if for any item no such standard is available then a mutually agreed method shall be followed.



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The contractor shall give not less than seven days notice to the Engineer-in-Charge or his authorized representative in-charge of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in-charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulate herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

### **CLAUSE 6A: COMPUTERISED MEASUREMENT BOOK**

Engineer-in-Charge shall except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.

All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the computerized measurement book having pages of A-4 size as per the format of the department so that a complete record is obtained of all the items of works performed under the contract.

All such measurements and levels recorded by the contractor or his authorized representative from time to time during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative. After the necessary corrections made by the Engineer-in-Charge, the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer-in-Charge for the dated signatures by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Engineer-in-Charge and or his authorized representative. The contractor will, thereafter incorporate such changes as may be done during these check/test checks in his draft computerized measurements, and submit to the department a computerized measurement book duly bound, and with its pages machine numbered. The Engineer-in-Charge and/or his authorized representative would thereafter check this MB and record the necessary certificates for their checks/test checks.



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The final, fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered should be 100% correct, and no cutting or overwriting in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound after getting the earlier MB cancelled by the dept. Thereafter the MB shall be taken in the Divisional Office records, and allotted a number as per the Register of Computerized MBs. This should be done before the corresponding bill is submitted to the Division Office for payment. The contractor shall submit two spare copies of such computerized MBs for the purpose of reference and record by the various officers of the Dept.

The contractor shall also submit to the department separately his computerized abstract or cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the `bill.` Thereafter this bill will be processed by the Division Office and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements/levels by the Engineer-in-Charge or his representative.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant standard method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The contractor shall give not less than seven days` notice to the Engineer-in-Charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the same maybe checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and/or test checking measurements without such notice having been given or the Engineer-in-Charges consent being obtained in writing the same shall be uncovered at the contractor`s expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.



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### **CLAUSE 7: PAYMENT ON INTERMEDIATE CERTIFICATE TO BE REGARDED AS ADVANCES.**

No payment shall be made for work, estimated to cost Rs. Twenty thousand or less till after the whole of the work shall have been completed and certificate of completion given. For works estimated to cost over Rs. Twenty thousand the interim or running account bills shall be submitted by the contractor for the work executed on the basis of such recorded measurements on the format of the Department in triplicate on or before the date of every month fixed for the same by the Engineer-in-Charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment/adjustment of advances for material collected, if any, since the last such payment is less than the amount specified in Schedule 'F', in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved. Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken, where necessary the requisite measurements of the work. In the event of the failure of the contractor to submit the bills, Engineer-in-Charge shall prepare or cause to be prepared such bills in which event no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of amount admissible shall be made by the Engineer-in-Charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-Charge. The amount admissible shall be paid by 10<sup>th</sup> working day after presentation of the bill by the contractor to the Engineer-in-Charge or his Assistant Engineer together with the account of the material issued by the department or dismantled materials, if any. In the case of works outside the headquarters of the Engineer-in-Charge, the period of ten working days will be extended to fifteen working days.

All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the work done or materials delivered forming part of such payment may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

Pending consideration of extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the department to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.

The Engineer-in-Charge in his sole discretion on the basis of a certificate from the Asst. Engineer-in-Charge to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements for work done (other than foundations, items to be covered under finishing items) up to lintel level (including sunshade etc.) and slab level for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill by taking detailed measurements thereof.

Payments in Composite Contracts: -



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In case of composite tenders, running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor component shall be made by the Engineer-in-Charge of the discipline of minor component directly to the main contractor.

In case main contractor fails to make the payment to the contractor associated by him within Fifteen (15) days of receipt of each running account payment, then on the written complaint of contractor associated for such minor component, Engineer-in-Charge of minor component shall serve the show cause to the main contractor and if reply of main contractor either not received or found unsatisfactory, he may make the payment directly to the contractor associated for minor component as per the terms and conditions of the agreement drawn between main contractor and associate contractor fixed by him. Such payment made to the associate contractor shall be recovered by Engineer-in-Charge of major or minor component from the next R/A/final bill due to main contractor as the case may be.

### **CLAUSE 8: COMPLETION CERTIFICATE AND COMPLETION PLANS.**

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors windows, walls, floor or other parts of the building in upon or about which the work is to be executed or of which he may have had possession for the purpose of the execution thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

### **CLAUSE 8A: CONTRACTOR TO KEEP SITE CLEAN**

When the annual repairs and maintenance of works are carried out, the splashes and droppings from white washing colour washing, painting, etc., on walls, floor, windows, etc. shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or premises etc. where the work is done without waiting for the actual completion of all the other items of work in the contract. In case the contractor fails to comply with the requirements of this clause, the Engineer-in-Charge shall have the right to get this work done at the cost of the contractor either departmentally or through any other agency.



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Before taking such action, the Engineer-in-Charge shall give ten days notice in writing to the contractor.

### **CLAUSE 8B: COMPLETION PLANS TO BE SUBMITTED BY THE CONTRACTOR.**

The contractor shall submit completion plan as required vide General Specifications for Electrical works (Part-1 internal) 2005 and (Part-II external) 1994, as applicable within thirty days of the completion of the work.

In case, the contractor fails to submit the completion plan as aforesaid, he shall be liable to pay sum equivalent to 2.5% of the value of the work subject to a ceiling of Rs. 15,000 (Rs. Fifteen thousand only) as may be fixed by the Superintending Engineer concerned and in this respect the decision of the Superintending Engineer shall be final and binding on the contractor.

### **CLAUSE 9: PAYMENT OF FINAL BILL**

The final bill shall be submitted by the contractor in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in-Charge whichever is earlier. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, will, as far as possible be made within the period specified herein under, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge or his authorized Asst. Engineer, complete with account of materials issued by the Department and dismantled materials.

- |   |   |                   |
|---|---|-------------------|
| i) If the Tendered value of work is up to Rs.15 Lakhs | - | Three (3) months. |
| ii) If the Tendered value of work exceeds Rs.15 Lakhs | - | Six (6) months    |

### **CLAUSE 9A: PAYMENT OF CONTRACTOR'S BILLS TO BANK**

Payments due to the contractor may if so desired by him be made to his bank instead of direct to him provided that the contractor furnishes to the Engineer-in-Charge (1) an authorisation in the form of a legally valid document such as a power of attorney conferring authority on the bank to receive payments and (2) his own acceptance of the correctness of the amount made out as being due to him by Government or his signature on the bills or other claim preferred against Government before settlement by the Engineer-in-Charge of the account or claim by payment to the bank. While the receipt given by such banks shall constitute a full and sufficient discharge for the payment, the contractor should wherever possible present his bills duly receipted and discharged through his bankers.

Nothing herein contained shall operate to create in favour of the bank any rights or equities vis-a-vis the President.

### **CLAUSE 10: MATERIALS SUPPLIED BY GOVERNMENT**

Materials which Government will supply are shown in Schedule 'A' which also stipulates quantum, place of issue and rate(s) to be charged in respect thereof. The contractor shall be bound to procure them from the Engineer-in-Charge.



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As soon as the work is awarded, the contractor shall finalise the programme for the completion of work as per clause 5 of this contract and shall give his estimates of materials required on the basis of drawings/or schedule of quantities of the work. The contractor shall give in writing his requirement to the Engineer-in-Charge which shall be issued to him keeping in view the progress of work as assessed by the Engineer-in-Charge, in accordance with the agreed phased programme of work indicating monthly requirements of various materials. The contractor shall place his indent in writing for issue of such materials at least 7 days in advance of his requirement.

Such materials shall be supplied for the purpose of the contract only and the value of the materials so supplied at the rates specified in the aforesaid schedule shall be set off or deducted, as and when materials are consumed in items of work (including normal wastage) for which payment is being made to the contractor, from any sum then due or which may therefore become due to the contractor under the contract or otherwise or from the security deposit. At the time of submission of bills, the contractor shall certify that balance of materials supplied is available at site in original good condition.

The contractor shall submit along with every running bill (on account or interim bill) material-wise reconciliation statements supported by complete calculations reconciling total issue, total consumption and certified balance (diameter/section-wise in the case of steel) and resulting variations and reasons thereof. Engineer-in-Charge shall (whose decision shall be final and binding on the contractor) be within his rights to follow the procedure of recovery in clause 42 at any stage of the work if reconciliation is not found to be satisfactory.

The contractor shall bear the cost of getting the material issued, loading, transporting to site, unloading, storing under cover as required, cutting assembling and joining the several parts together as necessary. Notwithstanding anything to the contrary contained in any other clause of the contract and (or the CPWA code) all stores/materials so supplied to the contractor or procured with the assistance of the Government shall remain absolute property of Government and the contractor shall be the trustee of the stores/materials, and the said stores/materials shall not be removed/disposed off from the site of the work on any account and shall be at all times open to inspection by the Engineer-in-Charge or his authorised agent. Any such stores/materials remaining unused shall be returned to the Engineer-in-Charge in as good a condition in which they were originally supplied at a place directed by him, at a place of issue or any other place specified by him as he shall require but in case it is decided not to take back the stores/materials the contractor shall have no claim for compensation on any account of such stores/materials so supplied to him as aforesaid and not used by him or for any wastage in or damage to in such stores/materials.

On being required to return the stores/materials, the contractor shall hand over the stores/materials on being paid or credited such price as the Engineer-in-Charge shall determine having due regard to the condition of the stores/materials. The price allowed for credit to the contractor, however, shall be at the prevailing market rate not exceeding the amount charged to him, excluding the storage charge, if any. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to account for contravention of the terms of the licences or permit and/or for criminal breach of trust, be liable to Government for all advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach. Provided that the contractor shall in no case be entitled to any compensation or damages on



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account of any delay in supply or non-supply thereof all or any such material and stores provided further that the contractor shall be bound to execute the entire work if the materials are supplied by the Government within the original schedule time for completion of work plus 50% thereof or schedule time plus 6 months whichever is more if the time of completion of work exceeds 12 months, but if a part of the materials only has been supplied within the aforesaid period, then the contractor shall be bound to do so much of the work as may be possible with the materials and stores supplied in the aforesaid period. For the completion of the rest of the work, the contractor shall be entitled to such extension of time as may be determined by the Engineer-in-Charge whose decision in this regard shall be final and binding on the contractor.

The contractor shall see that only the required quantities of materials are got issued. Any such material remaining unused and in perfectly good/original condition at the time of completion or determination of the contract shall be returned to the Engineer-in-Charge at the stores from which it was issued or at a place directed by him by a notice in writing. The contractor shall not be entitled for loading, transporting, unloading and stacking of such unused material except for the extra lead, if any involved, beyond the original place of issue.

### **CLAUSE 10A: MATERIALS TO BE PROVIDED BY THE CONTRACTOR**

The contractor shall, at his own expense, provide all materials, required for the works other than those which are stipulated to be supplied by the Government.

The contractor shall, at his own expense and without delay, supply to the Engineer-in-Charge samples of, materials to be used on the work and shall get these approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The Contractor shall, if requested by the Engineer-in-Charge furnish proof, to the satisfaction of the Engineer-in-Charge that the materials so comply. The Engineer-in-Charge shall within thirty days of supply of samples or within such further period as he may require intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-Charge for his approval fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-Charge shall be issued after the test results are received.

The contractor shall at his risk and cost submit the samples of materials to be tested or analysed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-Charge. The Contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.

The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-Charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. Engineer-in-Charge or his authorised representative shall at all times have access to the works and to all workshops and places where



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work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.

The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the Contractor.

The contractor shall at his own expense, provide a material testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipment as specified in Schedule 'F'.

### **CLAUSE 10B: SECURED ADVANCE ON NON-PERISHABLE MATERIALS**

- (i) The Contractor on signing an indenture in the form to be specified by the Engineer-in-Charge shall be entitled to be paid during the progress of the execution of the work up to 90% of the assessed value of any materials which are in the opinion of the Engineer-in-Charge non-perishable, non-fragile and non-combustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work the amount of such advance shall be recovered/deducted from the next payment made under any of the clause or clauses of this contract.

Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of Engineer-in-Charge provided the contractor provides a comprehensive insurance cover for the full cost of such materials. The decision of the Engineer-in-Charge shall be final and binding on the contractor in this matter. No secured advance, shall however, be paid on high-risk materials such as ordinary glass, sand, petrol, diesel etc.

#### **ii) Mobilisation Advance**

Mobilization advance not exceeding 10% of the tendered value may be given, if requested by the contractor in writing within one month of the order to commence the work. Such advance shall be in two or more instalments to be determined by the Engineer-in-Charge at his sole discretion. The first instalment of such advance shall be released by the Engineer-in-Charge to the contractor on a request made by the contractor to the Engineer-in-Charge in this behalf. The second and subsequent instalment shall be released by the Engineer-in-Charge only after the contractor furnishes a proof of the satisfactory utilization of the earlier instalment to the entire satisfaction of the Engineer-in-Charge.



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Before any instalment of advance is released, the contractor shall execute a Bank Guarantee Bond from Scheduled Bank for the amount of advance and valid for the contract period. This shall be kept renewed from time to time to cover the balance amount and likely period of complete recovery, together with interest.

Provided always the provision of Clause 10 B (ii) shall be applicable only when so provided in Schedule 'F'.

### *iii) Plant Machinery and Shuttering Material Advance*

An advance for plant, machinery & shuttering material required for the work and brought to site by the contractor may be given if requested by the contractor in writing within one month of bringing such plant and machinery to site. Such advance shall be given on such plant and machinery, which in the opinion of the Engineer-in-Charge will add to the expeditious execution of work and improve the quality of work. The amount of advance shall be restricted to 5% of the tendered value. In the case of new plant and equipment to be purchased for the work, the advance shall be restricted to 90% of the price of such new plant and equipment paid by the contractor for which the contractor shall produce evidence satisfactory to the Engineer-in-Charge. In the case of second hand and used plants and equipment, the amount of such advance shall be limited to 50% of the depreciated value of plant and equipment as may be decided by the Engineer-in-Charge.

The contractor shall, if so required by the Engineer-in-Charge, submit the statement of value of such old plant and equipment duly approved by a Registered Valuer recognized by the Central Board of Direct Taxes under the Income – Tax Act, 1961. No such advance shall be paid on any plant and equipment of perishable nature and on any plant and equipment of a value less than Rs. 50,000/- Seventy-five percent of such amount of advance shall be paid after the plant & equipment is brought to site and balance twenty-five percent on successfully commissioning the same.

Leasing of equipment shall be considered at par with purchase of equipment and shall be recovered by tripartite agreement with the following:

1. Leasing company which gives certificate of agreeing to lease equipment to the Contractor.
2. Engineer-in-Charge and
3. The Contractor.

This advance shall further be subject to the condition that such plant and equipment (a) are considered by the Engineer-in-Charge to be necessary for the works; (b) and are in working order and are maintained in working order; (c) hypothecated to the Government as specified by the Engineer-in-Charge before the payment of advance is released. The contractor shall not be permitted to remove from the site such hypothecated plant and equipment without the prior written permission of the Engineer-in-Charge. The contractor shall be responsible for maintaining such plant and equipment in good working order during the entire period of hypothecation failing which such advance shall be entirely recovered in lump sum. For this purpose, steel scaffolding and form work shall be treated as plant and equipment.



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The contractor shall insure the Plant and Machinery for which mobilization advance is sought and given, for a sum sufficient to provide for their replacement at site. Any amounts not recovered from the insurer will be borne by the contractor.

### *iv) Interest and Recovery*

The mobilization advance and plant and machinery advance in (ii) & (iii) above bear simple interest at the rate of 10% per annum and shall be calculated from the date of payment to the date of recovery, both the days inclusive, on the outstanding amount of advance. Recovery of such sums advanced shall be made by the deduction from the contractors bills commencing after first ten percent of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time eighty percent of gross value of the contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the instalment.

- (v) If the circumstances are considered reasonable by the Engineer-in-Charge, the period mentioned in (ii) & (iii) for request by the contractor in writing for grant of mobilization advance and plant and equipment advance may be extended in the discretion of the Engineer-in-Charge.

### **CLAUSE 10C: PAYMENT ON ACCOUNT OF INCREASE IN PRICES / WAGES DUE TO STATUTORY ORDER(S)**

If after submission of tender, the price of any material incorporated in the works (excluding the materials covered under Clause 10CA and not being a material supplied from the Engineer-in-Charge's stores in accordance with clause 10 thereof) and/or wages of labour increases as a direct result of the coming into force of any fresh law or statutory rule or order (but not due to any variation of rates in GST applicable on such material(s) being considered in this clause) beyond the prices / wages prevailing at the time of the last stipulated date of receipt of tenders including extensions, if any, for the work during contract period including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2, then the amount of the contract shall accordingly be varied and provided further that any such increase shall be limited to the price / wages prevailing at the time of stipulated date of completion or as prevailing for the period under consideration, whichever is less.

If after submission of the tender the price of any material incorporated in the works (excluding the materials covered under Clause 10CA and not being a material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 thereof) and/or wages of labour as prevailing at the time of last stipulated date of receipt of tender including extensions, if any, is decreased as a direct result of the coming into force of any fresh law or statutory rule or order (but not due to any changes of rate in sales tax/VAT Central / State Excise / Custom Duty) Government shall in respect of materials incorporated in the works (excluding the materials covered under Clause 10CA and not being material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 hereof) and / or labour engaged on the execution of the work after the date of coming into force of such law statutory rule or order be entitled to deduct from the dues of the contractor, such amount as shall be equivalent to the difference between the prices



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of the materials and / or wages as prevailed at the time of the last stipulated date for receipt of tenders including extensions if any for the work and the prices of materials and / or wages of labour on the coming into force of such law, statutory rule or order. This will be applicable for the contract period including the justified period extended under the provisions of clause 5 of the contract without any action under Clause 2.

Engineer-in-Charge may call books of account and other relevant documents from the contractor to satisfy himself about reasonability of increase in prices of materials and wages.

The Contractor shall, within a reasonable time of his becoming aware of any alteration in the price of any such material and/or wages of labour, give notice thereof to the Engineer-in-Charge stating that the same is given pursuant to this condition together with all information relating thereto which he may be in a position to supply.

For this purpose, the labour component of 85% of the value of the work executed during period under consideration shall not exceed the percentage as specified in Schedule 'F', of the value of work done during that period and the increase/decrease in labour shall be considered on the minimum daily wages in rupees of any unskilled mazdoor, fixed under any law, statutory rule or order. The cost of work for which escalation is applicable (W) is same as cost of work done worked out as indicated in sub-para (ii) of clause 10 CC except the amount of full assessed value of secured Advance.

### **CLAUSE 10CA: PAYMENT DUE TO VARIATION IN PRICES OF MATERIALS AFTER RECEIPT OF TENDER**

If, after submission of the tender, the price of materials specified in Schedule 'F' increases / decreases beyond the price(s) prevailing at the time of the last stipulated date for receipt of tenders (including extensions, if any) for the work, then the amount of the contract shall accordingly be varied and provided further that any such variations shall be effected for stipulated period of contract including the justified period extended under the provisions of clause 5 of the contract without any action under clause -2.

However, for work done/during the justified period extended as above, it will be limited to indices prevailing at the time of stipulated date of completion or as prevailing for the period under consideration, whichever is less.

The increase/ decrease in prices of cement, steel reinforcement, structural steel and other materials shall be determined by the All India Wholesale Price Indices of materials as published by Economic Advisor to Government of India, Ministry of Commerce and Industry and base price for cement, steel reinforcement, structural steel and other materials as issued under the authority of Chief Engineer / tender approving authority as valid on the last date of receipt of tender, and for the period under consideration. In case, price index of a particular material is not issued by Ministry of Commerce and Industry, then the price index of nearest similar material as indicated in Schedule 'F' shall be followed.

If during progress of work or at the time of completion of work, it is noticed that any material brought at site is in excess of requirement, then amount of escalation if paid earlier on such excess quantity of material shall be recovered on the basis of cost indices as applied at the time of payment of escalation or as prevailing at the time of effecting the recovery, whichever is higher.



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The amount of the contract shall accordingly be varied for all such materials and will be worked out as per the formula given below for individual material:

Adjustment for component of individual materials:

$$V = P \times Q \times \frac{(CI - Clo)}{Clo}$$

Where,

- V: Variation of material cost i.e. increase or decrease in the amount in rupees to be paid or recovered.
- P: Base price of material as mentioned in Schedule 'F' valid at the time of last stipulated date of receipt of tender including extensions if any.
- Q: Quantity of material brought at site for bonafide use in the works since previous bill.
- Clo: All India Wholesale Price Index for the material as Published by the Economic Advisor to the Government of India, Ministry of Commerce and Industry as valid on the last stipulated date of receipt of tenders including extensions, if any.
- CI: All India Wholesale Price Index for the material for period under consideration as published by The Economic Advisor to The Government of India, Ministry of Commerce and Industry.

Note:

- (i) In respect of justified period extended under the provisions of Clause 5 of the contract without any action under Clause-2, the index prevailing at the time of stipulated date of completion or the prevailing index of the period under consideration whichever is less, shall be considered).

Provided always that provisions of the preceding clause 10 C shall not be applicable in respect of materials covered in this clause.

- (ii) In respect of justified period extended under the provisions of Clause 5 of the Contract without any action under Clause 2, the index prevailing at the time of stipulated date of completion or prevailing index of the period under consideration, whichever is less, shall be considered.

### **CLAUSE 10 (CC): PAYMENT DUE TO INCREASE / DECREASE IN PRICES / WAGES (EXCLUDING MATERIALS COVERED UNDER CLAUSE 10 CA) AFTER RECEIPT OF TENDER FOR WORKS**

If the prices of materials (not being materials supplied or services rendered at fixed prices by the Department in accordance with Clauses 10 & 34 thereof) and/or wages of labour required for execution of the work increase, the contractor shall be compensated for such increase as per provisions detailed below and the amount of the contract shall accordingly be varied, subject to the condition that such compensation for escalation in prices and wages shall be available only for the work done during the stipulated period of the contract including the justified period extended under the provision of clause 5 of the contract without any action under clause 2. However, for the work done during the justified period extended as above, the compensation as detailed below will be limited to prices / wages prevailing at the time of stipulated date of completion or as prevailing for the period under consideration, whichever is less. No such



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compensation shall be payable for a work for which the stipulated period of completion is equal to or less than the time as specified in Schedule 'F'. Such compensation for escalation in the prices of materials and labour, when due, shall be worked out based on the following provisions:

(i). The base date for working out such escalation shall be the last stipulated date of receipt of tenders including extension, if any.

(ii). The cost of work on which the escalation will be payable shall be reckoned as below:

- a) Gross value of work done up to this quarter .....(A)
- b) Gross value of work done up to the last quarter.....(B)
- c) Gross value of work done since previous quarter (A-B): .....(C)
- d) Full assessed value of Secured Advance (**excluding materials covered under Clause 10 CA**) fresh paid in this quarter .....(D)
- e) Full assessed value of Secured Advance (**excluding materials covered under Clause 10 CA**) recovered in this quarter: .....(E)
- f) Full assessed value of Secured Advance for which escalation is .....(F)  
payable in this quarter (D-E).
- g) Advance payment made during this quarter .....(G)
- h) Advance payment recovered during this quarter .....(H)
- i) Advance payment for which escalation is payable in this quarter (G-H) .....(I)
- j) Extra items/deviated quantities of items paid as per Clause 12 based on  
prevailing market rates during this  
quarter.....(J)

$$\text{Then, } M = C (+/-) F (+/-) I - J$$

$$N = 0.85 \times M$$

- k) Less cost of material supplied by the Department as per Clause 10 and  
recovered during the quarter. ....(K)
- l) Less cost of services rendered at fixed charges as per clause 34 and  
recovered during the quarter  
.....(L)

Cost of work for which escalation is applicable

$$W = N - (K + L)$$

(iii). Components of materials, (except cement, reinforcement bars, structural steel or other materials covered under Clause 10 CA) labour, P.O.L., etc. shall be pre-determined for every work and incorporated in the conditions of contract attached to the tender papers included in Schedule 'E', 'F'. The decision of the Engineer-in-Charge in working out such percentages shall be binding on the contractors.

(iv). The compensation for escalation for other materials (except cement, reinforcement bars, structural steel or other materials covered under Clause 10 CA) and P.O.L. shall be worked as per the formulae given below:



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a) **Adjustment for civil /electrical/ instrumentation/ mechanical components etc. of construction “MATERIALS” (except cement, structural steel, reinforcement bars and other materials covered under Clause 10 CA)**

$$V_M = W \times (X_M / 100) \times \{(MI - MI_0) / MI_0\}$$

where,

**V<sub>M</sub>**: Variation in Materials cost i.e. increase or decrease in the amount in rupees to be paid or recovered.

**W**: Cost of work done, worked out as indicated in sub para (ii) of Clause 10 CC. This will be calculated either for entire SOQ/ particular schedule(s) of SOQ / a group of items as mentioned in Schedule 'F'.

**X<sub>M</sub>**: Component of 'Materials' (except cement, structural steel, reinforcement bars and other materials covered under Clause 10 CA) expressed as percent of the total value of work.

**MI**: All India Whole Sale Price Index for civil /electrical/ instrumentation/ mechanical components etc. of construction materials (Note: Relevant component as indicated in Schedule 'F') of construction materials as worked out on the basis of All India whole sale Price Index for Individual Commodities/ group items for the period under consideration as published by the Economic Adviser to Government of India, Ministry of Commerce and Industry, and applying weightages to the Individual Commodities / group Items. The price index of nearest similar Individual Commodities / group Items as indicated in Schedule 'F' will be considered.

(In respect of the justified period extended under the provisions of clause 5 of the contract, without any action under clause 2, the index prevailing at the time of stipulated date of completion or the prevailing index of the period under consideration, whichever is less shall be considered).

**MI<sub>0</sub>** : All India Whole Sale Price Index for civil /electrical/ instrumentation/ mechanical components etc. of construction materials (Note: Relevant component as indicated in Schedule 'F') as worked out on the basis of All India whole sale Price Index for Individual Commodities/ group items valid on the last stipulated date of receipt of tender including extension, if any, as published by the Economic Adviser to Government of India, Ministry of Commerce and Industry, and applying weightages to the Individual Commodities / group Items. The price index of nearest similar Individual Commodities / group Items as indicated in Schedule 'F' will be considered.

b) **Adjustment for component of “POL”**

$$V_F = W \times (Z / 100) \times \{(FI - FI_0) / FI_0\}$$

where,

**V<sub>F</sub>** : Variation in cost of Fuel, Oil and Lubricant i.e. increase or decrease in the amount in rupees to be paid or recovered.

**W** : Cost of work done, worked out as indicated in sub para (ii) of clause 10CC. This will be calculated either for entire SOQ/ particular schedule(s) of SOQ / a group of items as mentioned in Schedule 'F'.



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Z : Component of Fuel, Oil and Lubricant expressed as percent of the total value of work.

FI : All India Whole Sale Price Index for Fuel, Oil and Lubricant (The price index of nearest similar material as indicated in Schedule 'F' will be considered. ) for the period under consideration as published by the Economic Adviser to Government of India, Ministry of Commerce and Industry, New Delhi.

(In respect of the justified period extended under the provisions of clause 5 of the contract, without any action under clause 2, the index prevailing at the time of stipulated date of completion or the prevailing index of the period under consideration, whichever is less shall be considered)

FI<sub>0</sub> : All India Whole Sale Price Index for Fuel, Oil and Lubricant (The price index of nearest similar material as indicated in Schedule 'F' will be considered. ) as published by the Economic Adviser to Government of India, Ministry of Commerce and Industry, New Delhi valid on the last stipulated date of receipt of tender including extension, if any.

v). The following principles shall be followed while working out the indices mentioned in para (iv) above.

- (a) The compensation for escalation shall be worked out at quarterly intervals and shall be with respect to the cost of work done as per bills paid during the three calendar months of the said quarter. The first such payment shall be made at the end of three months after the month (excluding the month in which the tender was accepted) and thereafter at three months interval. At the time of completion of the work, the last period for payment might become less than 3 months, depending on actual date of completion.
- (b) The index (MI/FI etc.) relevant to any quarter / period for which such compensation is paid shall be the arithmetical average of the indices relevant to the three calendar months. If the period up to date of completion after the quarter covered by the last such installment of payment, is less than three months, the index MI & FI shall be the average of the indices for the months falling within that period.

vi) The compensation for escalation for **labour** shall be worked out as per the formula given below

$$V_L = W \times (Y / 100) \times \{(LI - LI_0) / LI_0 \}$$

where,

V<sub>L</sub>: Variation in labour cost i.e. amount of increase or decrease in rupees to be paid or recovered.

W: Value of work done, worked out as indicated in sub-para (ii) above. This will be calculated either for entire SOQ/ particular schedule(s) of SOQ / a group of items as mentioned in Schedule 'F'.

Y: Component of labour expressed as a percent of the total value of the work



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Ll0: Minimum daily wage in rupees of an unskilled adult male mazdoor, fixed under any law, statutory rule or order as on the last stipulated date of receipt of tender including extension, if any.

Ll: Minimum wage in rupees of an unskilled adult male mazdoor, fixed under any law, statutory rule or order as applicable on the last date of the quarter previous to the one under consideration.

(In respect of the justified period extended under the provisions of clause 5 of the contract, without any action under clause 2, the minimum wage prevailing on the last date of quarter previous to the quarter pertaining to the stipulated date of completion or the minimum wage prevailing on the last date of quarter previous to the one under consideration, whichever is less, shall be considered.).

- vii) The following principles will be followed while working out the compensation as per sub para(vi)above.
- The minimum wage of an unskilled Male Mazdoor mentioned in sub para (vi) above shall be the higher of the wage notified by Government of India, Ministry of Labour and that notified by the local administration, both relevant to the place of work and the period of reckoning.
  - The escalation for labour also shall be paid at the same quarterly intervals when escalation due to increase in cost of materials and/or P.O.L. is paid under this clause. If such revision of minimum wages takes place during any such quarterly intervals, the escalation compensation shall be payable at revised rates only for work done in subsequent quarters.
  - Irrespective of variation in minimum wages of any category of labour, for the purpose of this clause, the variation in the rate for an unskilled adult Male Mazdoor alone shall form the basis for working out the escalation compensation payable on the labour component.
- viii) In the event the price of materials and/or wages of labour required for execution of the work decrease(s), there shall be a downward adjustment of the cost of work so that such price of materials and/or wages of labour shall be deductible from the cost of work under this contract and in this regard the formula herein before stated under this clause 10 CC shall mutatis-mutandis apply, provided that:
- No such adjustment for the decrease in the price of materials and/or wages of labour aforementioned would be made in case of contracts in which the stipulated period of completion of the work is equal to or less than the time as specified in Schedule 'F'
  - The Engineer-in-Charge shall otherwise be entitled to lay down the procedure by which the provision of this sub-clause shall be implemented from time to time and the decision of the Engineer-in-Charge in this behalf shall be final and binding on the contractor.
- ix) Provided always that:-



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(a) where the provisions of Clause 10 CC are applicable, provision of Clause 10 C will not be applicable but provisions of Clause 10 CA will be applicable.

(b) where provisions of Clause 10 CC are not applicable, provisions of Clause 10 C and 10 CA will become applicable.

**Clause 10 CC to be applicable in contracts with stipulated period of completion exceeding 12 Months.**

### **CLAUSE 10D: EXCAVATED / DISMANTLED MATERIALS WILL BE GOVT. PROPERTY**

The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work etc. as Government's property and such materials shall be disposed off to the best advantage of Government according to the instructions in writing issued by the Engineer-in-Charge.

### **CLAUSE 11: WORK TO BE EXECUTED AS PER SPECIFICATIONS, DRAWINGS, ORDERS, ETC.**

The Contractor shall execute the whole and every part of the work in the most substantial and workman like manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly fully and faithfully to the designs, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge and the contractor shall be furnished free of charge one copy of the contract documents together standard specifications of BARC specified in Schedule 'F' or in any Bureau of Indian Standards or any other published standard or code or Schedule of Rates or any other printed publication referred to elsewhere in the contract.

The Contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

### **CLAUSE 12: DEVIATIONS / VARIATIONS: EXTENT AND PRICING**

The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to or substitution for the original specifications, drawings, designs and instructions that may appear to him to be necessarily advisable during the progress of the work and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions, or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works shall be carried out by the contractor on the same



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conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

12.1 : The time for completion of the work shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the contractor as follows:

- (i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value, plus (ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

### 12.2 DEVIATION, EXTRA ITEMS AND PRICING

Deviation, Extra items and pricing:

In the case of extra item(s) (items that are completely new, and are in addition to the items contained in the contract), the contractor may within fifteen days of receipt of order or occurrence of the item(s), supported by proper analysis, for the work and the engineer-in-charge shall within one month of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract) the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para.

Deviation, Substituted Items, Pricing:

- a) If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rate of substituted item and the agreement item (to be substituted).
- b) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rate of substituted item and the agreement item (to be substituted).

Deviation, Deviated Quantities, Pricing

In the case of contract items, substituted items, contract cum substituted items, which exceed the limit laid down in Schedule 'F', the contractor may within fifteen days of receipt of order or occurrence of the excess, claims revision of the rates, supported by



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proper analysis, for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer-in-Charge shall within one month of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

- 12.3 The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the works in excess of the deviation limits laid down in Schedule 'F', and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.
- 12.4 The contractor shall send to the Engineer-in-Charge once every three months an up-to-date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work ordered by the Engineer-in-Charge, which he has executed during the preceding quarter failing which the contractor shall be deemed to have waived his right. However, the Superintending Engineer may authorize consideration of such claims on merits.
- 12.5 Deleted.
- 12.6 Any operation incidental to or necessarily has to be in contemplation of tenderer while filling tenders or necessary for proper execution of the item included in the Schedule of Quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be, nothing extra shall be admissible for such operations.

### **CLAUSE 13: FORECLOSURE OF CONTRACT DUE TO ABANDONMENT OR REDUCTION IN SCOPE OF WORK**

If at any time after acceptance of the tender Government shall decide to abandon or reduce the scope of the work for any reason whatsoever and hence not require the whole or any part of the works to be carried out, the Engineer-in-Charge shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

The contractor shall be paid at contract rates full amount for works executed at site and in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilised on the work to the full extent in view of the foreclosure.

- i) Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office, storage accommodation and water storage tanks.
- ii) Government shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided however, Government



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shall be bound to take over the materials or such portions thereof as the contractor does not desire to retain. For materials taken over or to be taken over by Government cost of such materials as detailed by Engineer-in-Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.

- iii) If any materials supplied by Government are rendered surplus, the same except normal wastage shall be returned by the contractor to Government at rates not exceeding those at which these were originally issued less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to Government stores, if so required by Government, shall be paid.
- iv) Reasonable compensation for transfer of T & P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.
- v) Reasonable compensation for repatriation of contractor's site staff and imported labour to the extent necessary.

The Contractor shall, if required by the Engineer-in-Charge furnish to him books of account, wage books, time sheets and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.

The reasonable amount of items on (i), (iv) and (v) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the Government as per item (ii) above. Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-Charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the Government from the contractor under the terms of the contract.

### **CLAUSE 14: CARRYING OUT PART WORK AT RISK & COST OF CONTRACTOR**

If contractor:

- (i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge; or
- (ii) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or
- (iii) Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge.

The Engineer-in-Charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to



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Government, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to:

- (a) Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and / or
- (b) Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work / part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by Government because of action under this clause shall not exceed 10% of the tendered value of the work.

In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor. The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

Any excess expenditure incurred or to be incurred by Government in completing the part work / part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by Government as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to Government in law or per as agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the Contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors' unused materials, constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract.

In the event of the above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.

### **CLAUSE 15: SUSPENSION OF WORK**

- i) The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider



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necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons:

- (a) on account of any default on the part of the contractor or;
- (b) for proper execution of the works or part thereof for reasons other than the default of the contractor; or
- (c) for safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge.

ii) If the suspension is ordered for reasons (b) and (c) in sub-para (i) above:

- (a) The Contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25%, for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and;
- (b) If the total period of all such suspensions in respect of an item or group of items of work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor. Provided the contractor submits his claim supported by details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days.

iii) If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reasons (a) in sub-para (i) above, the contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-Charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by Government or where it affects whole of the works, an abandonment of the works by Government, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge.. In the event of the contractor treating the suspension as an abandonment of the contract by Government, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.

Provided, further, that the contractor shall not be entitled to claim any compensation from Government for the loss suffered by him on account of delay by Government in the supply



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of materials in Schedule 'A' where such delay is covered by difficulties relating to the supply of wagons, force majeure including non-allotment of such materials by controlling authorities, acts of God, acts of enemies of the state/country or any reasonable cause beyond the control of the Government.

### **CLAUSE 16: ACTION IN CASE WORK NOT DONE AS PER SPECIFICATIONS**

All works under or in course of execution or executed in pursuance of the contract shall at all times be open and accessible to the inspection and supervision of the Engineer-in-Charge, his authorised subordinates in charge of the work and all the superior officers, officer of the Quality Assurance Unit of the Department or any organization engaged by the Department for quality assurance and of the Chief Technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

If it shall appear to the Engineer-in-Charge or his authorised subordinates in charge of the work or to the Chief Engineer of Quality Assurance or his subordinate officers or the Officer's of the organization engaged by the Department for quality assurance or to the Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound imperfect, or unskilful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months (Six months in the case of work costing Rs.10.00 Lakhs and below except road work) of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 2 of the contract (for non-completion of the work in time) for this default.

In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the authority specified in Schedule 'F' may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

### **CLAUSE 17: CONTRACTOR'S LIABILITIES DURING MAINTENANCE PERIOD**

If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or



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grassland, or cultivated ground contiguous to the premises on which the work or any part of it is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within Twelve (12) months [Six (6) months in the case of work costing Rs. 10,00,000/- (Rs. Ten Lakhs) and below except road work] after a certificate final or otherwise, of its completion shall have been given by the Engineer-in-Charge as aforesaid arising out of defect or improper materials or workmanship, the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense, or in default, the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due, or at any time thereafter may become due to the contractor, or from his security deposit, or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of Twelve (12) months [6 months in the case of work costing Rs. 10,00,000/- and below except road work] after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later. Provided that in the case of road work, if in the opinion of the Engineer-in-Charge, half of the security deposit is sufficient to meet all the liabilities of the contractor under this contract, half of the security deposit will be refundable after Six (6) months and the remaining half after Twelve (12) months of the issue of the said certificate of completion or till the final bill has been prepared and passed whichever is later. Performance Security shall be refunded to the contractor after completion of the work and recording the completion certificate.

In case of maintenance and operation of E&M services, the security deposit deducted from contractors may at the considered opinion of EIC, which shall be final and binding be refunded within one month from the date of final payment or within one month from the date of completion of the maintenance contract, whichever is earlier.

### **CLAUSE 18: CONTRACTOR TO SUPPLY TOOLS & PLANTS ETC.**

The contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Engineer-in-Charge's stores), machinery, tools & plants as specified in Schedule 'F'. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffoldings and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specification or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting in the measurement or examination at any time and from time to time of the work or materials. Failing his so doing the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under the contract and/or from his security deposit or the proceeds of sale thereof, or of a sufficient portion thereof.

### **CLAUSE 18A: RECOVERY OF COMPENSATION PAID TO WORKMAN**



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In every case in which by virtue of the provisions of Sub Section (1) of Section 12 of the Workmen's Compensation Act. 1923, Government is obliged to pay compensation to a workman employed by the contractor, in execution of the works, Government will recover from the contractor the amount of the compensation so paid; and, without prejudice to the rights of the Government under sub-section (2) of Section 12 of the said Act, Government shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by Government to the contractor whether under this contract or otherwise. Government shall not be bound to contest any claim made against it under Sub-section (1) of Section 12 of the said Act, except on the written request of the contractor and upon his giving to Government full security for all costs for which Government might become liable in consequence of contesting such claim.

### **CLAUSE 18B: ENSURING PAYMENT AND AMENITIES TO WORKERS IF CONTRACTOR FAILS TO DO SO:**

In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and of the contract labour (Regulation and Abolition) Central Rules, 1971, Government is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the Rules, under Clause 19 H or under the DAE Contractor's Labour Regulations, or under the rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by Department of Atomic Energy contractors, Government will recover from the contractor the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to the rights of the Government under Sub-section (2) of Section 20 and Subsection 4 of Section 21 of the contract labour (Regulation and Abolition) Act, 1970, Government shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by Government to the contractor whether under this agreement or otherwise. Government shall not be bound to contest any claim made against it under Subsection (1) of Section 20, sub-section (4) of section 21, of the said Act, except on the written request of the contractor and upon his giving to the Government full security for all costs for which Government might become liable in contesting such claim.

### **CLAUSE 18C:**

The Contractor shall indemnify the President, represented by Director, BARC from any loss, responsibility, legal, moral, or otherwise for and in the unwelcome event of any accident that is caused by criminal negligence and or any unsafe working condition which in the opinion of the EIC could have been caused by and for any reason attributable to the contractor for even force majeure, causing loss of life, incapacitation, grievous injury to ant workmen, supervisor or any other person and the indemnity so executed separately on a non-judicial stamp paper shall be in force during the execution of the contract and shall remain co-terminus with Clause-17 ibid.

### **CLAUSE 19: LABOUR LAWS TO BE COMPLIED BY THE CONTRACTOR**

The contractor shall obtain a valid license under the Contract Labour (R & A) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also abide by the provision of the Child Labour (Prohibition & Regulation) Act-1998.



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The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1986.

Any failure to fulfil these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

### **CLAUSE 19A: NO LABOUR BELOW THE AGE OF 14 YEARS**

No labour below the age of 14 (fourteen) years shall be employed on the work.

### **CLAUSE 19B: FAIR WAGE CLAUSE :(PAYMENT OF WAGES) :**

- i) The contractor shall pay to labour employed by him either directly or through sub-contractors, wages not less than fair wages as defined in the DAE, Contractor's Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- ii) The contractor shall notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.
- iii) In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the DAE Contractor Labour Regulations made by Government from time to time in regard to payment of wages, wage period, deductions from wages, recovery of wages not paid and deductions unauthorisedly made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules 1971, wherever applicable.
- iv-a) The Engineer-in-Charge concerned shall have the right to deduct from the moneys due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reasons of non-fulfilment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deduction made from his or their wages which are not justified by their terms of the contract or non-observance of the regulations.
- iv-b) Under the provisions of the minimum wages (Central) Rules 1950, the contractor is bound to allow to the labourers directly or indirectly employed in the works one day's rest for six days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holiday to any labourer, and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned.



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- v) The contractor shall comply with the provisions of the payment of wages Act 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefit Act, 1961 and the Contractor's Labour (Regulation and Abolition) Act, 1970 or the modifications thereof or any other laws relating thereto and the rules made there under from time to time.
- vi) The contractor shall indemnify and keep indemnified Government against payments to be made under and for the observance of the laws aforesaid and the D.A.E. Contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.
- vii) The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.
- viii) Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.
- vi) The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

### **CLAUSE - 19C: SAFETY PROVISIONS FOR LABOUR & PENALTY ON DEFAULT**

In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per DAE safety code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangements and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs. 200/- for each default and in addition the Engineer-in-Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

### **CLAUSE 19D: SUBMISSION OF LABOUR CHART BY EVERY FORTNIGHT**

The contractor shall submit, by the 4th and 19th of every month, to the Engineer-in-Charge a true statement showing, in respect of the second half of the preceding month and the first half of the current month respectively.

1. The number of labourers employed by him on the work.
2. Their working hours.
3. The wages paid to them.
4. The accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and
5. The number of female workers who have been allowed Maternity Benefit, according to clause 19 F and the amount paid to them.



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Failing which the contractor shall be liable to pay to Government a sum not exceeding Rs. 200/- (Rs. Two Hundred) for each default or materially incorrect statement. The decision of the Engineer-in-Charge shall be final in deducting from any bill due to the contractor the amount levied as fine and be binding on the contractor.

## **CLAUSE 19E: HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS**

In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by Bhabha Atomic Research Centre and its contractors.

## **CLAUSE 19F: MATERNITY BENEFIT RULES FOR FEMALE WORKERS EMPLOYED BY CONTRACTORS**

Leave and pay during leave shall be regulated as follows:

### 1) LEAVE:

- i) In case of delivery: maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day.
- ii) In the case of miscarriage: up to 3 weeks from the date of miscarriage.

### 2) PAY:

- i) In the case of delivery: leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on the total wages earned on the days when full time work was done during a period of 3 months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rs.1/- only a day whichever is greater.
- ii) In case of miscarriage: leave pay at the rate of average daily earnings calculated on the total wages earned on the days when full time work was done during a period of 3 months immediately preceding the date of such miscarriage.

### 3) CONDITIONS FOR THE GRANT OF MATERNITY LEAVE:

No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than 6 (six) months immediately preceding the date on which she proceeds on leave.

- 4) The contractor shall maintain a register of maternity (Benefit) in the prescribed form as shown in below and the same shall be kept at the place of work.

## **REGISTER OF MATERNITY BENEFITS** (Clause 19 F of the Conditions of contract)

Name \_\_\_\_\_ and \_\_\_\_\_ address \_\_\_\_\_ of \_\_\_\_\_ the contractor(s) : .....



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Name \_\_\_\_\_ and \_\_\_\_\_ location \_\_\_\_\_ of \_\_\_\_\_ the work :.....

Name of the employee	Father's / Husband's Name	Nature of employment	Period of actual appointment	Date on which notice of confinement given
1	2	3	4	5

Date of delivery / miscarriage	Date on which maternity leave commenced and ended			
	In case of Delivery		In case of Mis-carriage	
	Commenced	Ended	Commenced	Ended
6	7	8	9	10

Leave pay paid to the employee				Remarks
In case of delivery		In case of mis-carriage		
Rate of leave pay	Amount paid	Rate of leave pay	Amount paid	
11	12	13	14	15

**SPECIMEN FORM OF THE REGISTER, REGARDING MATERNITY BENEFIT ADMISSIBLE TO THE CONTRACTOR'S LABOUR IN D.A.E. WORKS.**

Name and location of the work : -----

Name and address of the contractor :-----

1. Name of the woman and her husband's Name :
2. Designation :
3. Date of appointment :
4. Date with months and years in which she is employed :
5. Date of discharge/dismissal, if any :
6. Date of production of certificates in respect of pregnancy :
7. Date on which the woman informs about the expected delivery :
8. Date of delivery/Miscarriage/death :



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9. Date of production of certificate in respect of delivery/miscarriage :
10. Date with the amount of maternity/death benefit paid in advance of expected delivery :
11. Date with the amount of subsequent payment of maternity benefit :
12. Name of the person nominated by the woman to receive the payment of the maternity benefit after her death :
13. If the woman dies, the date of her death, the name of the person to whom maternity benefit amount was paid, the month thereof and the date of payment :
14. Signature of the contractor authenticating entries in the register :
15. Remarks column for the use of Inspecting Officer:

### **CLAUSE 19G: PENALTY FOR NON COMPLIANCE OF LABOUR REGULATIONS**

In the event of the contractor(s) committing a default or breach of any of the provisions of the D.A.E. Contractor's Labour Regulations and Model Rules, for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulations and Rules which is materially incorrect, he/they shall, without prejudice to any other liability, pay to the Government a sum not exceeding Rs. 200/- for every default, breach or furnishing, making, submitting, filling such materially incorrect statements and in the event of the contractor(s) defaulting continuously in this respect, the penalty may be enhanced to Rs. 200/- per day for each day of default subject to a maximum of 5% of the estimated cost of the work put to tender. The decision of the Engineer-in-Charge shall be final and binding on the parties.

Should it appear to the Engineer-in-Charge that the Contractor(s) is/are not properly observing and complying with the provisions of the DAE Contractor's Labour Regulations and the provisions of the contract labour (Regulation & Abolition) Act, 1970 and the contract Labour (R&A) Central Rules 1971 for the protection of health and sanitary arrangements for work people employed by the contractor(s) (hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the contractor(s) shall fail within the period specified in the notice to comply with and/or observe the said Rules and to provide the amenities to the work-people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities here-in-before mentioned at the cost of the contractor(s).

The contractor(s) shall erect, make and maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work-people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangements be remodelled and/or reconstructed according to approved standard, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor(s).



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### **CLAUSE 19H: PROVIDING HUTMENTS, W/S, S/I, DRAINAGE, SANITATIONS ETC. FOR WORKERS**

The contractor(s) shall at his/their own cost provide his/their labour with a sufficient number of huts (hereinafter referred to as the “camp”) of the following specifications on a suitable plot of land to be approved by the Engineer-in-Charge.

1. a) The minimum height of each hut at the eaves level shall be 2.10 m (7 ft). and the floor area to be provided will be at the rate of 2.7 Sq.m. (30 Sq ft) for each member of the worker’s family staying with the labourer.
  - b) The contractor(s) shall in addition construct suitable cooking places having a minimum area of 1.80 m. x 1.50 m (6 ft x 5 ft) adjacent to the hut for each family.
  - c) The contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.
  - d) The contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.
2. a) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobi on both sides. The floor may be katcha but plastered with mud gobi and shall be at least 15 cm (6 inches). above the surrounding ground. The roofs shall be laid with thatch or any other materials as may be approved by the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation the roofs remain water-tight.
  - b) The contractor(s) shall provide each hut with proper ventilation.
  - c) All doors, windows and ventilators shall be provided with suitable leaves for security purposes.
  - d) There shall be kept an open space of at least 7.2 m (8 yards) between the rows of huts which may be reduced to 6 m (20 ft) according to the availability of site with approval of the Engineer-in-Charge. Back-to-back construction will be allowed.
3. Water Supply: The contractor(s) shall provide adequate supply of water for the use of labourers. The provision shall not be less than 10 Ltrs. (2 Gallons) of pure and wholesome water per head per day for drinking purposes and 15 Ltrs. (3 Gallons) of clean water per head per day for bathing and washing purposes. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or rivers, tanks, which may be of metal or masonry, shall be provided. The contractor(s) shall also at his/their own cost make arrangements for laying pipe lines for water supply to his/their labour camp from the existing mains wherever available and shall pay all fees and charges therefore.
4. The site selected for the camp shall be high ground, removed from jungle.
5. Disposal of Excreta: The contractor(s) shall make necessary arrangements for the disposal of excreta from the latrines by trenching or incineration which shall be according to the



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requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the contractor(s) shall make arrangements for the removal of the excreta through the Municipal Committee/authority and inform it about the number of labourers employed so that arrangements may be made by such committee/authority for the removal of the excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality/authority. The contractor shall provide one sweeper for every 8 seats in case of dry system.

6. **Drainage:** The contractor(s) shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy.
7. The contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.
8. **Sanitation:** The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities.

### **CLAUSE 19 I: REMOVAL OF INCOMPETENT WORKERS**

The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors employ upon the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirements. In respect of maintenance / repair or renovation works etc. where the labour have an easy access to the individual houses, the contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour. AE / JE will display a list of contractors working in the colony / Blocks on the notice board in the colony and also at the service center, to apprise the residents about the same.

### **CLAUSE 19J: NO PART OF BUILDING TO BE OCCUPIED- ACTION ON BREACH THEREOF**

It shall be the responsibility of the contractors to see that the building under construction is not occupied by anybody unauthorisedly during construction and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed, is occupied illegally, then the Engineer-in-Charge will have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as delay in completion and for such delay a levy up to 5% of tendered value of work may be imposed by the Superintending Engineer whose decision shall be final both with regard to the justification and quantum and be binding on the contractor.

However, the Superintending Engineer, through a notice, may require the contractor to remove the illegal occupation any time on or before construction and delivery.

### **CLAUSE 19K: EMPLOYMENT OF SKILLED/SEMI-SKILLED WORKERS:**

The contractor shall at all stages of work, deploy skilled/semi-skilled tradesman who are qualified and possess certificate in particular trade from BARC/DAE Training/Industrial Training Institute/National Institute of construction management & Research



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(NICMAR)/National Academy of Construction, CIDC or any similar reputed and recognized Institute managed/certified by State/Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/semi-skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer-in-Charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge in charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesman per will attract a compensation to be paid by the contractor at the rate of Rs. 100/- per such tradesman per day. Decision of Engineer-in-Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

Provided always, that the provisions of this clause, shall not be applicable for works with estimated cost put to tender being less than Rs.5 Crores.

### **CLAUSE 19L: CONTRIBUTION OF EPF AND ESI:**

The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-Charge to the contractor on actual basis.

### **CLAUSE 20: MINIMUM WAGES ACT TO BE COMPILED WITH**

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, Contract Labour (Regulation and Abolition) Act, 1970 amended from time to time, and rules framed there under and other labour laws affecting contract labour that may be brought into force from time to time.

### **CLAUSE 21: WORK NOT TO BE SUB-LET / ACTION IN CASE OF INSOLVENCY**

The contract shall not be assigned or sub-let without the written approval of the Engineer-in-Charge. And if the contractor shall assign or sub-let his contract, or attempt so to do, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt so to do, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employ of Government in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-Charge on behalf of the President of India shall have power to adopt any of the courses specified in Clause 3 here of in the interest of Government an in the event of any such courses being adopted the consequences specified in the said Clause 3 shall ensue.

### **CLAUSE 22: SUMS PAYABLE BY WAY OF COMPENSATION**



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All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Government without reference to the actual loss or damage sustained, and whether or not any damage shall have been sustained.

### **CLAUSE 23: CHANGES IN FIRM'S CONSTITUTION TO BE INTIMATED**

Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the work hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken, and the same consequence shall ensue as provided in the said Clause 21.

### **CLAUSE 24: WORKS TO BE UNDER DIRECTION OF ENGINEER-IN-CHARGE.**

All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Engineer-in-Charge who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.

### **CLAUSE 25: SETTLEMENT OF DISPUTES & ARBITRATION**

Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instructions here-in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter :

- i) If the contractor considers any work demanded of him to be outside the requirements of the contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge on any matter in connection with or arising out of the contract or carrying out of the work, to be unacceptable, he shall promptly within 15 days request the Superintending Engineer in writing for written instruction or decision. Thereupon, the Superintending Engineer shall give his written instructions or decision within a period of one month from the receipt of the contractor's letter.

If the Superintending Engineer fails to give his instructions or decision in writing within the aforesaid period or if the contractor is dissatisfied with the instructions or decision of the Superintending Engineer, the contractor may, within 15 days of the receipt of Superintending Engineer's decision, appeal to the Chief Engineer who shall afford an opportunity to the contractor to be heard, if the latter so desires, and to offer evidence in support of his appeal. The Chief Engineer shall give his decision within 30 days of receipt of contractor's appeal. If the contractor is dissatisfied with this decision, the contractor shall within a period of 30 days from receipt of the decision, give notice to the Chief Engineer for appointment of arbitrator on prescribed proforma as per Appendix XV as



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given below, failing which the said decision shall be final binding and conclusive and not referable to adjudication by the arbitrator.

### Notice for appointment of Arbitrator [Refer Clause 25]

To  
The Chief Engineer-in-Charge  
BARC, P.O Yelwal,  
Mysore 571 130

Dear Sir,

In terms of clause 25 of the agreement, particulars of which are given below, I / We hereby give notice to you to appoint an arbitrator for settlement of disputes mentioned below:

1. Name of applicant
2. Whether applicant is Individual / Prop. Firm / Partnership firm / Ltd. Co.
3. Full address of the applicant
4. Name of the work and contract number in which arbitration sought
5. Name of Division which entered into contract
6. Contract amount in the work
7. Date of contract
8. Date of initiation of work
9. Stipulated date of completion of work
10. Actual date of completion of work (if completed)
11. Total number of claims made
12. Total amount claimed
13. Date of intimation of final bill (if work is completed)
14. Date of payment of final bill (if work is completed)
15. Amount of final bill (if work is completed)
16. Date of request made to SE for decision
17. Date of receipt of SE's decision
18. Date of appeal to you
19. Date of receipt of your decision

Specimen signatures of the applicant  
(only the person / authority who signed  
The contract should sign)



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I / We certify that the information given above is true to the best of knowledge. I / We enclose following documents.

1. Statement of claims with amount of claims
- 2.
- 3.

Yours faithfully,

(Signatures)

Copy in duplicate to:

1. The Engineer In charge  
BARC, Mysore
2. **Superintending Engineer** – Division  
BARC, Mysore

- ii) Except where the decision has become final, binding and conclusive in terms of Sub Para (i) above disputes or difference shall be referred for adjudication through arbitration by a sole arbitrator appointed by Director, BARC, in respect of the contract entered in to by any sub ordinate authority under him. However, if the contract is entered into by Director BARC, the arbitrator shall be appointed by the Department of Atomic Energy. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another sole arbitrator shall be appointed in the manner aforesaid. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

It is a term of the contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the rejection by the Chief Engineer-in-Charge of the appeal.

It is also a term of this contract that no person other than a person appointed as aforesaid should act as arbitrator and if for any reason that is not possible, the matter shall not be referred to arbitration at all.

It is also a term of the contract that if the contractor does not make any demand for appointment of arbitrator in respect of any claims in writing as aforesaid within 120 days of receiving the intimation from the Engineer-in-Charge that the final bill is ready for payment the claim of the contractor shall be deemed to have been waived and absolutely barred and the Government shall be discharged and released of all liabilities under the contract in respect of these claims.

The arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996, (26 of 1996) or any statutory modifications or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.



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It is also a term of this contract that the arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority and give separate award against each dispute and claim referred to him and in all cases where the total amount of the claims by any party exceeds Rs.1,00,000/- the arbitrator shall give reasons for the award.

It is also a term of the contract that if any fees are payable to the arbitrator, these shall be paid equally by both the parties.

It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees, if any, of the arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any, of the arbitrator) shall be in the discretion of the arbitrator who may direct to any by whom and in what manner, such costs or any part thereof shall be paid and fix or settle the amount of costs to be so paid.

### **CLAUSE 25A: DELETED.**

### **CLAUSE 26: CONTRACTOR TO INDEMNIFY GOVT. AGAINST PATENT RIGHTS**

The contractor shall fully indemnify and keep indemnified the President of India against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against Government in respect of any such matters as aforesaid the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise there from. Provided that the contractor shall not be liable to indemnify the President of India if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

### **CLAUSE 27: LUMP SUM PROVISION IN TENDER**

When the estimate on which a tender is made includes lump sum in respect of parts of the work the contractor shall be entitled to payment in respect of the items of work involved or the part of the work in question at the same rates, as are payable under this contract for such item, or if the part of the work in question is not, in the opinion of the Engineer-in-Charge payable of measurement, the Engineer-in-Charge may at his discretion pay the lump sum amount entered in the estimate, and the certificate in writing of the Engineer-in-Charge shall be final and conclusive against the contractor with regard to any sum or sums payable to him under the provisions of the clause.

### **CLAUSE 28: ACTION WHERE NO SPECIFICATIONS ARE SPECIFIED**

In the case of any class of work for which there is no such specification as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards



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Specifications. In case there are no such specifications in Bureau of Indian Standards the work shall be carried out as per manufacturers` specifications, if not available then as per District specifications. In case there are no such specifications as required above the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

### **CLAUSE 29: WITH HOLDING AND LIEN IN RESPECT OF SUMS DUE FROM CONTRACTOR**

- 1) Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the contractor, the Engineer-in-Charge or the Government shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the contractor and for the purpose aforesaid, the Engineer-in-Charge or the Government shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalisation or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer-in-Charge or the Government shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in-Charge or the Government or any contracting person through the Engineer-in-Charge pending finalization or adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above, by the Engineer-in-Charge or Government will be kept withheld or retained as such by the Engineer-in-Charge or Government till the claim arising out of or under the contract is determined by the Arbitrator, (if the contract is governed by the arbitration clause) by the competent court, as the case may be, and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the Government shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company as the case may be, whether in his individual capacity or otherwise.

- 2) Government shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc. to be made after payment of the final bill and if as a result of such audit and technical examination, any sum found to have been over paid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for Government to recover the same from him in the manner prescribed in sub-clause (1) of this clause or in any other manner legally permissible, and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under-payment shall be duly paid by Government to the contractor, without any interest thereon whatsoever.



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Provided that Government shall not be entitled to recover any sum over-paid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Superintending Engineer or the Executive Engineer on the one hand and the contractor on the other under any terms of the contract permitting payment for work after assessment by the Superintending Engineer or the Executive Engineer.

### **CLAUSE 29A: LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS**

Any sum of money due and payable to contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the Government or any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or Government or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge in-charge or the Government or with such other person or persons.

It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the Government will be kept withheld or retained as such by the Engineer-in-Charge or the Government or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be, and that the contractor shall have no claim for interest or damage whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

**CLAUSE 30: DELETED.**

**CLAUSE 31: SUPPLY OF UNFILTERED WATER - DELETED.**

**CLAUSE-31A: DEPARTMENTAL WATER SUPPLY, IF AVAILABLE: - DELETED.**

**CLAUSE 32: ALTERNATE WATER ARRANGEMENT: - DELETED.**

### **CLAUSE 33: RETURN OF SURPLUS MATERIALS - ACTION TO BE TAKEN**

Notwithstanding anything contained to the contrary in this contract, where any materials for the execution of the contract are procured with the assistance of Government either by issue from Government stocks or purchase made under orders or permits or licenses issued by Government, the contractor shall hold the said materials economically and solely for the purpose of the contract and not dispose of them without the written permission of the Government and return, if required by the Engineer-in-Charge, all surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination for any reason whatsoever on being paid or credited such price as the Engineer-in-Charge shall determine having due regard to the condition of the materials. The price allowed to the contractor however, shall not exceed the amount charged to him excluding the element of storage charges. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition the contractor shall in addition to throwing himself open to action for contravention of the terms of the licence or permit and/or for criminal breach of trust, be liable to Government for all moneys, advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach.



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### CLAUSE 34: HIRE OF PLANT AND MACHINERY

- (i) The contractor shall arrange at his own expense all tools, plant, machinery and equipment (hereafter referred to as T&P) required for execution of the work except for the Plant and Machinery listed in Schedule 'C' and stipulated for issue to the contractor. If the contractor requires any item of T&P on hire from the T&P available with the Government over and above the T&P stipulated for issue, the Government will, if such item is available, hire it to the contractor at rates to be agreed upon between him and the Engineer-in-Charge. In such a case, all the conditions here under for issue of T&P shall also be applicable to such T&P as is agreed to be issued.
- (ii) Plant and Machinery when supplied on hire charges shown in Schedule 'C' shall be made over and taken back at the departmental equipment yard /shed shown in Schedule 'C' and the contractor shall bear the cost of carriage from the place of issue to the site of work and back. The contractor shall be responsible to return the plant and machinery with condition in which it was handed over to him, and he shall be responsible for all damage caused to the said plant and machinery at the site of work or elsewhere in operation and otherwise during transit including damage to or loss of plant and for all losses due to his failure to return the same soon after the completion of the work for which it was issued. The Divisional Engineer-in-Charge shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor.
- (iii) The plant and machinery as stipulated above will be issued as and when available and if required by the contractor. The contractor shall arrange his programme of work according to the availability of the plant and machinery and no claim, whatsoever, will be entertained from him for any delay in supply by the department.
- (iv) The hire charges shall be recovered at the prescribed rates from and inclusive of the date the plant and machinery made over up to and inclusive of the date of the return in good order even though the same may not have been working for any cause except major break down due to no fault of the contractor or faulty use requiring more than three working days continuously (excluding intervening holidays and Sundays) for bringing the plant in order. The contractor shall immediately intimate in writing to the Engineer-in-Charge when any plant or machinery gets out of order requiring major repairs as aforesaid. The Engineer-in-Charge shall record the date and time of receipt of such intimation in the log sheet of the plant or machinery. Based on this if the break down before lunch period or major break down will be computed considering half a day's break down on the day of complaint. If the break down occurs in the post lunch period of major break down will be computed starting from the next working day. In case of any dispute under this clause, the decision of the Superintending Engineer shall be final and binding on the contractor.
- (v) The hire charges shown above are for each day of 8 hours (inclusive of the one hour of lunch break) or part thereof.
- (vi) Hire charges will include service of the operating staff as required and also supply of lubricating oil and stores for cleaning purposes. Power fuel of approved type, fire wood, kerosene oil etc. for running the plant and machinery and also the full time chowkidar for guarding the plant and machinery against any loss or damage shall be arranged by the contractor who shall be full responsible for the safeguard and security of the plant and



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machinery. The contractor shall on or before the supply of plant and machinery sign an agreement indemnifying the Department against any loss or damage caused to the plant and machinery either during transit or site of work.

- (vii) Ordinarily, no plant and machinery shall work for more than 8 hours a day inclusive of *one*-hour lunch break. In case of an urgent work however, the Engineer-in-Charge. May, at his discretion, allow the plant and machinery to be worked for more than normal period of 8 hours a day. In that case, the hourly hire charges for over time to be borne by the contractors shall be 50% more than the normal proportionate hourly charges (1/8 th of the daily charges) subject to a minimum half day's normal charge on any particular day. For working out hire charges for over time, a period of half an hour and above will be charged as one hour and a period of less than half an hour will be ignored.
- (viii) The contractor shall release the plant and machinery every seventh day for periodical servicing and/or wash out which may take about three to four hours or more. Hire charges for full day shall be recovered from the contractor for the day of servicing/ wash out irrespective of the period employed in servicing.
- (ix) The plant and machinery once issued to the contractor shall not be returned by him on account of lack of arrangements of labour and materials, etc. on his part, the same will be returned only when they are required for major repairs or when in the opinion of the Engineer-in-Charge, the work or a portion of work for which the same was issued is completed.
- (x) Log Book for recording the hours of daily work for each of the plant and machinery supplied to the contractor will be maintained by the Department and will be countersigned by the contractor or his authorized agent daily. In case the contractor contests the correctness of the entries and/or fails to sign the Log Book, the decision of the Engineer-in-Charge shall be final and binding on him. Hire charges will be calculated according to the entries in the Log Book and will be binding on the contractor. Recovery on account of hire charges for road rollers shall be made for the minimum number of days worked out on the assumption that a roller can consolidate per day and maximum quantity of materials or area surfacing as noted against each in the annexed statement (see attached annexure).
- (xi) In the case of concrete mixers, the contractors shall arrange to get the hopper cleaned and the drum washed at the close of the work each day or each occasion.
  - (a) In case rollers for consolidation are employed by the contractor himself, log book for such rollers shall be maintained in the same manner as is done in case of departmental rollers, maximum quantity of any items to be consolidated for each roller-day shall also be same as in Annexure to Clause 34(x). For less use of rollers, recovery for the less roller days shall be made at the stipulated issue rate.
- (xii) The contractor shall be responsible to return the plant and machinery in the condition in which it was handed over to him and he shall be responsible for all damage caused to the said plant and machinery at the site of work or elsewhere in operation or otherwise or during transit including damage to or loss of parts, and for all losses due to his failure to return the same soon after the completion of the work for which it was issued. The



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Divisional Engineer-in-Charge shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor.

- (xiii) The contractor will be exempted from levy of any hire charges for the number of days is called upon in writing by the Engineer-in-Charge to suspend execution of the work, provided Government plant and machinery in question have, in fact, remain idle with the contractor because of the suspension.
- (xiv) In the event of the contractor not requiring any item of plant and machinery issued by Government though not stipulated for issue in Schedule 'C' any time after taking delivery at the place of issue, he may return it after two days written notice or at any time without notice if he agrees to pay hire charges for two additional days without, in anyway, affecting the right of the Engineer-in-Charge to use the said plant and machinery during the said period of two days as he likes including hiring out to a third party.

### **CLAUSE 35: USE OF ASPHALTIC MATERIALS**

- (i) The contractor undertakes to make arrangement for the supervision of the work by the firm supplying the tar or bitumen used.
- (ii) The contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula, before the process of painting is started and shall hypothecate it to the Engineer-in-Charge. If any bitumen or tar remains unused on completion of the work on account of lesser use of materials in actual execution for reasons other than authorized changes of specifications and abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Engineer-in-Charge shall be made and the material return to the contractors. Although the materials are hypothecated to Government, the contractor undertakes the responsibility for their proper watch, safe custody and protection against all risks. The materials shall not be removed from site of work without the consent of the Engineer-in-Charge in writing.
- (iii) The contractor shall be responsible for rectifying defects noticed within a year from the date of completion of the work and the portion of the security deposit relating to asphaltic work shall be refunded after the expiry of this period.

### **CLAUSE 36: EMPLOYMENT OF TECHNICAL STAFF AND EMPLOYEES**

Contractors & Superintendence, Supervision, Technical staff & Employees

- (i) The contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract.

The contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge the name(s), qualifications, experience, age, address(s) and other particulars along with certificates, of the principal technical representative to be in charge of the work and other



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technical representative(s) who will be supervising the work. Minimum requirements of such technical representative(s) and their qualifications and experience shall not be lower than specified in Schedule 'F'. The Engineer-in-Charge shall within 3 days of receipt of such communication intimate in writing his approval or otherwise of such a representative(s) to the contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative(s) according to the provisions of this Clause. Decision of the tender accepting authority shall be final and binding on the contractor in this respect. Such a principal technical representative and other technical representative(s) shall be appointed by the contractor soon after receipt of the approval from Engineer-in-Charge and shall be available at site before start of work.

All the provisions applicable to the principal technical representative under the Clause will also be applicable to other technical representative(s). The principal technical representative and other technical representative(s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself / themselves as required to the Engineer-in-Charge and / or his designated representative to take instructions. Instructions given to the principal technical representative or other technical representative(s) shall be deemed to have the same force as if these have been given to the contractor. The principal technical representative and other technical representative(s) shall be actually available at site fully during all stages of execution of work, during recording / checking / test checking of measurements of work and whenever so required by the Engineer-in-Charge and shall also note down instructions conveyed by Engineer-in-Charge or his designated representative(s) in the site order book and shall affix his/their signature in token of noting down the instructions and in token of acceptance of measurements /checked measurement /test checked measurements. The representative(s) shall not look after any other work. Substitutes, duly approved by Engineer-in-Charge of the work in similar manner as aforesaid shall be provided in the event of absence of any of the representative(s) by more than two days.

If the Engineer-in-Charge, whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative(s) is/ are effectively appointed or is/are effectively attending or fulfilling the provision of this clause, a recovery (non-refundable) shall be effected from the contractor as specified in Schedule 'F' and the decision of the Engineer-in-Charge as recorded in the site order book and measurement recorded checked /test checked in Measurement Books shall be final and binding on the contractor. Further if the contractor fails to appoint a suitable technical Principal technical representative and /or other technical representative(s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibilities satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as a suitable other technical representative(s) is /are appointed and the contractor shall be held responsible for the delay so caused to the work. The contractor shall submit a certificate of employment of the technical representative(s) along with every on account bill / final bill and shall produce evidence if at any time so required by the Engineer-in-Charge.



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- (ii) The contractor shall provide and employ on the site only such technical assistants as are skilled and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work.

The contractor shall provide and employ skilled, semiskilled and unskilled labour as is necessary for proper and timely execution of the work.

The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon as possible by competent substitutes.

### **CLAUSE 37: LEVY/TAXES PAYABLE BY CONTRACTOR**

- i) Building and other Construction Workers Welfare Cess or any other tax, levy or Cess in respect of input for or output by this contract shall be payable by the contractor and Government shall not entertain any claim whatsoever in this respect except as provided under Clause 38.
- ii) The contractor shall deposit royalty and obtain necessary permit for supply of the red bajri, stone, kankar etc. from local authorities.
- iii) If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the Government of India and does not any time become payable by the contractor to the State Government, Local authorities in respect of any material used by the contractor in the works, then in such a case, it shall be lawful to the Government of India and it shall have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor.

### **CLAUSE 38: CONDITIONS FOR REIMBURSEMENT OF LEVY/TAXES IF LEVIED AFTER RECEIPT OF TENDERS**

- (i) All tendered rates shall be inclusive of any taxes, duties, levy or cess, fee, royalty charges applicable on last stipulated date of receipt of tender including extension if any. No adjustment i.e. increases or decrease shall be made for any variation in the rate of GST, Building and Other Construction Workers Welfare Cess or any tax, levy or cess applicable **on inputs**. However, effect of variation in rates of Building and Other Construction Workers Welfare Cess or imposition or repeal of any other taxes, duties, levy or cess, fee, royalty charges applicable **on output of the works contract** shall be adjusted on side, increase or decrease. Provided further that for Building and Other Construction Workers Welfare Cess or any tax (**other than GST**), duties, levy or cess, fee, royalty charges varied or imposed after the last date of receipt of tender including extension if any, any increase shall be reimbursed to the contractor only if the contractor necessarily and properly pays such increased amount of taxes/levies/cess.



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Provided further that such increase including GST shall not be made in the extended period of contract for which the contractor alone is responsible for delay as determined by authority for extension of time under Clause 5 in Schedule 'F'.

- (ii) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of the Government and/or the Engineer in charge and shall also furnish such other information/document as the Engineer-in-Charge may require from time to time.
- (iii) The contractor shall, within a period of 30 days of the imposition of any such further taxes, duties, levy or cess, fee, royalty charges, or variation or repeal of such taxes, duties, levy or cess, fee, royalty charges give a written notice thereof to the Engineer-in-charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

### **CLAUSE 39: TERMINATION OF CONTRACT ON DEATH OF CONTRACTOR**

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Divisional Officer on behalf of the President shall have the option of terminating the contract without compensation to the contractor.

### **CLAUSE 40: IF RELATION WORKING IN DAE, THEN CONTRACTOR NOT ALLOWED TO TENDER**

The contractor shall not be permitted to tender for works in the **Bhabha Atomic Research Centre**, (Responsible for award and execution of contracts) in which his near relative is posted as AO/AAO or as an officer in any capacity between the grades of Superintending Engineer to Scientific Assistant (Both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Gazetted officer in the Bhabha Atomic Research Centre. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

**NOTE:** By the term '**near relative**' is meant wife, husband, parents and grandparents, children and grandchildren, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws.

### **CLAUSE 41: NO GAZETTED ENGINEER-IN-CHARGE /OFFICER ALLOWED AS A CONTRACTOR TILL ONE YEAR OF RETIREMENT**

No Engineer-in-Charge of gazetted rank or other gazetted officer employed in Engineering or administrative duties in an Engineering Department of the Government of India shall work as a contractor or employee of a contractor for a period of one year after his retirement from Government Service without the previous permission of Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employee is found at any time to be such a person who had not obtained the permission of Government of India as



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aforesaid, before submission of the tender or engagement in the contractors service as the case may be.

### **CLAUSE 42: RETURN OF MATERIALS AND RECOVERY FOR EXCESS MATERIALS ISSUED**

- i) After completion of the work and also at any intermediate stage in the event of non-reconciliation of materials issued, consumed and in balance-(see Clause 10), theoretical quantity of materials issued by the Government for use in the work shall be calculated on the basis and method given hereunder:
  - (a) Quantity of cement and bitumen shall be calculated on the basis of quantity of cement and bitumen required for different items of work as shown in the Schedule of Rates mentioned in Schedule 'F'. In case any item is executed for which standard constants for the consumption of cement or bitumen are not available in the above-mentioned schedule/ statement or cannot be derived from the same shall be calculated on the basis of standard formula to be laid down by the Engineer-in-Charge.
  - (b) Theoretical quantity of steel reinforcement or structural steel sections shall be taken as the quantity required as per design or as authorized by Engineer-in-Charge, including authorized lappages, chairs, etc. plus 3% wastage due to cutting into pieces, such theoretical quantity being determined and compared with the actual issues each diameter wise, section wise and category wise separately.
  - (c) Theoretical quantity of GI and CI or other pipes, conduits, wires and cables, pig lead and GI. /MS sheets shall be taken as quantity actually required and measured plus 5% for wastage due to cutting into pieces (except in the case of GI/MS sheets it shall be 10%) such determination and comparison being made diameter wise and category wise
  - (d) For any other material as per actual requirements.
- (ii) Over the theoretical quantities of materials so computed a variation shall be allowed as specified in Schedule 'F'. The difference in the net quantities of material actually issued to the contractor and the theoretical quantities including such authorized variation, if not returned by the contractor or if not fully reconciled to the satisfaction of the Engineer-in-Charge within fifteen days of the issue of written notice by the Engineer-in-Charge to this effect shall be recovered at the rates specified in Schedule 'F' without prejudice to the provision of the relevant conditions regarding return of materials governing the contract. Decision of Engineer-in-Charge in regard to theoretical quantities of materials, which should have been actually used as per the Annexure of the standard schedule of rates and recovery at rates specified in Schedule 'F' shall be final and binding on the contractor.

For non-scheduled items, the decision of the Superintending Engineer regarding theoretical quantities of materials which should have been actually used, shall be final and binding on the contractor.



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- iii) The said action under this clause is without prejudice to the right of the Government to take action against the contractor under any other conditions of contract for not doing the work according to the prescribed specifications.

### **CLAUSE 43: COMPENSATION FOR DAMAGE TO WORKS DURING WAR LIKE SITUATIONS**

The work (whether fully constructed or not) and all materials, machines, tools and plants, scaffolding, temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or war like operations, the contractor shall, when ordered in writing by the Engineer-in-Charge, remove any debris from the site, collect and properly stack (or remove) in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable materials and for the reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation up to the value of the work, originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for, the compensation shall be assessed by the Divisional Officer up to Rs. 5,000/- and by the Superintending Engineer for a higher amount. The contractor shall be paid for the damage/destruction suffered and for the restoring the materials at the rate based on the analysis of rates tendered for in accordance with the provisions of this contract. The certificate of the Engineer-in-Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this contract.

Provided always that no compensation shall be payable for any loss in consequence of hostilities or war-like operations (a) unless the contractor had taken all such precautions against Air Raid as are deemed necessary by the A.R.P. Officers or the Engineer-in-Charge, (b) for any materials etc. not on the site of the work or for any tools and plant, machinery, scaffolding, temporary buildings and other things not intended for the work.

In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Divisional Officer.

### **CLAUSE 44: APPRENTICES ACT - PROVISIONS TO BE COMPLIED WITH**

The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of the contract and the Superintending Engineer may, in his discretion, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

### **CLAUSE 45: REFUND OF SECURITY DEPOSIT AFTER LABOUR CLEARANCE**



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Security Deposit of the work shall not be refunded till the contractor produces a clearance certificate from the Labour Officer. As soon as as the work is virtually complete the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. Engineer-in-Charge on receipt of the said communication, shall write to the Labour Officer to intimate any complaint is pending against the contractor in respect of the work if no complaint is pending, on till after 3 months after completion of the work and/ or no communication is received from the Labour Officer to this effect till 6 months after the date of completion, it will deemed to have received the clearance certificate and the Security Deposit will be released if otherwise due.

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**SECTION-III (ii)**  
**SAFETY CODE &**  
**CONSTRUCTION SAFETY MANUAL**



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## SECTION-III (ii-a)

### SAFETY CODE

#### a) Construction safety

- 1) Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than 1/4 to 1 (1/4 horizontal and 1 vertical).
- 2) Scaffolding or staging more than 3.6 m. (12 feet) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached, bolted, braced and otherwise secured at least 90 cm. (3 feet) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
- 3) Working platform, gangways, and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m. (12 feet) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (ii) above.
- 4) Every opening in the floor of a building or in a working platform be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 90 cm. (3 feet).
- 5) Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m. (30 feet) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11/2") for ladder up to and including 3 m. (10 feet) in length. For longer ladders this width should be increased at least 1/4" for each additional 30 cm. (1 foot) of length. Uniform step spacing shall not exceed 30 cm. (12"). Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident, and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such persons or which may, with the consent of the contractor, be paid to compensate any claim by any such person.
- 6) **Excavation and trenching:** All trenches, 1.2 m. (4 feet) or more in depth, shall at all times be supplied with at least one ladder for each 30 m. (100 feet) in length or fraction



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thereof. Ladder shall be extended from bottom of the trench to at least 90 cm. (3 feet) above the surface of the ground. The side of the trenches which are 1.5 m. (5 feet) or more in the depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m. (5 feet) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or under cutting shall be done.

- 7) **Demolition:** Before any demolition work is commenced and also during the progress of the work:
- i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
  - ii) No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged
  - iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
- 8) All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned. The following safety equipment shall invariably be provided:
- i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
  - ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes shall be provided with protective goggles.
  - iii) Those engaged in welding works shall be provided with welders' protective eye shields.
  - iv) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
  - v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measures are adhered to.
    - a) Entry for workers into the line shall not be allowed except under supervision of the JE or any higher Officer.



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- b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
- c) Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.
- d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.
- e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
- f) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
- g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.
- h) The malba obtained on a/c of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on a/c of slippery nature of the malba.
- i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.
- j) Gas masks with oxygen cylinder should be kept at site for use in emergency.
- k) Air blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The motors for these shall be vapour proof and of totally enclosed type. No sparking gas engines also could be used but they should be placed at least 2 metres away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.
- l) The workers engaged for cleaning the manholes/sewers should be properly trained before allowing to work in the manholes.
- m) The workers shall be provided with gumboots or non-sparking shoes bump helmets and gloves non-sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.



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- n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.
  - o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
  - p) The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.
- vi) The contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precautions should be taken: —
- a. No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
  - b. Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.
  - c. Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on cessation of work.
- 9) The contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use.
- i) White lead, sulphate of lead, or product containing these pigment, shall not be used in painting operation, except in the form of paste or of paint ready for use.
  - ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of paint in the form of spray.
  - iii) Measures shall be taken, wherever practicable to prevent danger arising out from dust caused by dry rubbing down and scrapping.
  - iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
  - v) Overalls shall be worn by working painters during the whole of the working period.
  - vi) Suitable arrangements shall be made to prevent clothing put off during working hours, being soiled by painting materials.



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- vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by a medical man appointed by the competent authority of the Department.
  - viii) The Department of Atomic Energy may require, when necessary, medical examination of workers.
  - ix). Instruction with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.
- 10) When the work is done near any place where there is risk of drowning, all necessary equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first-aid treatment of all injuries likely to be sustained during the course of the work.
- 11) Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions:
- i). a) These shall be of good mechanical construction, sound material and adequate strength and free from patent defects and shall be kept in good repair and in good working order.
  - b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
  - ii). Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
  - iii). In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
  - iv). In case of departmental machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regards contractors machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer-in-Charge concerned.
- 12) Motors, gearing, transmission, electrical wiring and other dangerous parts of hoisting appliances should be provided with efficient safe-guards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers employed on



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- electrical installations which are already energised, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The workers should not wear any rings, watches and carry keys or other materials which are the good conductors of electricity.
- 13) All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
  - 14) These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
  - 15) To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer, Engineer-in-Charge of the Department or their representatives.
  - 16) In addition to the above, the contractor shall ensure the work as per the Atomic Energy (factories) rules 1996 as given below:
    - a. welding and Gas Cutting as per rule 32 schedule IV
    - b. To keep register of workers employed for work on or near machinery in motions per rule 33
    - c. Hoists and lifts, lifting m/cs, chains, ropes and lifting tackles as per rule 34, 35 & 46
    - d. Temporary Elec. Wiring as per rule 47
    - e. Electrical work & installations as per rule 88 schedule VII
    - f. Flammable and compressed gases as per rule 88 schedule XII
    - g. Notification of accidents as per rule 89
    - h. Register of accidents and dangerous occurrences as per rule 98
  - 17) Notwithstanding the above clauses from (1) to (16) there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.
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## SAFETY WITH SCAFFOLDINGS

### INTRODUCTION:

- a) This bulletin deals with safety regulations and precautions to be followed in the construction use, maintenances etc. of scaffolds. This will serve as a guide to users of scaffolds in the construction and maintenance operations.
- b) Suitable scaffolds are used for performing work that cannot be done from the ground, part of a permanent structure, a ladder or other available means of support.
- c) Scaffolds are used in many construction and maintenance operations. Fall of person is the most common hazard accompanying the use of scaffolds because of the height usually involved.

### 1. GENERAL:

- 1.1 Every scaffolds and its supporting members should be designed to support given load, with a safety factor of at least four. No alterations should be made that might impair the strength of such structures, no improvised, make-shift or substandard scaffold should be permitted even for the most temporary use.
- 1.2 All work in connection with such structures, including construction, alteration and removal should be carefully done under the direction and supervision of persons who have had experience in such works.

### 2. MATERIALS OF CONSTRUCTION:

- 2.1 Every scaffold and every part thereof, including supports, should be of good construction, sound material, of adequate strength for the purpose which it is meant to be used and should be properly maintained.

Planks should be laid flat with an overlap lengthwise, of at least 30cm. with the centre of the overlap directly over a bearer. Boards and planks used for the floors should be of uniform thickness, closely laid and securely fastened in place.

- 2.2 All lumber used in the construction of scaffolds, should be sound straight grained and free from cross grains, shakes and loose or dead knots. It should also be free from dry rot, large checks, worm holes, or other defects impairing its strength or durability.
- 2.3 All nails used in the construction of scaffolds, staging and supports should be of ample size and used in sufficient quantities at each connection to develop the designed strength of scaffold. Nails should penetrate to the holding piece to a depth of at least 12 times the diameter of nail.



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- 2.4 Barrels boxes, loose tiles blocks, loose piles of bricks or other unstable objects should not be used to support planks used as working platforms.

### 3. PLATFORMS, RAILINGS AND TOE-BOARDS:

- 3.1 The minimum uniformly distributed design load per sq.m. of platforms should be 250 kg. Any concentrated load at any point in the span should not exceed the designed uniformly distributed load. Planks should not be less than 50mm thick.
- 3.2 The rear of outer side of every scaffolding, platform and ramp more than 2M above the surrounding ground or solid construction, or adjacent to deep holes, excavations, railroad tracks, high tension electrical wires, should be provided with a substantial guard rail of standard construction consisting of top and intermediate rails, and toe-boards all supported by posts and securely connected at scaffold at intervals of not more than 2.4 M.
- 3.3 The width of the scaffolds should be such as to provide a clear walkway 50 cm. wide. If path of the width of scaffold is to be used for keeping materials such as brick, mortar or lumber, the scaffold should be made wider so as to provide a walkway of the required width.
- 3.4 Where scaffolds are erected over sidewalks or over areas in which persons must work or pass, the space between the railing and toe-board should be fitted with side screens.
- 3.5 There should be a screen or other protection suspended from the scaffold to catch materials that may fall from above. Screens should extend beyond the edge of the scaffold to catch any materials that may fall over the edges.

### 4. MEANS OF ACCESS:

- 4.1 A safe and convenient means of access should be provided to the platform scaffold. This requirement does not apply to swinging scaffolds or those with convenient access from adjacent floors.

Means of access may be portable ladder, fixed ladder, ramp or it may be a stairway. The use of cross braces or framework as means of access to the working surface should not be permitted.

- 4.2 If scaffolds are to be used to a great extent or for a long period of time, a regular plank stairway, wide enough to allow two persons to pass, should be erected. Such stairways should have handrails on both sides.
- 4.2.1 No stairway or run of slope exceeding 2 in 3 should be used.
- 4.2.2 Where the slope of a stairway or run renders additional foot hold necessary, and in every case where the slope is more than 1 in 4, there should be provided proper stepping laths which should:



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- a) have a minimum section of 50 x 30 mm and be placed at maximum interval of 45 cm and
- b) be of length to cover the full width of the stairway of run except that they may be interrupted over a width not more than 10cm to facilitate the movement of barrows.

### 5. **OVERHEAD PROTECTION:**

5.1 Overhead protection should be provided on the scaffold whenever persons are working at higher places. This protection should be not more than 3m above the scaffold floor and should be of planks or other suitable materials.

### 6. **USE OF SCAFFOLDS:**

6.1 Good housekeeping should be maintained at all times upon scaffolding, platforms and ramps. Excessive storage of materials thereon should be avoided and care must be taken to avoid accumulation of small object, such as boards, tools, pieces of reinforcing steel, waste concrete which may easily be disturbed on knock off. Hand rails should be kept in good repair and securely nailed or otherwise fastened down. Scaffold should be cleared of all tools, materials and rubbish at the end of each working day / shift.

6.2 Persons should not be permitted on scaffolds when the platform or guard rails are slippery. Persons should not be permitted on work on scaffolds during storm or strong winds.

6.3 Suspended scaffolds should never be used for the storage of stone or heavy materials. Two or more swinging scaffolds should not at any time be combined into one by bridging the distance between them with planks or any other form of connection. Life Like securely fastened from above should be provided for each person working on a swinging scaffold. Safety belts should be tied to the life lines.

### 7. **INSPECTION:**

7.1 As scaffolds have to remain in position normally for many weeks they must be inspected at least once a week to make sure that nothing has gone wrong since erection. In addition, they must always be inspected after a spell of bad weather which might have affected their stability.

7.2 The inspections must be carried out by someone who knows the faults to look for and how they may be put right. It is important to know that the work of inspection has been completed and what faults have been found, the results of each inspection must, therefore, be recorded. Any scaffold damaged or weakened from any cause should be immediately repaired and persons should not be allowed to use it until repairs have been completed.

### 8. **DISMANTLING:**



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- 8.1 The dismantling of scaffold should be carefully done under experienced supervision. Care should be taken not to drop small, loose objects when removing scaffold planks. All nails should be promptly removed from scaffold planks and the planks safely piled.

### 9. PRECAUTIONS AGAINST PARTICULAR HAZARDS:

- 9.1 Care should be taken to see that no uninsulated electric wire exists within 3M. of the working platform, stairway etc. of the scaffold.
- 9.2 While carrying bars, rods or pipes of any conducting materials of length greater than 3M in the vicinity of electric wires, special care should be taken that these bars do not touch the electric wires.
- 9.3 Care should be taken against any possibility of wooden scaffold catching fire. In suspended scaffolds, if a blow torch or other flame is used for removing paints, only wire ropes not less than 10mm in diameter should be used.
- 9.4 Care should be taken to see that no part of a scaffold is struck by a truck or other heavy moving equipment and no material should be dumped against it.
- 9.5 Scaffolds on through fare should be provided with light.
- 9.6 Access to cable tunnels, hydrants etc. should remain free at all times.
- 9.7 Care should be taken from damaging underground cables and equipment. This is especially important when parts of scaffolds for other fasteners have to be driven in the ground.

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**SECTION-III (ii-b)**

**CONSTRUCTION SAFETY MANUAL FOR WORKS CONTRACT**



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### 1.0 DEFINITION AND SCOPE:

#### 1.1 Definition:

**Construction:** Construction is the process of making, building, fabrication and/or erection of structures, installation of equipment etc. for some facility to be housed in the same.

**Safety:** Safety is the state of being safe or free from any kind of hazard.

**Contract:** A contract is a legally binding mutual agreement between the parties identified in the agreement to fulfil all the terms and conditions outlined in the agreement.

**1.2 Scope:** The manual covers Civil and Public Health construction safety and the scope of this safety manual shall be for all the construction activities undertaken by Bhabha Atomic Research Centre.

### 2.0 SAFETY PRINCIPLES AND OBJECTIVES:

#### 2.1 Safety Principles:

- 2.1.1 Ensuring safety at construction sites is mandatory requirement as it is directly related to welfare of staffs and contractors' workers.
- 2.1.2 All accidents and occurrences of near-misses can be avoided by proper planning and thorough implementation of safe practices at work place.
- 2.1.3 All types of injuries, fatalities, loss of property and time can be minimized through preventive measures.
- 2.1.4 To increase the safety consciousness of the workforce and the supervisory staffs through continuous training and motivation towards safe practices.
- 2.1.5 Regular monitoring, inspections and safety audits will form an integral part of the safety program at the worksite.

#### 2.2 Safety Objectives:

- 2.2.1 To provide a safe working environment to all workers and supervisory staffs.
- 2.2.2 To ensure safety at each and every level of the project as an integral part of the activities.
- 2.2.3 To enhance the safety standards as a continuous effort.
- 2.2.4 To complete project in an incident-free manner, without any damage to health, property and environment.

### 3.0 SAFETY POLICY:



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BARC is committed to ensure the highest standard of occupational health, safety and environment in all construction activities undertaken in order to achieve zero-accident working period in all projects and thereby contributing towards enhancement of the safety performance of the centre.

### 4.0 SAFETY ORGANIZATION:

Contractor shall form a Site Level Safety Committee (SLSC) comprising employees from all sections and one representative from the department. As per chapter XXI, Rule 208, BOCW Central Rules 1998, SLSC shall be constituted by the contractor (Employer) wherein 500 or more workers are employed. In addition, the corporate office of the contractor shall have a safety and environmental control section to liaise with the Competent Authority and carry out periodic safety audit at site. Contractor shall not be self-complacent with mere compliance with sections and rules of various Acts and Rules applicable to construction safety. He shall promote health, safety and environment practices by identifying the personnel and assigning specific responsibilities to them so that proper safety is implemented at site and a safety culture is created among his all employees and workmen and maintained until completion of the project.

#### 4.1 Site Level Safety Committee: (SLSC)

For a project site having maximum strength of less or equal to 500 numbers of workers,

Contractor shall identify a Site Engineer to perform the duty of the Safety Engineer/Officer at site. The numbers of representatives from the contractor and the workers in the Site Level Safety Committee (SLSC) shall be as per chapter XXI, Rule 208, BOCW Central Rules 1998. The committee shall meet at regular intervals, at least once in every month and shall be chaired by the senior most person having over all control of the affairs of the construction site, normally the Project Manager or the authorized signatory (power of attorney holder) of the contractor with Safety Officer as Member Secretary. All section-in-charges including site engineers, electrical, mechanical, QA/QC, Stores, administration section, representatives of the workers and one representative of the department shall be the members of this committee. The duties of the committee are enlisted as under:

The main job of the Site Level Safety Committee is to ensure health and safety of all employees, workers and the neighborhood and for this the committee shall -

- (a) See that all the provisions of relevant Acts & Rules and conditions referred in contract agreement are conformed to.
- (b) See that a well-documented safety program exists.
- (c) See that a work permit system exists for all construction activities, especially for-
  - (i) Any work at hazardous locations such as at height or at depth;



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- (ii) All hot jobs, fabrication works and electrical repairs & maintenance works;
- (iii) All concreting works; and
- (iv) Under high noise and high dust environment.
- (d) See that all employees are informed of the hazards involved in their work and are provided with adequate protective equipment.
- (e) See that the work environment and the neighborhood is free from debris, muck, insects and any unhygienic conditions at any time and proper access and illumination is ensured at the workplace.
- (f) See that a detailed schedule for periodic calibration and preventive maintenance of all the machinery and equipment is being implemented.
- (g) See that periodic medical examination of all employees and workers are carried out to the extent required as per the work environment.
- (h) Assess the potential hazards and dangerous occurrences at the work place and examine the effectiveness of the safety and control measures.
- (i) See that various processes of construction and disposal of debris and effluents are safe to ensure conformance to the Environmental Protection Act, 1986.
- (j) Discuss accidents and dangerous occurrences at the work place and examine root causes of accidents and suggest to the management necessary improvements.
- (k) Organize safety circles in the site for developing safety culture.
- (l) Investigate complaints received from anybody about the risks or dangers.
- (m) Promote safety and health by organizing accident prevention programs, campaigns and meets on continual basis by organizing safety weeks, safety competitions, safety talks and film shows on safety, displaying posters and other promotional activities to stimulate interest among staff and workers about safety.

The agenda and minutes of the meeting to be circulated to all concerned. The decisions and recommendations of SLSC shall be complied with by the contractor within specified/reasonable time.

### 4.2 Safety Officer and Safety Steward:

**General: Number of Safety Officers and Stewards:** The number of Safety Officers and Stewards to be engaged by the contractor shall be as per Chapter XXI, Rule 209 and schedule VIII of BOCW Central Rules, 1998. For a project site having maximum strength of less or equal to 500 numbers of workers, Contractor shall identify a Site Engineer to perform the duty of the Safety Engineer/Officer at site. The above



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provision does not absolve the concerned Site Engineers / Section-In-Charges of the Contractor from the responsibility of ensuring safe working condition for the workmen deployed at a particular area under their control. The respective Site Engineer stands equally accountable for occurrence of any near-miss and / or any accident at site and the Department reserves the right to take suitable actions, as deemed fit, against the Contractor's personnel responsible for such lapse in ensuring proper safety at site.

### 4.2.1 Duties of Safety Officer:

The duties of Safety Officer shall be to advise and assist the management in the fulfilment of its obligations, statutory or otherwise, concerning Atomic Energy Factory Rules, 1996 and BOCW Act & Central Rules, prevention of personal injuries and maintaining a safe working environment. These duties shall include the following, namely:-

- (a) to advise the concerned departments in planning and organizing measures necessary for creating a safe working environment for all workmen engaged at site and to prevent any kind of personal injuries and damage to property;
- (b) to advise on safety aspects in all job studies, and to carry out detailed job safety studies of selected jobs and to formulate Job Hazard Analysis Report and Safety Manual during initial mobilization stage of the project;
- (c) to check and evaluate the effectiveness of the action taken or proposed to be taken to prevent personal injuries and damage to property;
- (d) to ensure that all Personal Protective Equipment (PPE) provided to workers as required under any of the provisions of the Act or the Rules conform to the relevant Indian Standards and to advise all Site Engineers / Section-In-Charges / Supervisors to ensure proper use of such PPEs by workers at site;
- (e) to provide advice on matters related to carrying out site safety inspections, daily walk-through surveys, etc.;
- (f) to carry out site safety inspections in order to observe the physical conditions of work and the work practices and procedures followed by workers and to render advice on measures to be adopted for removing the unsafe physical conditions and preventing unsafe actions by workers;
- (g) to render advice on matters related to reporting and investigation of industrial accidents and diseases;
- (h) to report and investigate all accidents and near-misses and to recommend the preventive measures so as to ensure non-occurrence of such cases;
- (i) to investigate the cases of industrial diseases contracted and reportable dangerous occurrences.



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- (j) to advise on the maintenance of such records as are necessary relating to accidents, dangerous occurrences and industrial diseases;
- (k) to promote setting up of Site Level Safety Committee (SLSC) and to act as adviser and catalyst to such committees;
- (l) to organize in association with the concerned departments, campaigns, competitions, contests and other activities which will create awareness and will develop and maintain the interest of the workers in establishing and maintaining safe conditions of work and procedures; and
- (m) to design and conduct either independently or in collaboration with the training department, suitable training and educational program for the prevention of personal injuries.

**4.2.2 Facilities to be provided to Safety Officers:** The Contractor shall provide each Safety Officer with such facilities, equipment and information as are necessary to enable him to discharge his duties effectively. Such typical facilities may include personal computer, testing facility, facilities for storage of PPE, documents and stationery, etc.

### 4.2.3 Qualifications for Safety Officer:

A person shall not be eligible for appointment as a Safety Officer unless he

- a) possesses- (i) a recognized degree or equivalent in any branch of engineering or technology and has had practical experience of working in a construction project site in supervisory capacity for a period of not less than 2 years; or
- (ii) a recognized diploma or equivalent in any branch of engineering or Technology and has had practical experience of working in a construction project site in supervisory capacity for a period of not less than 5 years;
- (b) possesses a degree or diploma in industrial safety recognized by the Central / State Government in this behalf; and
- (c) has adequate knowledge of the language spoken by majority of the workers in the region in which the construction project site where he is to be appointed is situated.

### 5.0 GENERAL SAFETY PROVISIONS:

**5.1 Work Planning:** The contractor shall identify the requirements of good practices at site for fulfilment of legal requirement related to environment, occupational health and safety. The contractor shall enlist all the activities under the contract in advance and their effect on safety, health and environment. The contractor shall establish, implement and maintain procedure to identify and have accesses to applicable legal requirements related to environment, occupational health and safety. The contractor shall maintain register (**Refer Annexure-1**) of applicable legal requirements which shall be kept updated from time to time.



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**5.2 Job Hazard Analysis Report:** Contractor shall analyze job-specific hazards in order to identify the probable causes to these hazards, well in advance, and recommend the remedial measures in Job Hazard Analysis Report (**Refer Annexure-2**); which shall be submitted to the Department within one month from the issue of work order in the approved format and as per guidelines of the Engineer-In-Charge for approval of the Competent Authority as per regulatory requirement of BARC. Contractor shall implement the recommended remedial measures at site in order to create and maintain an accident-free working condition at site.

**5.3 Work Permit:** The contractor's Site Engineer shall seek work permit for all new activities to be taken up at site and submit the form duly signed by him in quadruplicate (**Refer Annexure-3**) to Safety Officer before commencement of the work daily. The Safety Officer will inspect the site and give the clearance to the concerned site engineer. One copy of the work permit shall be made available with the contractor's site engineer, site supervisor, safety officer and departmental staff each. No work shall commence at site without approved work permit. In case of renewal of work permit, such noting shall be made on the work permit.

### **5.4 Safe Working Procedure:**

#### **5.4.1 Guidelines for general and enabling works:**

The contractor shall submit the layout of proposed location of site office, stores, batching plant & silos, mechanical workshop, electrical panel rooms, water points, first aid centre and safety office and other temporary structures for prior approval of Engineer-in-charge. It shall be ensured that the proposed locations of temporary structures do not hinder the existing permanent structures, roads, drains, services, movement of workers and equipment during construction, etc. and shall be easily accessible. The trial pit location for finding existing underground services shall also be submitted for advance approval.

#### **5.4.2 Demolition:**

Before any demolition work is commenced and also during the progress of the work:

- a) All roads and open area adjacent to the work site shall either be closed or suitably protected. Appropriate warning signs shall be displayed for cautioning persons approaching the demolition area. The area shall be cordoned off properly.
- b) Protection of adjacent building, underground service lines should be ensured. Underpinning operations shall not be permitted unless adequate measures against collapse of structure are ensured.



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- c) Before demolition operations begin, the Contractor shall ensure that the power on all electric service lines is shut off and the lines are cut or disconnected at or outside the demolition site. If it is necessary to maintain electric power during demolition operation, the required service lines shall be adequately protected against damage.
- d) Persons handling heavy materials /equipment shall wear safety shoes.
- e) No floor, roof or other part of the building shall be overloaded with debris or materials that may render it unsafe.
- f) Entries to the demolition area shall be restricted to authorized persons only.

### 5.4.3 Piling:

**5.4.3.1 Piling rig:** The legs of the tripod shall be properly spiked in the ground to prevent accidents due to slipping of the tripod legs when rested on a paved ground or sleepers. The shear legs and bases become thin and fatigued with usage. They should be replaced frequently.

**5.4.3.2 Pulley and rope:** The pulley and rope shall be checked with reference to the Rule 71 and 72, Section- I of BOCW Central Rules, 1998. In addition to this, the pulley and rope shall be checked before the commencement of day's work, in this respect-

- a) Check for loose strands and wear, deformation, corrosion and breakage of wires.
- b) Check whether the end of the rope has become loose or has slipped wire clips or wire sockets.
- c) Check against slippage of rope from the sleeve during work.
- d) Check if there is any occurrence of torsion in the wire rope while working and if so, unwind it normally at once.
- e) Check if there are any adhesions like mud, earth, etc., on the rope. If so, clean with wire brush or compressed air.
- f) Check if the grease applied on the rope is adequate.
- g) Check for wear and cracks on the lining of the clutches and brake band; and the engine condition.
- h) The pulley shall be checked for any cracks in wheel, etc.

**5.4.3.3 Field operation:** Contractor shall take following precautions during boring of pile and concreting activity:



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- *Centering the Pile* — the workers helping while marking the pile centre shall be protected from possible injury by bailer / chisel.
- *Driving the casing & cap* — workers shall be protected from chances of slippage of driving bar / clutches falling accidentally.
- *Lowering Reinforcement Cages* — the lifting and lowering of re-bar cage shall be done with utmost care since it is very heavy and at the same time flexible enough to buckle. Adequate supporting arrangement shall be ensured. The workers shall be protected from projected parts like binding wire, wire nails, etc. while preparing the pile cages or handling and lowering them.
- *Jammed Casings* — while withdrawing the casing, sometimes the casings may get jammed. During the process of extracting them, the tripod legs shall be secured properly for prevention of toppling / collapse of tripod due to sudden jerks. The withdrawal process of casing shall be executed slowly and with proper care in order to ensure smooth movement of the casing.
- *Grounding the Bailers/Chisels* — workers shall keep safe distance while the bailers and chisels are grounded so as to be safe from any injury due to swing of them. Minimum distance of 5 m shall be maintained.
- *Guarding of flywheels* – the flywheels of the machine of the piling rigs shall be guarded properly.
- *General precautions* — workers shall wear tight fitting clothes and all necessary PPEs. Care shall be taken for nearby permanent structures for vibrations, etc. during piling.

**5.4.4 Earthwork in excavation and backfilling:** The Contractor shall take all safety precautions during the execution of awarded work and shall maintain and leave the site safe at all times. **5.4.4.1 Excavation:**

**5.4.4.1.1** All trenches 1.2 m or more in depth shall at all times be provided with at least one ladder at a spacing of 15m or part thereof in case of hazardous work and 30m or part thereof in case of less hazardous works. Ladder shall be extended from bottom of the trench to at least 1 m above the surface of the ground and the legs of the ladder shall be secured against slipping.

**5.4.4.1.2** The sides of the trench which are 1.2 m or more in depth shall be stepped back to give suitable slope (angle of repose depending on the type of the soil) or securely held by steel or suitable shoring, so as to avoid the danger of sides from collapsing. A provision of clear berm of a width not less than one-third of the final depth of excavation is recommended. In areas, where this width of the berm is not feasible due to space constraint, the clear berm width (clear space) not less than 1 m shall be provided. Cutting shall be done from top to bottom. Under no circumstances mining or under-cutting shall be done.



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**5.4.4.1.3** The Contractor shall ensure the stability and safety of the excavation, adjacent structures, existing services and the works of other agencies.

**5.4.4.1.4** Open excavations shall be cordoned off by suitable railing/barricading and photo-luminescent warning signals installed so as to prevent persons slipping or falling into the excavations. Warning signals shall be visible at night also and the area shall be well illuminated during the work.

**5.4.4.1.5** All blasting operations, if permitted by Engineer-in-charge, shall be carried out on the basis of procedures approved by Inspector of Explosives. All works in this connection shall be carried out as per I.S Code of Practice. Barricades, photo-luminescent warning signs, etc. shall be placed on the roads/open area. Prior approval of such operation shall be obtained from Safety Officer/Engineer-In-Charge of Works.

**5.4.4.1.6.**

a) For removal of earth from an earth mound work permit shall be obtained from the Engineer In-charge / safety officer of the work.

b) As far as practical, earth shall be removed mechanically. Ramp shall be made by the contractor with suitable hard material for movement of trucks / tippers, etc. with proper slope, compaction and drainage so as to ensure safe and easy movement of the above transport vehicles carrying excavated earth.

c) Wherever manual removal of earth is involved, earth shall be removed from the top by maintaining the proper slope equal to the angle of repose of the earth.

d) Such work shall be constantly supervised by the contractor's responsible person and frequently inspected by the departmental representative to ensure that no under-cutting is done.

e) The excavating equipment should be parked at a distance of not less than the depth of the trench.

f) For excavation in greater depths, separate access for workers with proper steps/slope and temporary railing arrangement shall be provided apart from ladders. The access shall be maintained in proper condition until backfilling is

completed in the excavated area.

g) Experienced and qualified supervisors shall be put in charge of the excavation work by the contractor. The supervisor shall brief workers about the working plan before the commencement of work and explain potential hazards to them. He shall pay attention to existing water pipelines, electric cables below the surface or during excavations of underground structures and arrange for proper protection to them. Contractor shall report the condition of excavated pit



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to departmental staff/Engineer-in-charge after every rain and accordingly shall take necessary corrective action for safety at site.

**h)** Contractor shall arrange adequate and efficient mechanical dewatering system as recommended by Engineer-in-charge. These pumps shall be inspected and maintained in proper working condition. The electrically operated pumps shall be connected to ELCB of proper rating for safety of the person operating/shifting them.

**i)** Contractor shall wash the wheels, of the transport vehicles carrying excavated soil, with water jet before moving out of the site premises so that there is no spillover of soil on the existing roads. In case there is any such spill over on the roads, the same shall be cleaned by the contractor by manual / mechanical means immediately at no extra cost.

### **5.4.4.2 Backfilling:**

**5.4.4.2.1** The earth to be used for backfilling shall be taken from approved location or borrow pit if the soil is taken from inside BARC. For outside BARC supply, the source shall be approved by the Department in advance.

**5.4.4.2.2** The contractor shall take precautions for earth mounds stacked for backfilling as mentioned above under the head of earthwork in excavation. The soil shall not be pushed indiscriminately by mechanical means into the excavated pit as far as possible. If mechanical dumping / pushing are unavoidable, it has to be done with proper guidance / warning (helper / reverse horn to be provided to all vehicles) and the pits have to be vacated from manpower.

**5.4.4.2.3** The final backfilling shall be done in layers and compacted as per technical specification of the tender. Utmost care shall be taken by the contractor for protection of permanent structure or already cast structures during use and movement of mechanical compactors.

**5.4.4.2.4** The temporary power supply points or panels are to be protected from water spraying or any other damages during backfilling process.

### **5.4.5 Reinforcement and Concrete works:**

#### **5.4.5.1 Concreting:**

**a)** Manual handling of concrete shall be restricted as far as possible. Proper exhaust ventilation shall be available at the cement store and during casting work in confined places. PPE for protection of workers viz. respirators, hand gloves, gumboots, etc. shall be provided by the contractor to the workers handling cement bags and concrete manually.

**b)** The contractor shall provide ear-muffs to the operator / worker exposed to continuous high-level of noise and ear-plugs to all workers involved in the concreting work.



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- c) The out riggers / wheels of concrete pump / concrete mixer shall be placed on firm ground / platform. Pump accessories shall be checked for its safe working pressure considering maximum pipe line height. A pressure release valve shall be attached to the pump to release the excess pressure.
- d) The pipeline for transporting the concrete shall have the shortest route with minimum bends and shall be installed on firm supports at suitable intervals. Pipeline shall be properly joined with clamps and securely tied to nearby support and checked in advance before starting the concreting. Pipe segments shall be cleaned in advance to avoid choking of concrete during casting.
- e) Length of flexible hose shall be such that it can be easily handled by the workers. The end of flexible hose shall be checked before commencement of concreting and it shall be free from loose wires, concrete lumps, etc. The “swan neck” position of the flexible hose shall be avoided as it results in building up excessive pressure on concrete pump and clogging of concrete.
- f) Ball catcher / Trap to arrest the ball must be provided at the end of the pipe line after the concreting is over and flexible pipe is removed. The supervisor, who is authorized to give clearance for ball passing, shall check that whether the ball catcher / trap is fixed properly before passing the ball. The supervisor shall instruct all workers to keep safe distance during ball passing.
- g) Signaling system - Red and green flags shall be displayed by the supervisors/designated signalmen, standing in visible locations, for commencement and stopping the flow of concrete. These signalmen shall not be engaged in any other work during concreting activity. They shall be trained along with the concrete pump operator in advance by the contractor for correct signaling. During concreting in night, electric torches fitted with red/green cellophane papers may be used instead of red/green flags.
- h) All mechanical equipment/tools used in concreting activity like batching plant/concrete mixer, concrete pumps, vibrators, etc. shall be operated by trained person only.
- i) Ready Mix Concreting – Loaded transit mixers shall move / park on firm ground as far as possible. The reversal of transit mixers shall be guided by helpers and reverse horn shall be used for reversal. Cleaning/washing of transit mixers shall be done at designated area only.
- j) The concrete mixers used for preparation of concrete may be tilting or non-tilting type, driven by electric motors or by diesel engine depending upon the location of the structure. For electric driven mixers, the wire connecting the mixers shall be in good and sound condition, and the circuit breaker shall be well maintained.
- k) Exhaust gases of a diesel engine if inhaled for long period may cause diseases. They shall be directed away from the operator. All gears and moving parts shall be well guarded. Care shall be taken to display notice “Under Repairs” while cleaning the



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drum. Wire ropes operating the drum and clutches shall be inspected regularly and replaced, if required.

### 5.4.5.2 Reinforcement:

- a) Bar bending and cutting yard shall be properly cordoned / barricaded and entry shall be restricted.
- b) Re-bar bending and cutting machines shall be handled by trained operator / skilled workers.
- c) Shifting of cut re-bars shall be done by mechanical means as far as possible. When rebars are shifted manually, it shall be done with proper care and proper balance shall be maintained. Clear access shall be provided for shifting of re-bars.
- d) Proper support shall be given to the column bars by means of rings / props against undesirable sway.
- e) Free ends of the binding wires shall be bent inside to avoid injuries.
- f) Proper PPE viz. leather / cotton hand gloves, goggles, etc., for the people handling / shifting and cutting / tying of re-bar, shall be used for protection from injury and other occupational diseases.

### 5.4.5.3 Formwork for concreting:

- a) Shuttering and supporting members viz. props, tie rods, etc. shall be of adequate strength to support the load / pressure of concrete and the formwork scheme shall be approved by Engineer-In-Charge in advance. The procedure approved by Engineer-In-

Charge shall be followed for mixing, transporting and pouring of concrete.

- b) The process of stripping of formwork shall be planned in advance and approved by Engineer-in-charge. Stripping shall enable the structural member to behave in desired manner. The area shall be suitably cordoned / barricaded and unauthorized entry shall be restricted by displaying signboards, etc.
- c) While removing formwork from vertical surfaces, the shuttering board shall be adequately supported by props, in order to prevent the same from toppling / slipping, until it is lowered on ground safely. Same support with props shall be provided during erection of formwork too until the plywood is secured in desired place with tie rods.

### 5.4.6 Scaffolding and Working at Height:

#### 5.4.6.1 General:

- a) All the workers, supervisors and engineers of the contractor, who will work at height, shall have valid height passes issued as per **Annexure-4** by the Safety Officer / Medical Attendant in consultation with the Authority of the Safety Unit, ESG, BARC.



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Each such individual shall be medically examined by a Medical Practitioner, for blood pressure, vision, hearing, and efficient movement of limbs, epilepsy, vertigo or any other persistent diseases that make him/her medically unfit for working at height. The fit persons shall be issued height passes, which shall be valid for maximum 6 (Six) months, for working at height. After every 6 (Six) months, these persons shall be medically examined in order to find out their fitness for working at height. List of unfit workers shall be submitted to the departmental representative and such persons may be allowed to work at ground level and in no case shall be engaged by the contractor to work at height. The records of medical checkups / fitness tests certified by the Medical Practitioner shall be maintained at the first aid centre / safety office of the contractor and shall be produced to the departmental representative as and when asked.

b) The scaffold to be erected for working at height shall be designed for the estimated load (load of the RCC structure to be supported, live load and other vibrations load during casting, etc.) and design shall be submitted for approval of the department in advance. The scaffold components shall be designed for at least 4 times of the maximum intended load. The use of Bamboo/Wooden scaffoldings shall not be permitted irrespective of height of work and only steel scaffolding shall be used by the contractor.

c) The erected scaffold shall be inspected and cleared by the safety officer of the contractor. The safety check list (**Refer Annexure-5**) for scaffolding erection shall be submitted by the site engineer of the contractor to the safety officer in triplicate. The standard format of safety check list for scaffolding erection is enclosed as **Annexure-5**. The safety officer shall physically inspect the erected scaffolding and after his satisfaction, shall give clearance for the use of the scaffold. One copy of safety check list, duly filled in and cleared by safety officer of the contractor, shall be submitted to the departmental representative. Other two copies shall be available with site engineer and safety officer of the contractor respectively.

d) Base of the structure shall be supported on levelled and firm ground as far as possible. In case such firm ground is not available at site then the load of the vertical members of the scaffold shall be distributed with the help of base plates, sole plates or channels, etc. The base of the scaffold shall be away (at least 1.5m) from excavated pits, open drains, manholes, water logged area, etc. Contractor shall ensure that there is no vehicle movement near the erected scaffold and it shall be protected by proper barricading/warning sign, etc.

e) The scaffold shall be checked for its condition i.e. it shall be free from bends, cuts, rust, etc. All vertical members shall be in plumb and correctly spaced. The joints of vertical and horizontal members shall be properly connected with couplers, lock pins, etc. The scaffold shall be securely tied with permanent structure as per the requirement of IS: 3696 – 1991 (Part 1) (Reaffirmed in 2002).

f) The access to the scaffolding shall be free from obstructions, undesirable and slippery materials. Stair tower, monkey ladders, gangway, etc. shall be provided in the scaffolding for movement of the workers.



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- g) The working platform and the access to the scaffold shall be free from all debris and loose materials.
- h) The diagonal face bracing/Zig zag face bracing shall be provided at a spacing of maximum 10 m centre to centre for pipe scaffolding.
- i) Safety tag (for 'Unsafe Scaffolding DO NOT USE' in red letters or tag / 'Safe Scaffolding' in yellow letters or tag) shall be displayed on the erected scaffold at ground level. Such safety tag / sign boards shall be written in the language understood by the majority of the workers. Unsafe scaffolds shall be repaired / removed.
- j) Contractor shall provide necessary PPEs as per relevant I.S. Codes for the workers working at height viz. full harness safety belt, fall arrestor, kinetic shock absorber, safety helmet, gloves, etc.

### 5.4.6.2 Working platform:

- a) The quality of wooden planks or MS grill plates for decking of working platform shall be made of good quality material and free from any defects, etc. The load carrying capacity of the working platform shall be designed in consultation with Engineer-in-charge. Working platform, gangways and stairways shall be so constructed that they shall not sag unduly or unequally. They shall be closely boarded, shall have adequate width (at least 2 planks/ grill plates wide or 600 mm whichever is more) for easy movement of persons and materials and shall be suitably guarded.
- b) The steel walkways or wooden planks used for making working platform shall not project beyond the end supports to a distance of 150 mm. The planks shall be rigidly tied at both ends to prevent sliding and toppling. The thickness of the planks shall be adequate to take load of men and materials and shall conform to IS: 3696-1987 (Part-I)

(Reaffirmed 2002) and they shall not collapse.

- c) The overlaps of MS grill plates / wooden planks shall not be less than 300 mm.
- d) The platform shall extend at least 600 mm beyond the end of wall in order to facilitate the worker to reach end of the wall.
- e) All working platforms shall have guard rails at 1.0 m height with middle rails at 0.5 m height from the platform and 15 cm high toe boards securely tied with the vertical posts.

The spacing of vertical posts shall not exceed 2.0 m centre to centre.

- f) Every opening in the floor of a building or in a working platform shall be provided with fencing or railing and protective cover, to prevent fall of persons or materials, the minimum height of which shall be 1.0 m, along with 15 cm high toe board at



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floor level along the railing. The removal of such railing / protective cover shall be done only after seeking proper work permit from Safety Officer of the contractor.

- g) The contractor shall provide grab rope / life line all around the working platform/level, at height, which will provide tying / anchoring facility for the safety belt / fall arrestor.
- h) Contractor shall provide safety net under all working platform/level at height to protect fall of men and materials from above and such safety nets shall conform to IS: 11057-1984.
- i) Adequate precautions shall be taken to prevent danger from electrical lines and equipment. Scaffolding, ladder, working platform, gangways, etc. shall not exist within 5m of any un-insulated electric wire. Whenever electric power and lighting cables are required to run through (pass on) the scaffolding or electrical equipment are used, such scaffolding structures shall have minimum two earth connections with earth continuity conforming to relevant IS Code of Practice.

### 5.4.6.3 Ladder:

- a) Safe means of access shall be provided to all working platforms and other elevated working places with the help of ladders.
- b) Ladder shall be placed in an inclination not steeper than 1 in 4 (1 horizontal and 4 vertical).
- c) Every ladder shall be securely fixed at bottom from sliding/slipping.
- d) No single portable ladder shall be over 9 m in length.
- e) For ladders up to 3m in length, the width between side rails in the ladder shall be a minimum of 300 mm. For longer ladders, this width shall be increased by at least 20 mm for each additional metre of length.
- f) The spacing of rungs shall be uniform and shall not exceed 300 mm.
- g) Ladder shall be of rigid construction having sufficient strength for the intended loads and made either of good quality wood or metal. All ladders shall be maintained well for safe working condition. The rungs shall be tested periodically as per provisions of IS: 3696 -1991 (Part 2) (Reaffirmed in 2002).
- h) Whenever ladder is not securely fixed an extra worker shall be engaged for holding the ladder.
- i) Ladders shall not be used for climbing while carrying materials in hands. While climbing, both the hands shall be free for holding the rails. Contractor shall make alternate safe arrangement for lifting of tools and implements for all his workers working at height.



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### 5.4.7 Construction machinery and Tools:

**General:** The operation and maintenance of any construction machinery shall be as per manufacturer's guidelines & checklists and by trained personnel only.

#### 5.4.7.1 Earth moving machinery:

**General:** The contractor shall ensure the stability of the equipment, while working, depending on the load bearing capacity of the ground; which may reduce due to presence of moisture and due to vibration effect. The contractor shall provide bearing plates, packing, etc. to strengthen the ground below outriggers or wheel or crawler of the equipment. All earth moving equipment shall have Roll Over Protective Structures, sound suppressers, seat belts, reverse alarms, warning horns, windshield wipers and easily approachable control and lever for brake system and emergency stop. They shall be checked at the time of delivery and they shall be properly maintained. Contractor shall display warning sign for keeping away from the moving parts of such equipment and the area of operation of such machinery shall be properly cordoned. The shovel / bucket of the earth moving equipment shall be rested on ground when the equipment is not working. Operation of such equipment shall always be carried out by trained operator accompanied by the designated helper.

**a) Power shovels:** The shovels both mechanical as well as hydraulic / pneumatic type need basic precautions while being operated. The excavators shall not lose their stability while operating. The Contractor shall adhere to the Load Charts for various boom lengths provided by the manufacturers. For the mechanical shovels, the wire rope shall be changed as per the frequency mentioned in history sheet. For Hydraulic hoses, the connections shall be tight and leak proof. The fire extinguisher of appropriate type confirming to IS: 2190-1992 (Reaffirmed in 2007) shall be made available on the hydraulic excavator.

**b) Bulldozers:** The blade of Bulldozer shall be inspected at least once in a week. The blade shall not be used as a brake except in emergency. The position of the blade shall be adjusted while travelling up or down the gradient. The Bulldozer shall be parked on levelled ground, by applying hand brakes and by lowering blade.

**c) Scrapers:** The brakes of the Scraper shall be checked before putting it in operation. The scraper bowl shall be repaired and the cutting blades shall be changed periodically. The bowl shall be locked before carrying out the repairs. The bucket shall be raised while moving the scrapper. No vehicle movement shall be allowed within the radius of movement of scrapper and the area shall be properly cordoned. The wire ropes shall be checked periodically by visual inspection at least once in a fortnight.

**5.4.7.2 Lifting and hoisting machinery:** Use of lifting machines and tackles including their attachments, anchorage and supports shall conform to the Rules 55 to 71 of chapter VII of BOCW Central Rules, 1998 and shall also conform to the following conditions.



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- (a) Lifting machines and tackles shall be of good mechanical construction, sound material and adequate strength and free from any defects and shall be kept in good repair and in good working condition. Every rope used in hoisting or lowering materials or as the means of suspension shall be as per manufacturer's guidelines, of good quality and adequate strength and dimension and free from any defect. Test certificates of such ropes, D-shackles, etc. shall be submitted in advance by the contractor.
- (b) Every crane operator or lifting appliance operator shall be properly qualified. No person under the age of 18 years shall be in charge of any hoisting machine or to give signal to operator of such machine.
- (c) In case of every lifting machine (and of every chain, ring, hook, D-shackle, swivel and pulley block used in hoisting or as means of suspension) the safe working load shall be ascertained and clearly marked. In case of a lifting machine, having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing. This shall be approved by the Safety Officer of the contractor.
- (d) The Contractor shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site and get it verified by the third party testing, supported by a valid test certificate.
- (e) The base of such hoisting equipment shall be kept in perfect horizontal condition since any tilt would reduce the load carrying capacity of the equipment. The foundation shall be firm enough to support the equipment. The level shall be checked every day before starting the work in case of mobile hoisting equipment.
- (f) Thorough inspection and load testing of lifting machines and tackles shall be done by a third party, at least once in every 12 months and the records of such inspection and testing shall be maintained and a copy shall be submitted by the contractor to the departmental representative at site. Motors, transmission, couplings, belts, chain drives and other moving parts of hoisting appliances shall be provided with adequate safeguards. Hoisting appliances shall be provided with such means as it shall minimize the risk of any part of a suspended load becoming accidentally displaced or lowered.
- (g) Double sling shall be used for hoisting material. The angle of the sling shall be wide enough for safe hoisting and the sling shall be adjusted as per the centre of gravity of the material to be lifted. A guide rope (manila rope of sufficient length, normally 1.5m long) shall be attached to the end of the material lifted in order to pull the same conveniently during lowering.
- (h) The contractor shall maintain a Register of Periodical Tests for Examination of Lifting



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Appliances and Gears (**Refer Annexure 7A**) at site as per Rule 74, Chapter VII, BOCW Central Rules, 1998 and record the periodic / annual thorough examination of such appliances (viz. winches, derricks, their accessory gears, loose gears, ropes, hooks, shackles, swivels, etc.). This register shall be kept available at site always for examination of the department.

**5.4.7.2.1 Tower Cranes: Erection & Commissioning** - The type of the tower crane to be used shall be selected based on the load to be lifted, the reach of the boom and the height at which the material is to be shifted. The contractor shall follow all the safety instructions given in the manufacturer's manual for erection, dismantling or extension (jumping) of tower cranes. The contractor shall submit the operation manual, provided by the manufacturer, to the departmental representative before erection of the same at site. For both movable and fixed tower cranes, the adequacy of the counterweight shall be ensured. The base of the tower crane shall be in perfect horizontal level. Base shall be capable of bearing the loads during the operation of tower crane.

The foundation of the tower crane (mainly for static tower crane) shall be properly designed, for at least 25% more than the maximum load carrying capacity of the crane. For erection of mobile tower crane, the contractor shall first level and compact the soil at the place of erection or shall lay PCC / RCC of sufficient thickness if the soil condition is poor. The out riggers / wedge of the mobile tower crane shall be properly secured. The limit switch of the tower crane shall be properly calibrated and checked periodically by the contractor in order to ensure safe load carrying capacity of the same. The load carrying capacity shall be tested, at least once in 12 months, by a third party and a copy of such test shall be submitted by the contractor to the departmental representative at site. The limit switch shall function in such a manner that it immediately cuts off the power supply to the hoisting motor of the crane on overloading. The electrical power supply system of the crane shall be through MCB / ELCB of proper rating which shall be periodically checked. The height of the tower crane shall be such that it clears all obstruction like column dowels, protruding parts of scaffolds, overhead electric lines, etc. easily while hoisting the loads.

**Operation** – The crane shall never be used to pick the loads which are out of the crane's reach or to do skew pulls of any sort. The load (to be lifted by the crane) shall be free from any sticky characteristic which may cause sudden jerk while lifting. No worker / person shall be lifted by tower crane. Any kind of swinging of lifted load, to put them out of crane's reach, shall not be tried. The operator shall not reverse the motor in order to achieve quicker stop to save time. He shall execute one operation at a time only and shall never combine horizontal movement of trolley with vertical movement of lifting hook. Tower crane shall be protected from sway due to wind load, etc. during operation. Precautions in high wind load (more than 72 kmph or possibility of storm) shall be taken as per manufacturer's guide. Various components and parts of the tower crane like wire ropes, pulleys, structural members of the tower and boom, etc. shall be periodically checked and properly maintained by the mechanical engineer of the contractor. Proper lighting arrangement with the boom and the tower of the crane shall be provided as safety arrangements for clear visibility during night. The tower crane shall be provided with the siren / horn facility in order to caution the



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workers in vicinity during operation of the crane. The operator shall take “START” and “HOISTING” signal from the designated helper / supervisor only; however, “STOP” signal can be taken from anyone.

**Maintenance** - The balancing rope, trolley rope, hoisting rope and erection rope shall be checked as per maintenance guidelines given by the manufacturer and they shall be replaced immediately as and when required. For regular maintenance, the manufacturer’s manual shall be followed.

**5.4.7.2.2 Mobile Cranes:** The contractor shall take care that, the engine of the crane shall be kept running with the gear engaged and maintain a slow speed, while moving down the hill. While travelling uphill or downhill, the boom shall always be kept downhill in order to prevent the boom from falling back. The soil of working area, movement area and parking area of the mobile crane shall be well compacted and shall have proper drainage arrangement. The area shall be dry, levelled and firm enough to hold the load of the mobile crane. In case the soil is soft, the area under the wheels should be made solid with stones, wooden slippers, etc. This also applies to the crawler mounted cranes. The chart for rated load vis-à-vis operation radii for mobile crane shall be referred to before any erection and the same shall be submitted by the contractor to the departmental representative in advance. In no case, the maximum operation radius shall be exceeded. The out-riggers / jacks along with bearing plates shall be used while in operation and no load shall come on the wheels. The lifting hook shall be tied / anchored while the crane is moving or not operational. Before starting operation at the beginning of day’s work, the capacity load shall be picked up to 0.3 m above the ground to test the drift, if any, due to faulty brakes. The brakes shall be ‘ON’ when a rubber tyre crane is operated. The operator shall always avoid any jerky start or a fast swing during operation of the crane since it increases the risk of overturning of the crane. The pressure in the pneumatic tyre shall be maintained correctly in all wheeled machines. The crane shall be equipped with the following features:

- i) Anemometer to indicate wind pressure
- ii) Anchors for rail mounted cranes
- iii) Load Limiter to prevent failure of ropes
- iv) Safety stops to restrict crane travel
- v) Swinging radius indicator to indicate safe load at given radius
- vi) Heel indicators to control crane heeling
- vii) Electrical/mechanical safe limits to compare the weight actually hoisted and the load admissible at various swing radii.

The standard formats for inspection and certificate of testing for crane and hoist are given as per **Annexure 6 and 7**.

**5.4.7.2.3 Builder Hoists:** The capacities of the builder hoists are limited. The structure of builder hoist shall be supported from permanent structure like column, slab, etc. so that the rails do not rattle while operating the hoist. The structure shall be vertically held in position. Periodic checking and maintenance shall be done by the contractor for the condition of ropes, rails, pulleys, bucket/hopper, locking system, etc. from time to time. There shall not be any obstruction or protruding part on the way of movement of builder hoist. The builder hoist shall never be used for movement of manpower. The



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openings shall be cordoned by guard rails as per safety provisions under working at height.

### 5.4.7.3 Transporting Machinery:

a) Trucks, tippers, dumpers used in transportation of excavated earth or other materials; which are loaded with mechanical excavators, shovels / loaders shall have strong canopies over the driver's cabin to protect them from injuries while loading. The driver's cabin for all the vehicles at construction site shall have a system of sound and vibration suppression, seat belts, reverse horn/alarm, rear view mirror, wide windshield, triplex glass, wiper, sun visor, etc. Brakes and control shall be designed so as to get locked when the vehicle is parked. While going down the gradient, the speed of the vehicle should be controlled. Hydraulic retarder shall be used for big dumpers. Persons holding valid driving licenses for heavy motor vehicle shall be engaged as drivers of the respective type of vehicles. Every dumper, tipper, truck, etc. shall be accompanied by helper and driver shall take all signals from his helper only. The access road of such transport vehicle shall be firm and levelled as far as practicable and shall be free from any obstacle.

b) Trucks shall be loaded at places where there is no danger of falling rock or landslide. While loading trucks with mechanical excavators, shovels, etc. suitable distance shall be kept to avoid the shovel touching the truck. Brakes shall be applied when a vehicle is loaded and unloaded. The vehicles shall not be overloaded and the loading shall be even. Stop logs shall be used while loading and transportation so that the back door of the dumper does not open undesirably.

c) For tough riders, the hydraulic system for the bucket shall be checked periodically as per manufacturer's maintenance manual. They shall not be overloaded.

**5.4.7.4 Concrete mixers and batching plants:** The concrete mixers and batching plants shall be calibrated by the contractor at least once in a month and such records shall be made available to the departmental staff for record.

**5.4.7.4.1 Concrete mixers:** The mixer shall be placed on levelled and firm ground. The hopper shall rest on ground while loading of aggregates and cement. The hopper shall not be overloaded. The gear, pulley, ropes, etc. shall be checked regularly and replaced as and when required. Concrete mixers shall be operated by trained / skilled operator only. In case of electrically operated mixer machines, the switch boxes shall be properly guarded from rain and dust.

**5.4.7.4.2 Batching Plant:** The installation, operation, maintenance and decommissioning of batching plant shall be done as per manufacturer's guidelines and manuals. All electrical works and connections shall be done by a licensed electrician under supervision of electrical engineer of the contractor. The DG requirement (in case of power cuts) shall be of at least 150% of the overload capacity. The operations of hopper, scrapper and pan mixer shall be smooth and periodic inspection shall be done as per manufacturer's guidelines. The material bins shall be checked periodically for



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presence of any boulders, lumps, etc. which may choke in the hopper causing disruption of operation of the batching plant. Proper care shall be taken during feeding cement silo from the bulker for any loose joints in the feeder pipe and pump of the silo. The silo shall have a guarded monkey ladder for access to the top. The person accessing the top of silo shall seek work permit in advance and shall use proper PPE while climbing. The outer surface of the silo shall be properly painted and maintained against weathering effects. The contractor shall make available at least one fire extinguisher near the operator cabin of the batching plant and the same shall be maintained in good condition at all times. The operator cabin and the scrapper cabin shall be well ventilated and dust proof. The underground water tank/Vat of the batching plant shall be covered with suitable protective cover and shall be cordoned all around.

**5.4.7.4.3 Hydraulic machines:** Hydraulic operated machines like mechanical excavators, jacks, or any other hydraulically operated parts, etc. shall be handled carefully. The pressure relief valves mounted on the Hydraulic construction equipment shall not be tampered. These machines shall be equipped with the foam based fire extinguisher. These machines shall be maintained at regular intervals as per the manufacturer's manual, to avoid failure of brakes, hydraulic system, etc. Regular checking shall be done for such equipment for any leakage, condition of the hoses and connections, etc. Contractor shall give proper training to the operator, mechanic, etc. before they handle the equipment.

### **5.4.7.5 Dewatering pumps, Concrete pumps, Boom placer pumps:**

**5.4.7.4.4 Dewatering pumps:** The rotating parts of the dewatering pump shall be well guarded. Only authorized operator / mechanic shall operate the pump on requirement. He shall not wear any loose clothes while operating the pump. The exhaust of the smoke shall be away from the workers working in the surrounding area. The pump shall be operated and maintained as per the manufacturer's guidelines.

For electrically operated dewatering pumps including submersible pumps, special care shall be taken while operating them. Such pumps shall be fitted with ELCB of proper rating. The power shall be put off before shifting or removal of the submersible pumps.

Only authorized operator / electrician shall be allowed to operate the same.

### **5.4.7.6.1 Stationery Concrete Pumps and Boom Placer pumps:**

The commissioning, operation and maintenance of concrete pumps (both stationery and boom placer type) shall be done as per manufacturer's guidelines or manual provided along with the equipment. The safety procedure and tips as mentioned in these guidelines shall not be violated. A copy of such manuals shall be submitted to the department before installing the equipment at site. Apart from manufacturer's manual, the following guidelines shall be followed for operation and maintenance of the concrete pumps:



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- a) The operation, maintenance and signaling of concrete pumps shall be done by trained and authorized personnel having minimum 18 years of age.
- b) Place of work shall be so selected that the visibility of batching plant operator/transit mixer driver, concrete pump operator, signal man/supervisor and hose man (at the pouring point) is ensured all at a time. In case such visibility between all the above people cannot be ensured, then at least the pump operator shall be able to see the batching plant operator and signal man separately. The pump operator shall play most important role in pouring and he shall be properly trained by the safety officer/site Engineer of the contractor to understand the signaling process properly in order to ensure smooth concreting activity at site.
- c) When the concrete is being placed in the hopper of the pump (either from batching plant chute or transit mixer chute), no person shall climb on the hopper of the pump.
- d) The danger zones (within working area) like hose end position, beneath the placing boom, moving parts of the concrete pump and its hopper, its support legs and the area of the concrete pipe line, etc. shall be identified by the safety officer/mechanical engineer in advance. Accordingly these areas shall be cordoned and restricted movement shall be ensured as practicable as possible.
- e) The concrete pipeline (delivery system) for stationary pumps shall be checked by the mechanical engineer before he seeks work permit for concreting activity, for proper clamping of the pipe joints, supports for pipe line, etc. The pipe line shall have minimum number of bends and shall be straight as far as possible. In case pipe line needs to change the direction, then there shall be at least 5 m straight portion just after the concrete pump. The bends in the pipe line shall be as smooth as possible.
- f) Inspection interval shall be decided based on manufacturer's guide line, age of the concrete pump, quantity of the operating hours and output of concrete.
- g) Personal protective equipment like helmet, safety shoes, ear defenders (ear muff/ ear plug), protective gloves and goggles, face mask/respiratory protector, etc. shall be arranged by the contractor for all the workers working on concrete pump.
- h) Concrete pump shall have suitable pressure relief valve, set at a predetermined pressure level, in order to ensure safety of the workers as well as the pump.

### **5.4.7.7 Tools:**

#### **5.4.7.7.1 Pneumatic Tools:**

The hose of the compressed air shall not be directed towards a person's body. Compressed air shall not be used for cleaning of dust on the clothes of the workers. The compressed air line shall not be bent to stop the flow of air. This may cause building of pressure resulting in bursting of pipe and injury to the person. The operator shall use earmuffs on regular basis. The person cleaning certain area with compressed air shall



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be given safety goggles, dust respirators and ear plugs. Other workers shall not be present in the area which is being cleaned.

### 5.4.7.7.2 Abrasive Tools:

All machines, hand tools, etc. shall be test driven and necessary earthing shall be checked before actual use. All moving parts of mills, mixers and disintegrators shall have secure guards to avoid injury to workers. Contractor shall provide protective equipment to workers involving in crushing, grinding or pulverizing operations and all the machines shall be covered overall with hard material to keep them clean.

- a) **Drills:** All the pneumatic drills shall be equipped with the additional lateral handles to avoid accidents wherein the back twisting torque exceeds 15 Nm. Compressed air hoses shall be suitably covered or hung from the ceiling.
- b) **Saws:** The contractor shall ensure that all the built-in safety devices of the pneumatic saws such as adjustable riving knife, guard hood, replaceable blade aperture insert, push stick and start/stop switch shall not be tampered by the workers during operations. The contractor shall provide standard PPEs such as ear plugs or earmuffs as the noise level during operations of saws may exceed 90 dBA.
- c) **Grinding machines:** The contractor shall use correct type of wheel depending on type of material to be ground such as separate wheel for concrete and steel surfaces, etc. The expiry date written on the wheel shall be referred before use. The RPM of the wheel shall match with that of the grinding machine. The wheel may get chipped or cracked in transportation or in storage. In order to check this defect, the wheel shall be held loosely on a finger through the arbor hole and tapped lightly with a wooden hammer. The grinding machine shall have proper earthing, guards, etc. and the operator shall use all necessary PPEs like hand gloves, goggles, ear plugs, dust respirators, etc.
- d) **Pneumatic Tools Safety:** The contractor shall check all the rotating tools with the Tachometer for proper operating speed before accessories are attached. The contractor shall operate all the grinding wheels under or inside the guards (except cone shaped wheels and small mounted points). The diameter of the wheel arbors shall match that of the grinding wheels. The wheel washer (blotter) and collar shall grip the wheel firmly and the two shall never be of different diameters. The nut which holds the wheel on the arbor and the washer (blotter) against the wheel shall be of ample size and strength. The contractor shall follow the manufacturer's charts about the applications and speed of the various types of the grinding wheels. e)

### **Hand Tools:**

- i) **Impact Tools:** The contractor shall use precision grip for the most commonly used impact tool, hammer for light work. For safe operations, the hammer shall have a straight cylindrical handle of 24 to 40 mm calibre with a maximum length of 600 mm and maximum head weight of 6.5 to 7.5 kg. Hammers shall be maintained such that cracked or weak handles are replaced and heads are in good condition and firmly secured to an undamaged handle. ii) **Cutting Tools:**



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The contractor shall ensure that various cutting tools like axes, chisels and shovels, etc. are made up of material with adequate strength. The contractor shall ensure that wooden handles are to be moist before use during summer. Proper PPEs like hand gloves, ear plugs, goggles, dust respirators, etc. shall be provided to the worker as per the need of the work.

### **5.4.8 Structural Steel Fabrication:**

**5.4.8.1 Welding and Gas Cutting:** Welding and gas cutting operations shall be done only by qualified and authorized persons and as per IS: 818-1968 (Reaffirmed in 2008). No hot job shall be done without approved work permit.

a) Welding and gas cutting shall not be carried out in places where flammable/any materials such as combustible/flammable chemicals, dyes, hessian cloth, wooden pieces, cylinders, etc. are kept within 10 m from the spot of fabrication or gas cutting.

b) **Gas cylinders:**

**i) General precautions:**

- Cylinders together with their valves and other fittings and identification colours shall be maintained in good condition.
- No lubricant shall be used in any fittings of the cylinders.
- No cylinder shall be subjected to any heat treatment or exposed to a high temperature or to the sun or stored with flammable or explosive material.
- Every cylinder containing compressed gas shall have its valve securely closed so as to prevent leakage. Valves fitted to the cylinders containing LPG and highly toxic gases shall be provided with security nut on the outlet to act as a secondary means of safeguard against leakage of gas.
- If the leak in the valve cannot be rectified by tightening the gland-nut or the spindle, the cylinder shall be removed to an open space where it is least dangerous to life and property and the Filler shall be informed.

**ii) Handling and use:**

- Cylinders shall be adequately supported during handling.
- Trolleys and cradles of adequate strength shall, as far as possible, be used when moving the cylinders.
- The cylinders shall be handled carefully and not be allowed to fall on one another or subjected to any undue shock.
- Sliding, dropping or playing with cylinders is prohibited.



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- LPG cylinders and cylinders containing liquefied gas shall always be kept in upright position and be so placed that they cannot be knocked over.
- Cylinders used in horizontal position shall be so secured that they do not roll.
- Open flames, lights, lighting of fires, welding and smoking shall be prohibited in close proximity of any cylinder containing flammable gases except those in use for welding, cutting or heating.

### iii) Storage of cylinders:

- Cylinders shall be stored in cool, dry, well ventilated place under cover, away from boilers, open flames, steam pipes or any potential sources of heat and such place shall be easily accessible.
- The storage room or shed shall be of fire-resistant construction.
- Thin-walled cylinders such as LPG and cylinders of dissolved gas shall not be stacked in horizontal position.
- Cylinders containing flammable and toxic gases shall be kept separated from each other and from cylinders containing other types of gases by an adequate distance or by suitable partition wall.
- Cylinders shall not be stored under conditions that will cause them to corrode.
- Cylinders shall not be stored with any combustible materials.
- Empty cylinders shall be segregated from filled ones and care shall be taken that the valves are tightly shut.
- Specificity of gas cylinders: Gas cylinders designed and approved for filling a particular gas should not be used for filling with any other gas without specific approval from the Chief Controller of Explosives.

### iv) Transport of cylinders:

- Cylinders filled with any compressed gas shall not be transported by bicycle or any other two-wheeled mechanically propelled vehicle.
- Cylinders shall be so transported as not to project in the horizontal plane beyond the sides or ends of the vehicle by which they are transported.
- Cylinders shall be adequately secured to prevent their falling off the vehicle and being subjected to rough handling, excessive shocks or local stresses.

### v) Restrictions on transport of cylinders:

- Cylinders containing flammable gases shall not be transported along with cylinders containing any other type of compressed gas.



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- Cylinders containing toxic or corrosive gases shall not be transported along with food-stuff.

**vi) Loading and unloading of cylinders for transport:** No lifting magnet shall be used in loading or unloading of cylinders filled with compressed gas. When any such operation is carried out by means of a crane or fork lift truck, a proper cradle with chains or wire rope slings shall be used. **vii) Protection of valves:** The valves of compressed gas cylinders should be protected against damage during transport. **viii) Notice of accident:** Notice of an accident involving compressed gas cylinder should be given to the Chief Controller of Explosives, by an express telegram, followed by a letter within 24 hours giving particulars of the occurrence and to the Officer-in-Charge of the nearest Police Station. **ix) Condemning of Cylinders:** Any cylinder which does not pass the periodical test or loses over 5% of its tare weight or found to be defective should be destroyed.

- c) Barrier screens shall be erected to protect other persons from harmful rays and sparks from the work. When welding or gas cutting is carried out in elevated positions, precautions like providing metal sheet, etc. shall be taken to prevent sparks or hot molten metal falling on persons or flammable materials below.
- d) Adequate ventilation shall be provided for easy dispersion of gas while welding, brazing and cutting in confined space.
- e) Suitable type of protective clothing consisting of fire resistant gauntlet gloves, boots and aprons shall be provided to workers to protect from heat and hot molten metal splashes. Welding shields with filter glasses of appropriate shade shall be worn as face protection against UV & IR rays.
- f) Welding and gas cutting shall not be carried out by standing on drums, barrels, tanks or other containers.
- g) Appropriate type fire extinguisher and fire bucket shall be available near the location of welding operations.
- h) Contractor's safety officer shall ensure at least half an hour fire watch after the hot work is over.

**5.4.8.2 Electric Arc Welding:** For Electric Arc welding the following additional safety precautions shall be taken:

- i) All power connections shall be routed through ELCB of proper rating and machine connections shall be through MCB. Double earthing shall be provided to the welding machine. A provision of a separate return path shall be ensured. ii) The cable to be used shall be of adequate capacity corresponding to output of the welding transformer / generator and shall be routed through dry isolated path. Welding cable terminals shall be provided with lugs and connected properly. Proper insulation of cable with insulation tape of approved quality shall be ensured and only double insulated cable



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shall be used. Extension of welding cables shall be done using standard connectors. iii) Pipe lines carrying flammables shall not be used as part of earth conductor, but a separate earth conductor shall be connected to the machine directly from the job. Painting and Dye Penetration testing shall not be done near electric arc welding. iv) Personal contact with the electrode or other live parts of electric welding equipment shall be avoided. Wires and cables shall not be hung from any metal hook. v) Accidental contact of electrodes with ground shall be prevented. vi) The welding cables shall not be allowed to get entangled with power cables. It shall be ensured that the cables are not damaged by movement of materials. Dragging and coiling of cable shall be avoided. vii) For Dye Penetration test, necessary care shall be taken so that there is no hot job going on nearby. Place of the test shall be well ventilated.

### 5.4.8.3 Grinding:

i) All portable grinders shall be used only with their wheel guards in position to reduce the danger from flying fragments should the wheel break during the use. ii) Grinding wheels of specified diameter only shall be used on a grinder portable or pedestal in order not to exceed the prescribed peripheral speed. iii) Goggles shall be worn during grinding operation. iv) All safety procedures as mentioned in 5.4.7.7.2 shall also be followed for grinding activity. v) Safety provisions for grinding activity as per IS:1991-1987(Part 1-10) (Reaffirmed in 2002) shall be followed.

**5.4.8.4 Erection:** Only trained operators and workers shall be engaged for the erection of structural fabricated members. For erection by mechanical means, the safety procedures as mentioned in 5.4.7.2 and 5.4.7.3 shall be followed in addition to the following guidelines:

- a) The heavy materials shall not be manually handled. They shall be handled and shifted by mechanical means like crane, hydra, trolley, etc. of adequate capacity.
- b) All mechanical transport devices and erection equipment shall be operated with the assistance of a helper / supervisor exclusively for proper signaling.
- c) While erecting fabricated members, suitable guy rope arrangement shall be made to avoid sudden toppling of derrick.
- d) Chain pulley block, D-shackles and wire ropes (lifting appliances) shall be of rated capacity at least 2.0 times more than the maximum desired load to be lifted. Hooks, jigs and fixtures used shall be marked with their capacities.
- e) Two or more slings shall be used for lifting the loads and they shall be tied as per the centre of gravity of the load to be lifted.

**5.4.9 Electrical Safety:** Guide lines for providing temporary power supply at the site and general safety procedures for using electricity are given as under. Following safety requirements shall be complied with before the Contractor uses the power supply.

The Contractor shall submit a list of licensed electrical staff to be posted at site. It shall be the responsibility of the Contractor to provide and maintain complete installation on



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the load side of the supply point with regard to the safety requirements at site. All cabling and installation shall comply with the appropriate statutory requirements given below and shall be subject to approval of the Departmental Engineer-in-charge/ Electrical Engineer.

- a) The Electricity Act, 1910 (as amended in 2003)
- b) Electricity (Supply) Act, 1948
- c) Indian Electricity Rules, 1956 (as amended in 2005)
- d) National Electric Code 1985 (as amended in 2005)
- e) Other relevant rules of Local Bodies and Electricity Boards

**5.4.9.1** After installation of the electrical power wiring works by the contractor, form of completion certificate as per IS: 732 – 1989 (Reaffirmed in 2005) (**Form SGCW – 1 – Annexure 11**) shall be submitted by the contractor duly signed by the authorized valid licensed electrical contractor and /or supervisor along with one copy of the contractor's license and/or competency certificate of supervisor issued by the Electricity Board/Government Electricity Organizations as per the enclosure. The power supply shall be regulated as per the terms and conditions of the supply of the respective electricity boards.

(a) For purposes of electrical load and power planning by the electrical section, the contractor shall furnish along with the tender, the estimated load requirement of electric power for the execution of the contract works in terms of maximum Kilo Watt or KVA demand during various periods/months of the contract period along with the details of the construction electrical equipment/machinery with their individual load details and location/locations of power supply required for availing temporary electric power supply in the standard proforma enclosed (**Form SGCW- 2 – Annexure 12**).

(b) The electric power supply will be generally made available at one point in the works site of the contractor by the department.

(c) Where distribution boards are located at different places the Contractor shall submit schematic drawing indicating all details like size of wires, overhead or cable feeders, earthing, etc. The position and location of all equipment and switches shall be given.

(d) The Contractor shall make his own arrangements for main earth electrode and tapping thereof. The existing earth points available at site can be used at the discretion of the Departmental Electrical Engineer with prior permission. Method of earthing, installation and earth testing results shall conform to relevant IS Specifications [IS: 3043 – 1987 (Reaffirmed in 2001)]. All three phase equipment shall be provided with double earthing.



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All light fixtures and portable equipment shall be effectively earthed to main earthing.  
(e) All earth terminals shall be visible. No gas pipes and water pipes shall be used for earth connection. Neutral conductor shall not be treated as earth wire.

(f) The Contractor shall not connect any additional load without prior permission of Departmental Electrical Engineer. For obtaining additional power required, test reports of the tests mentioned in (d) of Form SGCW - 1 (**Refer Annexure – 11**) shall be submitted. (g) Joints in earthing conductors shall be avoided. Loop earthing of equipment shall not be allowed. However, tappings from an earth bus may be done.

(h) The entire installation shall be subjected to the following tests before energizing of installation including portable equipment:

i) Insulation resistance test ii) Polarity test of switches iii) Earth continuity test iv) Earth electrode resistance.

The test procedures and their results shall conform to relevant IS specifications. The Contractor shall submit a test report for his complete installation every 2 months and also every time after rectifying any faulty section. One such test report for the complete installation shall be submitted before onset of monsoon.

The following are provided for general guidance of the Contractor and shall be read as specific requirement, in addition to complying with Indian Electricity Act, Indian Electricity Rules and IS Specifications.

### **5.4.9.2 Installation:**

- a) Only persons having valid wireman's license/competency certificate shall be employed for carrying out electrical work and repair of electrical equipment, installation and maintenance at site. The job shall be supervised by a qualified licensed supervisor.
- b) Electrical equipment and installations shall be installed and maintained as to prevent danger from contact with live conductors and to prevent fires originating from electrical causes like short circuits, overheating, etc. Installation shall not cause any hindrance to movement of men and materials.
- c) Materials for all electrical equipment shall be selected with regard to working voltage, load and working environment. Such equipment shall conform to the relevant standards.
- d) The minimum clearance to be maintained for all overhead lines along roads and across roads shall be 6.10m ( minimum) as per the Rules 77-80 of Indian Electricity

Rules, 1956 (Amended in 2005).



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- e) Grounding conductor of wiring system shall be of copper or other corrosion resistant material. An extra grounding connection shall be made in appliances/equipment where chance of electric shock is high.
- f) Electric fuses and/or circuit breakers installed in equipment circuits for short circuit protection shall be of proper rating. It is also recommended that high rupturing capacity (HRC) fuses shall be used in all circuits. As Earth Leakage Circuit Breaker shall be provided for all 3 Phase supply irrespective of kilo watt rating and for all single phase supply equal to or exceeding 5 Kilo Watt rating.
- g) Wires and cables shall be adequately supported and an approved method of fixing shall be adopted. Loose hanging of wires & cables shall be avoided. Lighting and power circuits shall be kept distinct and separate.
- h) Reinforcement rods or any metallic part of structure shall not be used for supporting wires and cables, fixtures, equipment, earthing, etc.
- i) All cables and wires shall be adequately protected against mechanical damages. In case the cable is required to be laid underground, it shall be adequately protected by covering the same with bricks, Plain Cement Concrete (PCC) tile or any other approved means.
- i) All armoured cables shall be properly terminated by using suitable cable glands. Multi-stranded conductor cables shall be connected by using cable lugs/sockets. Cable lugs shall preferably be crimped. They shall be of proper size and shall correspond to the current rating and size of the cable. Twisted connections shall not be allowed.
- j) All cable glands, armouring and sheathing of electric cables, metal circuits and their fittings, metallic fittings and other non-current carrying parts of electrical equipment and apparatus shall be effectively grounded.
- k) All the Distribution Boards, Switch Fuse units, Bus bar chambers, ducts, cubicles etc. shall have Mild Steel enclosures and shall be dust, vermin and water proof. The Distribution Boards switches etc. shall be so fixed that they shall be easily accessible. Changes shall be done only after the approval of the Departmental  
  
Electrical Engineer.
- l) The Contractor shall provide proper enclosures/covers of approved size and shape for protection of the entire switch board, equipment etc. against rain. Exposed live parts of all electrical circuits and equipment shall be enclosed permanently. Crane trolley wires and other conductors which cannot be completely insulated shall be placed such that they are inaccessible under normal working conditions.
- m) Iron clad industrial type plug outlets are preferred for additional safety.



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- n) Open type Distribution Boards (DBs) shall be placed only in dry and ventilated rooms; they shall not be placed in the vicinity of storage batteries or otherwise exposed to chemical fumes.
- o) Isolating switches shall be provided close to equipment for easy disconnection of electrical equipment or conductors from the source of supply when repair or maintenance work has to be done on them.
- p) In front of distribution boards (DBs) a clear space of 1.0 m shall be maintained in order to have easy access during an emergency. Pathway to DBs shall be maintained free from any obstacles. If there are any attachment/base connection at the back side of the switch board, the space, if any behind the switch board shall be either less than 20cm or more than 75cm in width, measured from the farthest outstanding part of any attachment or conductor. If the space behind the switch board exceeds 75cm in width, there shall be a passage way from either end of switch board clear to a height of 180 cm.
- q) As far as possible electrical switches shall be excluded from a place where there is danger of explosion. All electrical equipment such as motors, switches and lighting fittings installed in work room where there is possibility of explosion hazard shall be explosion proof.
- r) All connections to lighting fixtures, starters or other power supplies shall be provided with PVC insulated, PVC sheathed twin/three/four core wires to have better mechanical protection for preventing possible damage to equipment or injury to personnel. Taped joints shall not be allowed and the connections may be made in looping system. Electric starter of motors, switches shall not be mounted on wooden boards. Only sheet steel mounting or iron frame work shall be used.
- s) All the lighting fixtures and lamp holders shall be of good quality and in good condition. Badly repaired or broken holders, etc. shall not be used.
- t) Only PVC insulated and PVC sheathed wires or armoured PVC insulated and sheathed cables shall be used for external power supply connections of temporary nature. Weather proof rubber wires shall not be used for any temporary power supply connections. Taped joints in the wires shall not be used.
- u) Lamps used for illumination and testing purpose shall have cover or guard to protect them from accidental breakages. Only 24 Volt supply system shall be used for hand lamps etc, while working inside metallic tanks or conducting vessels.
- v) After installation of new electric system and or other extensive alterations to existing installations, thorough inspection shall be made by Departmental Electrical Engineer before the new system or new extension is put in use.



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### 5.4.9.3 Operation & Maintenance:

- a) All persons who work with electrical installation/equipment shall be aware of the electrical hazards, use of protective devices and safe operational procedures. At least two persons in a shift shall be given training in fire fighting, first aid and artificial resuscitation techniques. First Aid treatment of electrical shock shall be displayed at First Aid Centre.
- b) The supervisor shall instruct the workers for the proper procedure, specify and enforce the use of necessary protective equipment such as adequately insulated pliers, screw drivers, fuse pullers, testing lamps and similar hand tools. Only wooden ladders shall be used to reach the heights in electrical work.
- c) No material or earth work shall be allowed to be dumped below or in the vicinity of the bare overhead line conductors. Minimum clearance of 6.10m shall be maintained.
- d) Separate work permits shall be issued in accordance with IS: 5216-1982 (Reaffirmed in 2010) working on the same system which shall be returned after the completion of the work to Safety Officer and no system shall be restored without the clearance of Safety Officer.

Before any maintenance work is commenced on electrical installations/equipment, the circuits shall be de-energized and ascertained to be dead by positive test with an approved voltage testing device. Prior to attempting repairs on the equipment Switch off, Isolate, Discharge and Earth (SIDE) Rule should be strictly followed. Switches shall be tagged or the fuse holders withdrawn before starting the work. During electrical works, minimum two persons shall be available. Adequate precautions shall be taken in two important aspects viz.

- (i) That there shall be no danger from any adjacent live parts and
  - (ii) That there shall be no chances of re-energizing of the equipment on which the persons are working.
- f) While working on or near a circuit, whenever possible the use of one hand may be practiced even though the circuit is supposed to be dead. The other hand may preferably be kept in pocket.
  - g) When it is necessary to touch electrical equipment (for example when checking for overload of motors) back of the hand may be used. Thus, if accidental shock were to cause muscular contractions, one would not 'freeze' to the conductor.
  - h) Operation of electrical equipment shall be avoided when standing on wet floor or when hands are wet.



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- i) Before blown fuses are replaced, the circuit shall be locked out and an investigation shall be made for the cause of the short circuit or overload.
- j) When two persons are working within reach of each other, they shall never work on different phases of the supply.
- k) When structural repairs, modification or painting works are to be undertaken, appropriate measures shall be taken for the protection of persons whose work may bring them into the proximity of live equipment/circuit.
- l) It shall be ensured that the insulation and wire size of extension cords are adequate for the voltage and current rating.
- m) While tapping electricity from the socket, plug top must be used. It shall be ensured that no extension boards are over loaded while tapping. Only standard three pin plugs shall be used for tapping electricity. Broken sockets/plugs shall be replaced immediately with good ones. Only joint free cables shall be used for connecting equipment/apparatus.
- n) Floors shall be kept free from trailing electrical cables to avoid tripping hazard.
- o) Power supply to all the machines and lighting fixtures shall be switched off when not in use.
- p) Temporary electrical connections shall be removed as soon as the stipulated work is over. After completion of the works, the contractor shall dismantle the distribution boards and the other facilities he may have erected.
- q) Unauthorized tapping of power by others from distribution boards under the control of the contractor shall be prohibited at all circumstances.
- r) Safety work permits shall be used for switching off the main feeder and equipment by the contractor.
- s) "MEN ON LINE", "DO NOT SWITCH ON", "DANGER" or "CAUTION" boards as applicable shall be used during maintenance works on the electrical equipment.
- t) Power tapping of electrical equipment shall as near as possible of the equipment.
- u) During maintenance at height, proper access by ladder shall be adopted.

### **5.4.9.4 Portable Electrical Equipment:**

- a) Portable electrical equipment shall be regularly examined, tested and maintained to ensure that the equipment and its leads are in good order. Register shall be maintained for inspection recording the testing dates and results of the



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equipment. The insulation and winding resistance of the portable electrical equipment shall be checked at least once in a month and report shall be submitted for all such machines. A typical format for testing portable and other electrically operated equipment is enclosed as **Annexure-15**.

- b) All portable appliances shall be provided with three core cables and three pin plugs. The third pin of the plug shall invariably be earthed. It shall be ensured that the metal part of the equipment shall be effectively earthed.
- c) All connections to portable equipment or machines from the panel/distribution board/extension board shall be taken using 3 core double insulated PVC flexible copper wire in one length. No joints shall be allowed in this flexible wire. In case, single length of wire is not sufficient for a particular location then the supply can be tapped by providing another extension board comprising of switch and socket.

Isolation switch shall be made available as close as possible to the equipment.

- d) Flexible cables for portable lamps, tools, and apparatus shall be regularly examined, tested periodically and maintained to ensure safety and protected against mechanical damages.

**5.4.10 Fire Safety:** The contractor shall take all necessary precautions to prevent outbreak of fires at the construction site. Adequate provisions shall be made to extinguish fires should they still break out.

- (a) Quantities of combustible materials like timber, bamboos, coal, paints, etc. shall be the minimum required in order to avoid unnecessary accumulation of combustibles at site.
- (b) Containers of paints, thinners and allied materials shall be stored in a separate room which shall be well ventilated and free from excessive heat, sparks, flame or direct rays of the sun. The containers of paint shall be kept covered or properly fitted with lid and shall not be kept open except while using.
- (c) Fire extinguishers suitable for the different classes of fire such as Class A, B, C & D as per IS: 2190-1992 (Reaffirmed in 2010) shall be made available at the appropriate places in the construction site. The date of last maintenance of fire extinguisher shall be displayed properly on the same by using maintenance tag. The fire extinguishers shall be sent for maintenance/refilling at least once in 6 months or whenever exhausted. The safety officer shall inspect the condition of the plunger, safety pin, switch grip, hose tube, etc. at least once in a month and

report shall be submitted to the departmental representative as per the format enclosed as **Annexure 14**.

- (d) Adequate number of contractor's workmen and supervisors shall be given training in fire fighting and extinguishing methods.



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- (e) The safety officer of the contractor shall plan for site evacuation in fire emergency in order to facilitate to easy and safe exits for entire site work force and supervisory staff. He shall identify and train the designated staff or supervisor for specific role in site evacuation plan.
- (f) The telephone number of the nearest fire station shall be displayed at suitable locations (near telephone, main entrance of the site, first aid centre, stores, etc.) in bold distinct font.

### **5.4.11 Housekeeping:**

**5.4.11.1** The Contractor shall promote and upkeep the practice of good housekeeping throughout the contract period in order to create a safe and hygienic working environment at site. The contractor shall maintain a separate housekeeping team of workers and supervisors who shall maintain the hygienic conditions at site. He shall at all times, keep his work spot, site office, labour toilets and surroundings and roads clean and tidy from rubbish, scrap, surplus materials and unwanted materials, tools and equipment. The contractor shall follow the recommendation of IS: 4082-1996 (Reaffirmed in 2003) for stacking and storage of construction materials and components at site.

**5.4.11.2** Welding and other electrical cables shall be so routed as to allow safe traffic by all concerned. Electrical cables shall not trail on the ground and they shall be raised above ground with the help of posts, etc.

**5.4.11.3** The plan of temporary structures shall be such that they do not hamper easy movement of worker and vehicles. No materials on any of the sites of work shall be so stacked or placed as to cause inconvenience to any person or the public. The Engineer-in charge may require the contractor to remove any materials which are considered to be of danger or cause inconvenience to the public. If necessary, the Engineer-in-charge may cause them to be removed at the contractor's cost.

**5.4.11.4** After the completion of the work, the contractor shall have removed from the work premises all scaffoldings, surplus materials, scrap, rubbish and all temporary structures, huts and sanitary arrangements used/installed for his workmen at site. The contractor shall stack all undesirable materials and debris to the designated area at his own cost, as directed by Engineer-in-charge.

**5.4.11.5** The Engineer-in-charge has the right to stop work if the Contractor fails to improve upon the housekeeping after having been notified.

**5.4.11.6** The contractor shall instruct workmen to keep all accesses clear from any obstruction and unwanted material for free and safe movement of the workers and staffs including departmental staffs. He shall provide tool box and safe means for carrying tools

(for working at height) to all his workers so that tools and tackles are kept in proper place.



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The working area shall be free from wastes like nails, binding wires, nuts & bolts, used plastics, etc. so that they do not cause injury to others.

### 5.4.12. Safe access to workplace:

**5.4.12.1** Adequate and safe means of access and exit shall be provided for all work places, at all elevations. Ladders shall be always used for approaching high elevations.

**5.4.12.2** Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short duration work as can be done safely from ladders. Safety procedures for ladder shall be as per 5.4.6.3 above.

**5.4.12.3** Safety procedures for Scaffolding and working platform shall be as per 5.4.6 above.

**5.4.12.4** All access to the work place shall be well guarded viz. stairs, ramps, etc. and shall be well illuminated as per the requirement of clause 15.8 (Illumination Guidelines) of SP: 70-2001. The access shall not have any water logging; they shall be levelled and dry so that people do not slip. Sign boards, written in language understood by majority of the workers, and exit signs shall be displayed at suitable location for easy identification. The steps of the stair shall be periodically cleaned for any accumulation of debris, dust, etc.

### 5.4.13 Common Hazards:

**5.4.13.1 Barricading and Sign Boards:** All work areas around excavated pits, trenches, openings, scaffolding, vehicle movement areas, etc. shall be well cordoned / barricaded with the help of railing, safety tapes (photo luminescent), etc. Photo luminescent sign boards and warnings shall be displayed at required locations and they shall be clearly visible from a distance even at low or no illumination.

**5.4.13.2 Noise:** Suitable ear protection (ear muff) shall be provided to the workers, who are exposed to high noise levels (85dBA and above), e.g. concrete pump operator, vibrator operator, batching plant operator, air compressor operator, grinding machine operator, breaking rocks with pavement breaker, cutting of marble/granite, etc. The exposure duration in case of these workers shall be restricted to the stipulation of Table-1 of Schedule-XI, Rule-88 of AEFR, 1996. Other workers and staff who are in the close vicinity of high noise level such as unskilled worker engaged in concreting works, etc. shall be provided with ear plugs.

**5.4.13.3 Area Illumination:** Adequate lighting facilities such as flood lights, halogen lamps, hand lights and area lighting shall be provided by the contractor at the site of work, storage area of materials and equipment and temporary access roads within his working area. The area illumination shall be such that it promotes work and safety for all workers at site and creates a pleasing environment at work site. The contractor shall obtain written approval of the Engineer-in-charge to the lighting



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scheme and place of tapping prior to its installation. The intensity of illumination shall depend on the nature of work and the same shall be planned by the contractor in advance based on the recommendations of Hand Book on Functional Requirements of Industrial Buildings (Lighting & Ventilation: SP32-1986). However, a minimum illumination as per the task performed shall be maintained at site; which can be augmented based on nature of work from time to time.

**5.4.13.4 Dust and fumes:** Confined areas like basement, bunkers, etc. shall be under forced ventilation (using blowers) for at least 3-7 air changes per hour depending on presence of dust and fumes generated from grinding, gas cutting, welding, etc. Adequate measure like dust extractor/arresters shall be available for use to prevent spread of dust to nearby areas during open area operations. Workers shall be rested for sufficient time after every one hour of continuous working in dust. The same worker shall not be engaged for grinding for many days continuously and they shall be engaged/kept on job rotation. All necessary PPEs like dust respirators, safety goggles, hand gloves, ear plugs, protective clothes, etc. shall be provided. Any illness due to continuous work in dust or fume shall be immediately reported to the First Aid Centre.

### 5.5 Personal Protective Equipment:

All necessary personal protective equipment (PPE) shall be provided by the contractor at his own cost, for his workers, supervisors, staffs and visitor/visiting staffs. All PPEs shall conform to relevant IS code / ASTM / BS or any other international code of practice as given under. The contractor shall make available all type of personal protective equipment for use of workers, supervisors and visitors at site as considered necessary by the Engineer-in-charge and they shall be maintained in a condition suitable for immediate use. Also the contractor shall take adequate steps to ensure proper use of equipment by those concerned.

Safety Helmet:	IS: 2925-1984 (Reaffirmed 2000)
Safety Goggles:	IS: 5983-1980 (Reaffirmed 2002) or EN 166:2001
Full body harness safety belt:	IS: 3521-1999
Ear Muff / Ear Plug:	IS: 6996-1973 (Reaffirmed 1998) or EN 352-1:2002 and EN 352-2:2002 or
Face shield:	IS: 8521 (Part II) – 1977 (Reaffirmed 2002) IS: 8521 (Part I) –1994 (Reaffirmed 2002) or EN 175F



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Fall arrestor:	EN 353-2:2002
Respirators:	IS: 15321 – 2003, IS: 15322 – 2003
Safety shoes:	IS: 15298 – 2002
Hand gloves:	IS: 4770 – 1991 (Reaffirmed 2001)

(a) All persons employed or supervising at and / or visiting the construction site shall use safety helmets. The colour coding of helmets may be adopted by the contractor as per site requirement. The contractor shall provide safety shoes for all his workers, supervisors, staffs and visitor/visiting staffs.

(b) Workers employed on mixing asphaltic materials, concrete, cement and mortars shall use PPEs such as protective goggles, protective foot wears, respirators and hand gloves, etc.

(c) Persons engaged in welding and gas cutting works shall use appropriate welding face shields, leather hand gloves and protective clothes. The persons who assist the welders shall use appropriate goggles.

(d) Workers breaking rock, grinding and chipping shall use protective goggles, dust respirators, ear muffs/ear plugs, etc. In addition, leather hand gloves shall be used where there is no possibility of entanglement with rotating parts. During work, other workers should maintain the safe distance.

(e) Persons working at height above ground level or floor and exposed to risk of falling down shall use full harness safety belts, kinetic shock absorbers, fall arrestor, life lines, and grab ropes. The working platform and access shall be protected by cages, guard railings, etc. The area beneath shall be protected by safety net of adequate strength (as per IS: 11057 – 1984) fastened to substantial supports.

(f) Wherever two-wheelers are allowed, motorcycle and scooter drivers and their pillion riders shall wear crash helmets inside the Project/Plant sites. Safety helmets shall not be replaced with crash helmets and vice-versa.

(g) When workers are employed in sewers, septic tanks and inside man-holes which are in use, the contractor shall ensure that the manholes are opened and are adequately ventilated. After it has been well-ventilated, the atmosphere inside the space shall be checked for the presence of any explosive mixture, toxic gas or oxygen deficiency. The workers shall be allowed to get into the man-holes under safe working environment only. The man-holes opened shall be cordoned off with suitable railing



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and provided with warning signals or caution boards to prevent accidents. There shall be proper illumination in the night. All safety measures for working in confined space as given in the Factory Act shall be ensured. In case of forced ventilation, battery backup for ventilation and measures to rescue workers shall be ensured.

### **5.6 General Health Management at site:**

The contractor shall arrange adequate facilities for medical aid and treatment for his staff and workers engaged on the work site and visiting staffs including the first-aid facilities at the project site.

#### **5.6.1 General:**

**5.6.1.1 General medical examination:** The contractor shall follow the guidelines of Rule 81 (iv), Schedule VII of BOCW Central Rules, 1998 for periodicity of medical examination of building workers.

**5.6.1.2 High noise level:** The contractor shall arrange for audiometry examination for workers exposed to high noise level as per Chapter IX, Rule 88, Schedule XI, Sub-Rule 3 (f)

(ii) of AEFR, 1996.

**5.6.1.3 High dust exposure:** The contractor shall arrange for medical examination for workers exposed to high dust level as per Chapter IX, Rule 88, Schedule IV, Sub-Rule 9 of AEFR, 1996.

**5.6.1.4 Eye sight examination for crane operators, etc.:** The contractor shall arrange for medical examination for crane operators and other vehicle operators like operators of material transportation/handling equipment, mechanical excavators, etc. as per Chapter IV, Rule 55 of AEFR, 1996.

#### **5.6.2 First Aid Facility:**

The contractor shall ensure medical and first aid facility at site as per Rule 223 to 232, Chapter XXIV, BOCW Central Rules, 1998 in order to facilitate immediate relief to the injured person before shifting him to the nearest departmental dispensary or public hospital. All the provisions of the above mentioned rules of BOCW Central Rules, 1998 viz. medical examination of building workers, duties of medical attendant, occupational health centre, ambulance room (first aid centre), ambulance van or safety vehicle, etc. shall be arranged by the contractor at site.

#### **5.6.3 Full-time Medical Attendant:**

First aid posts shall be established and be manned by a full-time trained medical attendant. The medical attendant shall have a degree of B.Sc in Nursing or equivalent and a minimum 5 years of working experience in any nursing home or general hospital. The contractor shall submit his/her certificates and credentials to the department in



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advance for approval before employing him/her at site. The duties of the medical attendant shall be as given below:

- (a) First-aid care including emergency medical treatment
- (b) Immunisation services
- (c) Medical records upkeep and maintenance
- (d) Health education including advisory services on family planning, personal hygiene, environmental sanitation and safety
- (e) Referral services

### 5.6.4 First-Aid Box, Medicines and Medical Equipment:

- a) First-aid box containing bandage, sterilized dressing, ruler bandage, triangular bandage, crape bandage, dry gauge, band aid, antiseptic such as savlon/dettol, cotton wool, plaster, scissors, antiseptic creams shall be arranged by the contractor, at a readily accessible place in work site. The quantities of the listed items shall conform to Schedule III of BOCW Central Rules, 1998 (**Refer Annexure-8**). These shall be maintained in good order under the charge of Full-time Medical Attendant or the Safety Officer or a responsible person in absence of them.
- b) The articles for ambulance room or first-aid post with effective communication system shall be arranged by the contractor as per Schedule IV of BOCW Central Rules, 1998. The list is enclosed as per **Annexure 9**. The size of the room shall be adequate for proper treatment of the injured persons and keeping the enlisted articles in an organized manner. The room shall be well ventilated and well illuminated, preferably by natural means. The contractor shall keep a refrigerator of approx. 150 liters capacity for proper storage of injections and temperature sensitive medicines.

### 5.7 Hygiene at workplace:

The contractor shall ensure hygiene at work place as well as at the residing place for all his workers and staff. He shall submit the plan of labour colony and labour toilet in advance for approval of the Engineer- in -charge.

- a) **Labour Toilet and urinal:** Latrines and urinals, as the case may be required to be provided, shall be as specified below:
  - a. Every latrine shall be under cover and so partitioned off as to secure privacy and shall have a proper door and fastenings.
  - b. i) Where both male and female building workers are employed, there shall be displayed outside each block of latrines or urinals a notice containing therein "For Men Only" or "For Women Only", as the case may be written



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in the language understood by the majority of such workers. ii) Such notice also bear the figure of a man or of a woman, as the case may be.

- c. Where females are employed, there shall be at least one WC for every 25 females. There shall be at least one WC for every 25 males. If the number of males exceeds 100, there shall be one latrine for every 25 males up to the first 100 males, and one for every 50 males thereafter. The W.C shall be cleaned at least once in a week and maintained properly by the contractor throughout the project duration. The privacy of the all workers shall be ensured by providing partitions of suitable heights. Proper disposal of excreta by septic tank and soak pit shall be made by the contractor. In no case, the excreta shall be disposed off in any open drain, nallah, etc. which may cause outbreak of disease or reduce the overall hygiene of the workplace. Urinals shall be provided for the use of male workers and there shall be at least one urinal for every 50 males and where the number of males employed exceeds 50, it shall be sufficient if there is one urinal for every 50 males up to the first 500 employed, and one for every 100 thereafter.

- b) **Drinking water:** contractor shall provide adequate number of water taps, water purifiers and water coolers for the potable water supply for the staff and workers at his own cost. However, the water connection will be given by the department based on the contract condition.
- c) The contractor shall apply pesticides and mosquito repellent at regular interval or whenever required, by fogging machine, etc., in the labour colony and at work site at his own cost.

### 6.0 MONITORING AND REPORTING:

The contractor shall monitor, measure and regularly evaluate compliance with applicable legal requirements. He shall recognize the importance of monitoring and reporting of hazards associated with site activities. He shall instruct his safety officer and site engineers to monitor the unsafe conditions and unsafe acts regularly in order to record the observations so that remedial measures can be taken in time. The contractor shall not neglect or underestimate the near-misses occurred at site and shall establish a procedure to record all such near-misses since the lessons learnt from them can prevent recurrence of such incidents in future. The contractor shall report any accident occurred at site as per format of Injury Report for Contract/Casual Worker (**Refer Annexure 13**). He shall make available all the legal documents and records (as mentioned in 6.2 below) related to safety for internal as well as external audits from time to time.

**6.1 Walk-through survey:** The Safety Officer and site engineers shall carry out a walk through survey every morning at site in order to monitor any unsafe conditions and unsafe acts. This measure reduces the hazards in site activities and creates a safe working environment at site. The safety officer and site engineers shall record any observation of unsafe condition / act in the observation register immediately and the



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corrective action to be taken along with the name of person responsible for the same. The safety officer shall make a review visit to the place of observation, during next day's walk through survey, to review whether the corrective actions are taken or not and shall inform his higher authorities / departmental staff in case the corrective measures are not taken. The standard format of Observation Register / Complaint Record is enclosed herewith as **Annexure 10**.

**6.2 Records:** The contractor shall maintain all safety and first aid / medical related records and registers in the safety office / first aid post at site and such records and reports shall be made available during audits and whenever required. These records and reports shall be updated by safety officer and / or medical attendant at site in consultation with their superiors and departmental staff from time to time. A typical list of records under good practices for compliance with legal requirements related to environment, occupational health and safety is given below:

- i. Safety Organization Chart
- ii. Training Records like initial safety induction training, pep-talk, etc.
- iii. Record of site safety inspection, walk through survey and observation register
- iv. Accident investigation report
- v. Record of Accidents, Near-misses / dangerous occurrences
- vi. Record of test and examination of equipment and structures (like scaffold check list, etc.) as per statutes/codes/standards
- vii. Safe Operating procedure for various site activities
- viii. Record of work permits
- ix. Record of monitoring flammable and explosive substances at work place
- x. Records of maintaining and testing of fire fighting equipment
- xi. Medical records of workers and staffs (separate register shall be maintained for injury at work and for general ailments and medical checkup for height passes)
- xii. Site emergency plans
- xiii. Record of waste disposal
- xiv. Housekeeping inspection record
- xv. Minutes of Site Level Safety Committee meetings and monthly safety reports



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- xvi. Record of modification carried out in construction equipment
- xvii. Calibration and testing record
- xviii. Record of previous audits
- xix. Records of applicable legal requirements (**Refer Annexure-I**)
- xx. Tree plantation record, if any
- xxi. Environment and hygiene management plan
- xxii. General complaint register

**6.3 Inspection and Safety Audit:** The contractor shall arrange internal safety inspections by safety organization, designated for the project, at least once in a month in order to monitor the status of implementation and adherence to the safety procedures. The project shall be subject to external audit by a team / committee at least once in a year. However, the contractor shall be prepared for surprise inspections and audits by the department or any third party authorized by the department.

### **7.0 TRAINING AND AWARENESS BUILDING PROGRAMME:**

The contractor shall train and build up a general awareness in safety among the workers and staffs as a continuous effort throughout the project duration. He shall develop and nurture a good safety culture among the staff and workers for an incident free completion of the project. The contractor shall arrange for celebration of National Safety Day / Week on 4<sup>th</sup> March every year and shall plan for conducting various safety events, competitions, etc. during this period. He shall identify good safety performers among different trades of workers and staff and shall reward them for their performance so as to motivate the others.

#### **7.1 Safety Event Calendar:**

The Safety Officer shall chalk out a safety event calendar for various safety events, training programmes, mock drills, demonstration, inspections and audit etc. and shall intimate the concerned people in advance. The contractor shall submit a copy of safety event calendar to the department at the onset of the project / in the month of January every year. This calendar shall be displayed at the site safety office / first-aid post and the contractor shall ensure that these events are conducted as per schedule.

#### **7.2 Safety Induction Training:**

The contractor shall ensure that each and every new worker attends initial safety induction training before reporting at respective place of work. The workers shall report to the safety officer first for receiving safety induction training and after successful completion of such training they shall report to respective site engineer. The safety officer shall intimate the workers about the probable hazards related to the work and shall explain and demonstrate the importance and use of PPEs to them. The



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medium of instructions shall be chosen depending on the language understood by the majority of the workers. He shall also explain to the workers the security restrictions to be followed inside BARC premises. The duration of such induction training depends on the type of worker and shall be decided by the Safety Officer in consultation with the department.

### **7.3 Pep talk, Tool-box training:**

Subsequent to the initial safety induction training, the Safety Officer shall also conduct safety pep talks and tool box training for various teams of workers in regular interval at site. He may identify the groups in advance and finalise the topic of pep talk and schedule the pep talk accordingly so that it does not affect the working hours of the group. He shall arrange pep talks / tool box training on work related topics like use of various PPEs and tools, housekeeping, hot job, electrical works, etc. He shall solicit active participation of workers in such tool box training by asking them to share their experience with their fellow workers. Record of such pep talks and tool box training along with a list of people trained shall be kept at safety office and such records shall be submitted along with monthly safety report.

**7.4 Signboards, Posters, Displays:** The contractor shall display adequate numbers of signboards (written/painted in photo-luminescent paint) at various workplaces, movement area of mechanical equipment, diesel store, scaffoldings, first aid post, etc. in order to warn the workers and staff of probable hazards at work site. Such signboards shall be written in the language understood by majority of the workers. The contractor shall also arrange for display of posters as an awareness building programme. He shall have to maintain these signboards and posters in good condition throughout the contract period and shall have to replace them periodically. Some of the important topics for signboards are given as under for guidance; however, work specific sign boards can be designed and displayed at site.

- a) Use of proper Personal Protective Equipment (PPE) viz. Safety helmet, safety shoes, safety belt, safety goggles, face shield, ear plug / ear muff, gloves, dust respirators, etc.
- b) No Smoking specially near diesel room, stores or near combustible materials
- c) Moving parts of equipment viz. fly wheels of piling rigs, motors of pumps, etc.
- d) Hot job and fabrication works viz. welding, gas cutting, grinding, etc.
- e) Unsafe Scaffolding (wherever the scaffold is in unsafe condition)
- f) Open Excavation / Openings in floors (especially near excavated pit, trenches, lift well, stair well, etc.)
- g) Electrical installations and high voltage equipment viz. welding transformers, meter panels, fuse distribution boards, etc.



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- h)** Dismantling / demolition work in progress
- i)** High noise level area especially near concrete pumps, demolition areas, etc.
- j)** Fragile roofs (where sheeting and roofing work is going on)
- k)** Vehicle movement areas, access roads, etc.
- l)** Fire extinguisher (class wise)
- m)** Emergency exit



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### 8.0 REFERENCES:

- AERB Safety Guide for Works Contract
- Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Central Rules, 1998
- Atomic Energy Factories Rules, 1996
- Job Hazard Analysis Report for Construction of Common Facility Building (CFB) Project, at North Site BARC
- Operation and Maintenance Manual of Mobile Tower Crane (MTC-3625 of M/s Action Construction Equipment Ltd.)
- Operation and Maintenance Manual of Batching Plant (CP30 of M/s Schwing Stetter)
- Operation and Maintenance Manual of Concrete Pump (M/s Putzmeister)
- SP32:1986 (Hand Book on Functional Requirements of Industrial Buildings - Lighting & Ventilation)
- SP53:1992 (Hand operated hand tools - Safety code for the use, care and protection)
- SP70:2001 (Handbook on Construction safety practices)
- IS: 732 – 1989 (Reaffirmed 2005) Code of Practice for Electrical Wiring Installations
- IS: 818-1968 (Reaffirmed 2008) Code of Practice for Safety and Health Requirements in Electric and Gas Welding and Cutting Operations.
- IS: 1991 - 1987 (Part 1 to 10) (Reaffirmed 2002) Safety Requirements for the Use, Care and Protection of Abrasive Grinding Wheels
- IS:2190-1992 (Reaffirmed 2007) Selection, Installation and Maintenance of Firstaid Fire Extinguishers - Code of Practice
- IS: 3043 – 1987 (Reaffirmed 2001) Code of Practice for Earthing
- IS:3696-1987 (Reaffirmed 2002) Safety Code for Scaffolds and Ladders (Part 1Scaffolds)
- IS:3696-1991 (Reaffirmed 2002) Safety Code for Scaffolds and Ladders (Part 2Ladders)
- IS: 4082-1996 (Reaffirmed 2003) Stacking and storage of construction materials and components at site
- IS:4379-1981(Reaffirmed 2007) Identification of the Contents of Industrial Gas Cylinders
- IS: 5216-1982 (Reaffirmed 2010) Recommendations on safety Procedure and Practices in Electrical work; Part – I: General; Part – II: Life Saving Technique
- IS: 10302 – 1982 (Reaffirmed 2005) Unified Nomenclature for Workmen for Civil Engineering
- IS: 11057 – 1984 Specification For Industrial Safety Nets





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**Annexure 2**

**FORMAT FOR JOB HAZARD ANALYSIS REPORT**

Sl. No.	Activity / Sub-activity	Potential hazards	Causes	Precautions recommended



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## Annexure 3

### FORMAT FOR WORK PERMIT

*(To be filled in by contractor in quadruplicate)*

Name of the work: \_\_\_\_\_

Name of the principal contractor: \_\_\_\_\_

W.P. No.: \_\_\_\_\_

Date: \_\_\_\_\_

Work Permit valid from \_\_\_\_\_ on \_\_\_\_\_ to \_\_\_\_\_ on \_\_\_\_\_  
(time) (date) (time) (date)

Name of the Site Engineer seeking work permit: \_\_\_\_\_

Name of the Site Safety Officer: \_\_\_\_\_

Name of site supervisor: \_\_\_\_\_

Work Permit sought for: \_\_\_\_\_ *(Please tick in the box)*

<input type="checkbox"/> Piling	<input type="checkbox"/> Excavation & backfilling	<input type="checkbox"/> Formwork at G.L.
<input type="checkbox"/> Reinforcement work at yard	<input type="checkbox"/> Hot Jobs	<input type="checkbox"/> Mechanical handling/shifting/transportation
<input type="checkbox"/> Formwork/rebar work at height	<input type="checkbox"/> Concreting	<input type="checkbox"/> Structural Erection
<input type="checkbox"/> Electrical Installation	<input type="checkbox"/> Maintenance/repair	<input type="checkbox"/> Other works at height
<input type="checkbox"/> Finishing works	<input type="checkbox"/> Grinding/chiseling	<input type="checkbox"/> Demolition
<input type="checkbox"/> Miscellaneous works (please specify)		
<input type="checkbox"/> Working on fragile roof	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Work Description: \_\_\_\_\_

Location: \_\_\_\_\_

I confirm that I have been given charge of the above mentioned work and I will take all necessary precautions to avoid danger to the workers engaged at the above site as well as property. I will abide by the recommendations of the Safety Officer and implement them and I will assign jobs to only trained personnel.

\_\_\_\_\_  
(Name and Signature of Site Engineer)

----- (To be filled in by Safety Officer before issuing work permit) -----

Following safety precautions are taken care of:

Sl. No.	Safety Precautions	Yes	No	NA
1.	All concerned personnel are instructed about the nature of work			



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2.	Access ladder/crawling ladder to work/roof provided & properly secured			
3.	Safety clearance/check list for scaffold erection obtained/submitted			
4.	All workers have valid height passes			
5.	Safety net provided under the work place			
6.	Life line/Grab rope is provided at height			
7.	Work area is properly cordoned/barricaded			
8.	Work area is properly illuminated			
9.	Proper access to site is ensured			
10.	Openings are properly covered with safety net/steel jalli & barricaded			
11.	Electrical equipments are de-energized (fuses removed)			
12.	Electrical equipments are checked for earthing			
13.	Portable electrical equipments are tested by site maintenance section			
14.	All rotating parts of machine are well guarded			
15.	Whether any inflammable is present in vicinity of the area of hot job			
16.	Fire extinguisher is available at the work site			
17.	Whether fire watch is required			
18.	Half-an-hour fire watch is complied after hot jobs			
19.	Whether cylinders are kept vertically, properly tied and are under shed			
20.	Work area is well ventilated			
21.	“NO SMOKING” board is displayed			
22.	Personal Protective Equipment (strike out whichever is not applicable) Helmet/Shoe/Hand Gloves/Goggles/Ear Muff/Ear Plugs/Safety Belt/Face Shield/Nose Mask/			
23.	Free escape route is available			
24.	Workers are in good health on the day of work			

I have checked the safety precautions taken at site and allowed the work to be carried out.  
Special precautions (if any) \_\_\_\_\_

\_\_\_\_\_ (Name and Signature of Safety Officer) Cc: 1.  
Safety Officer

2. Site Engineer



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3. Site Supervisor
4. Departmental Representative



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## Annexure - 4 Part - A Application for Height Pass

Project \_\_\_\_\_

Group/Section: \_\_\_\_\_ Contractor: \_\_\_\_\_

1. Applicant's Name : \_\_\_\_\_

2. Departmental Address: \_\_\_\_\_

3. Residential Address : \_\_\_\_\_

4. Age : \_\_\_\_\_

5. Sex : \_\_\_\_\_

6. Height : \_\_\_\_\_

7. Gate Pass No. : \_\_\_\_\_

8. Name of contractor/Agency with whom engaged at present : \_\_\_\_\_

9. Height pass requirement for work at \_\_\_\_\_ mtr. height.

10. Description of present job : \_\_\_\_\_

11. Previous experience of working at height: \_\_\_\_\_

Sl.No.	Name of the Employer	Duration of Employment	Work Experience
1.			
2.			

12. Is the applicant suffering from any of the following ailments (If yes details to be given):

- a) Blood Pressure \_\_\_\_\_
- b) Seizure disorder (Fits / Epilepsy Convulsion) \_\_\_\_\_
- c) Flat Foot \_\_\_\_\_
- d) Frequent attacks of headache or reeling sensation \_\_\_\_\_



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- e) Mental depression \_\_\_\_\_
- f) Limping gait \_\_\_\_\_
- g) Acrophobia (Fear of height) \_\_\_\_\_

Declaration:

I hereby declare that the above information furnished by me is true and correct. I shall always wear the safety belt and tie the life-line whenever working at unguarded heights of 3 mtrs and above. I shall not misuse the height pass issued to me or transfer it to any other person. I shall never come to duty or work at height/depth under the influence of alcohol/drugs.

Date:

Name:

Sign:

(Applicants Name & Signature or Left Thumb Impression (LTI) in case he cannot sign. In case of LTI; an authorized person shall explain each point/item to the individual and certify on his behalf below the LTI).

I certify that I am satisfied with the above certification of the individual for the application of Height Pass and request for issue of height pass to him.

Name:

Sign:

(Agency Concerned)



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## Part – B MEDICAL FITNESS CERTIFICATE

Certified that I, Dr. \_\_\_\_\_ have examined  
Shri. \_\_\_\_\_ aged \_\_\_\_\_ on (date) \_\_\_\_\_ of  
M/s. \_\_\_\_\_

\_\_\_\_\_ who has signed below in my presence. General &  
Physical examinations of Shri. \_\_\_\_\_ do not reveal any abnormality.  
He does not suffer from any acute/chronic skin disease or any contagious or infectious disease.  
His eyesight is normal with/without glasses. In my opinion, Shri  
\_\_\_\_\_ is physically and mentally fit for working at  
height. Details of examinations:

1. Age: \_\_\_\_\_
2. General & Systemic Examination:

2.1	Pulse			2.10	Depth of Vision	Normal:	Abnormal:
2.2	B.P.			2.11	Nystagmus :	Present:	Absent:
2.3	Weight			2.12	Rhomberg Sign:	Positive:	Negative:
2.4	Height			2.13	Hearing:	Normal:	Abnormal:
2.5	Pallor	Yes:	No:	2.14	Muscular Coordination	Normal:	Abnormal:
2.6	Flat foot	Present:	Absent:	2.15	Cardio Vascular System	Normal:	Abnormal:
2.7	Gait	Normal:	Abnormal:	2.16	Respiratory System	Normal:	Abnormal:
2.8	Vision	Normal:	Abnormal:	2.17	Central Nervous System	Normal:	Abnormal:
2.9	Colour Vision	Normal:	Abnormal:				

3. Previous History of:

3.1	Seizure disorders (Epilepsy)	Yes	No
3.2	Frequent headache or reeling sensation	Yes	No
3.3	Mental depression	Yes	No



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3.4	Acrophobia	Yes	No
-----	------------	-----	----

Investigation:

4.1	Urine
	Albumin:
	Sugar:
4.2	Blood
	CBC:
	Random blood sugar (if age is >35 years.)

4. X-ray:

Required / not required : \_\_\_\_\_

If required – details of report : \_\_\_\_\_

(Signature of workman)

(Signature & Rubber stamp)  
of Medical Practitioner with  
Reg. No.



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## Part – C Height Pass Certificate

(Considering the above medical certificate; the applicant has appeared on the following practical tests conducted by BARC and the results are given below (strike off whichever in-applicable)

- a) Walking freely over a horizontal structure bar at 1 ft. height : Pass / Fail
- b) Wearing a safety belt and tying the rope knot : Pass / Fail
- c) Walking over a horizontal structure at 10 ft. height wearing a belt. : Pass / Fail

Affix  
photograph  
(3.5cm x  
2.5cm) for  
contractor  
workers  
only

The above applicant's performance in the above tests has been satisfactory/ unsatisfactory.

I certify issue of this height pass to Shri \_\_\_\_\_ of \_\_\_\_\_ M/s. \_\_\_\_\_ with Registration No. \_\_\_\_\_ in the height pass register. This is valid for one year from the date of issue i.e. up to \_\_\_\_\_.

Date : \_\_\_\_\_  
Name : \_\_\_\_\_  
(Safety Supervisor)

Signature : \_\_\_\_\_

Name : \_\_\_\_\_  
(Safety Officer)

Signature : \_\_\_\_\_



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Annexure - 5

## FORMAT FOR SAFETY CHECK LIST FOR HEAVY DUTY TOWER / SCAFFOLDING ERECTION

(To be filled in by contractor in

TRIPLICATE) Name of the work:

Name of the principal contractor:

Ref. No.:

Date:

Location / Block / Grid:

(Please tick in the box)

Sl. No.	Checklist points	Yes	No	Remarks
A.	Check the base of the scaffolding:			
1.	Is the ground below base plate levelled and firm?			
2.	Are the base plates/sole plates provided or are proper supports placed under the structure?			
3.	Is the base away from excavation, drain cover, manhole, etc.?			
4.	Is there any vehicle movement near structure?			
5.	Is the frame supported on any make-shift arrangements like barrels, boxes, concrete blocks, bricks, empty drums, etc.?			
B.	Check the structure:			
1.	Are all members in good condition (free from bends, cuts, rust, etc.)?			
2.	Whether all the vertical members in plumb and correctly spaced?			
3.	Whether the joints of frames/vertical members are properly connected with couplers & spring-lock pins/cuplocks?			
4.	Are all vertical & horizontal bracings provided and are they properly tied with pins/swivel couplers?			
5.	Whether the scaffold structure is securely tied / restrained with permanent structure? (max. vertical height between ties is 4 times of the least base width)			
6.	Is there any electrical cable / wire within 5m above the top most part of the structure?			
C.	Check the working platform:			
1.	Is the working platform at least two boards wide?			



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2.	Is there any gap in the working platform?			
3.	Whether the condition of the scaffold boards is good?			
4.	Whether the ends of the scaffold boards / jallis are securely tied at the ends?			
5.	Is the overlap of the boards at least 300 mm?			
6.	Whether the last scaffold board is extended at least 600 mm beyond the end of the wall?			
7.	Are the guard rail and knee rail provided at 1.00 m and 0.50 m height from the working platform?			
8.	Whether toe board of good condition and of min. 150 mm height is provided?			
9.	Whether the working platform is over loaded?			
10.	Whether safety net is provided below the working the platform?			
D.	Check the access:			
1.	Whether stair/monkey ladder/walkway are provided as access?			
2.	Whether the access is properly supported / tied / made?			
3.	Whether the steps / landing of the access have any slip resistance arrangement?			
4.	Whether the access steps / landings are free from any obstacle and undesirable & slippery materials?			
5.	Whether the entry / exit of the access is free from any obstruction			
E.	Housekeeping and maintenance:			
1.	Are all debris / undesirable material removed from the working platform and access?			
2.	Are all the scaffold members maintained from time to time?			
3.	Are all the damaged / weakened parts of the scaffold immediately removed or replaced?			
F.	Safety tag:			
1.	Whether safety tag “unsafe scaffolding” / “safe scaffolding” is displayed in the language			



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	understood by majority of the workers?			

\_\_\_\_\_  
(Name & Signature of Site Engineer)  
Signature of Safety Officer)

\_\_\_\_\_  
(Name &



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**Annexure - 6**

**FORMAT OF CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF  
CRANE BY THIRD PARTY**  
*(To be filled in TRIPLICATE)*

Sl. No.	Description	Details			
1.	Name and address of contractor				
2.	Name and address of manufacturer of the crane				
3.	Type of Crane and nature of power				
4.	a) Date of manufacture of the crane				
	b) Date of first use of the crane				
	c) Date of last examination of the crane				
5.	Identification No.				
	a) Manufacturer's serial number				
	b) Owner's distinguishing mark / number				
6.	Safe Working Load(s)	Length of jib (M)	Radius (M)	Test Load (MT)	Safe Working Load (MT)
		(1)	(2)	(3)	(4)
	In case of a crane with variable operating radius, the safe working load at various radii of the jib, trolley or crab must be given. Test loads at various radii shall be given in column (3) and in the case which has been calculated without the application of a test load, 'NIL' shall be entered in that column.				
7.	In case of a crane with a derricking jib or jibs, the maximum radius at which the jib or jibs may be worked (in m)				
8.	Defects noted and alterations or repairs required before crane is put into service (if none, enter 'NIL')				

I hereby certify that the crane described in this certificate was tested and thoroughly examined by me on  
(date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_\_) and that the above particulars are correct.



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Date of certification:

\_\_\_\_\_  
(Signature & stamp)

\_\_\_\_\_  
(Qualification)

(Name & address of the Person, Company or Association by whom the person conducting test and examination is employed)



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Annexure – 7

**FORMAT OF CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF  
HOIST BY THIRD PARTY**  
*(To be filled in TRIPLICATE)*

Sl. No.	Description	
1.	Name and address of contractor	
2.	a) Type of hoist or lift and identification number and description	
	b) Date of manufacture	
	c) Date of last overhauling / substantial alteration	
3.	Design and manufacture: Are all parts of the hoist or lift of good mechanical construction, sound material and adequate strength?	
4.	Maintenance: Are all following parts of the hoist or lift properly maintained and in good working order? If not, state what defects have been found	
	a) Enclosure of hoist way or lift way	
	b) Leading gates and cage gate(s)	
	c) Interlock on the leading gates and cage gate(s)	
	d) Other gate fastenings	
	e) Bucket or cage or platform and fittings, gates, buffers, hoist way	
	f) Over running devices	
	g) Suspension ropes or chains and their attachments	
	h) Safety gear i.e., arrangements for preventing fall of bucket or platform or cage.	
	i) Brakes	
	j) Worm or spur gearings	
	k) Other electrical equipment	
	l) Other parts	
5.	Which parts (if any) were inaccessible?	
6.	Repairs, renewals or alterations required to enable the hoist or lift to be used or to continue to be used with safety:	



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	a) Immediately	
	b) Within a specified time, the time is to be stated	
	If no such repairs, renewals or alterations are required, enter 'NIL'	
7.	Specify defects (other than those specified at 5 above) which require attention	
8.	If no defects requiring attentions are found and no repairs, renewals or alterations are required then state that the hoist or lift is in safe working condition.	
9.	Maximum safe working load subject to repairs, renewals or alterations (if any) specified at 5.	
10.	If the hoist is to be used for the carriage of passengers specify the maximum number of passengers that may be carried safely.	
11.	Other observations	

I hereby certify that on (date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_\_ ) I thoroughly examined this hoist or lift and the that the foregoing is a correct report of the result.

Date of certification:

\_\_\_\_\_  
(Signature & stamp)

\_\_\_\_\_  
(Qualification)

[Name & address of the Person, Company or Association by whom the person conducting the test and examination is employed]



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## Annexure 7A

### REGISTER OF PERIODICAL TEST – EXAMINATION OF LIFTING APPLIANCE AND GEARS, ETC.

(As per Form XXVI, BOCW Central Rules, 1998)

#### PART-I

#### **INITIAL AND PERIODICAL LOAD TEST OF LIFTING APPLIANCES AND THEIR ANNUAL THOROUGH**

#### **EXAMINATION**

“Thorough examination” means a visual examination, supplemented, if necessary, by other means such as a hammer test, carried out as carefully as the conditions permit, in order to arrive at a reliable conclusion as to the safety of the parts examined, and if necessary, for such examination parts of the lifting appliances and gear shall be dismantled.

(A) Initial and periodical load tests of lifting appliance				
<i>Situation and description of lifting appliances tested with distinguishing number of marks if any</i>	<i>No of certificate of test and examination of competent person</i>	<i>I certify that on the date on which I have appended by signature the lifting appliance shown in column (a) was tested and no defects affecting its safe working condition were found other than those shown in column (5)</i>		<i>Remarks (to be, signed and dated)</i>
		<i>Date and signature with seal</i>	<i>Date and signature with seal</i>	
(1)	(2)	(3)	(4)	(5)
1.				
2.				

#### (B) Annual thorough examination:

I certify that on the date to which I have appended my signature, the lifting appliance shown in column (1) was thoroughly examined and no defects affecting its safe working conditions were found other than those shown in column (12)

<i>Date and signature with seal</i>	<i>Date and signature with seal</i>	<i>Date and signature with seal</i>	<i>Date and signature with seal</i>	<i>Date and signature with seal</i>	<i>Date and signature with seal</i>	<i>Remarks to be signed and dated</i>
(6)	(7)	(8)	(9)	(10)	(11)	(12)
1.						



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2.						
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### PART II

#### **Initial and periodical load test of loose gars and annual thorough examination:**

##### **List of loose gear:**

The following classes of loose gears namely-

1. Chains made of malleable cast iron;
2. Plate link chains;
3. Chains, rings, hooks, shackles and swivels made of steel;
4. Pitched chains;
5. Chains, rings, hooks, shackles and swivels permanently attached to pitched chains, pulley blocks, containers, spreaders, trays, slings, baskets etc. and any other similar gear
6. Hooks and swivels having screw threaded parts or ball bearings or other case hardened parts; and
7. Bordeaux connections

#### **Initial Test And Periodical Load Test Of Loose Gears**

<i>Distinguishing no. or marks</i>	<i>Description of loose gear tested and examined</i>	<i>No of certificates of test and examination of competent person</i>	<i>I certify that on the date on which I have append my signature the loose gears shown in column (1) and (2) were tested and no defects affecting the safe working condition were found other than those shown in column (6)</i>	
			<i>Date and signature with seal</i>	<i>Date and signature with seal</i>
(1)	(2)	(3)	(4)	(5)
1.				
2.				
3.				
4.				

#### **Annual Thorough Examination Of Loose Gears**

<i>Remarks (to be signed and dated)</i>	<i>I certify that on the date to which I have appended my signature the loose gears shown in column (1) and (2) were thoroughly examined by me and no defects affecting their safe working condition were found other than those shown in column (10)</i>			
	<i>Date and signature with seal</i>	<i>Date and signature with seal</i>	<i>Date and signature with seal</i>	<i>Remarks (to be signed and dated)</i>



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(6)	(7)	(8)	(9)	(10)
1.				
2.				

### PART III

Annealing of chains, Rings, Hooks, Shackles and Swivels (other than those exempted)  
(SEE PART II)

12.5 mm and smaller chains, rings, hooks, shackles and swivels in general use. Other chains, rings, hooks, shackles and swivels in general	If used with lifting appliance of driven by power, must be annealed once at least in every six months. If used solely with lifting appliance worked by hand, must be annealed once at least in every twelve months. If used with lifting appliance driven by power, must be annealed once at least in twelve months. If used solely with lifting appliance worked by hand, must be annealed once at least in every two years.
--	--

*NOTE: It is recommended though not required by rules that annealing should be carried out in a suitable constructed furnace heated to temperature between 1100 degree and 1300 degree Fahrenheit or 600 degree and 700 degree Centigrade, for a period between 30 and 60 minutes*

<i>Distinguishing no. and mark</i>	<i>Description of gear annealed</i>	<i>No. of the certificate of test and examination</i>	<i>I certify that on the date to which I have appended my signature, the gear described in cols. 1 &amp; 2 was effectually annealed under my supervision; that after being so annealed every article was carefully inspected and that no defects affecting its safe working condition were found other than those shown in col. 7</i>			<i>Remarks (to be signed and dated)</i>
			<i>Date and signature with seal</i>	<i>Date and signature with seal</i>	<i>Date and signature with seal</i>	
(1)	(2)	(3)	(4)	(5)	(6)	(7)



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## Annexure - 8

### CONTENT OF A FIRST AID BOX

(as per Schedule – III, BOCW Central Rules, 1998)

1. A sufficient number of eye wash bottles filled with distilled water or suitable liquid clearly indicated by a distinctive sign which shall be visible at all times.
2. 4 per cent xylocaine eye drops, and boric acid eye drops and soda-bi-carbonate eye drops.
3. Twenty four small sterilised dressings.
4. Twelve medium size sterilised dressings.
5. Twelve large size sterilised dressings.
6. Twelve large size sterilised burn dressings.
7. Twelve (fifteen cm) packets of sterilised cotton wools.
8. Two hundred ml bottle of certimide solution (1 per cent) or suitable antiseptic solution.
9. One (two hundred ml) bottle of mercurochrome (2 per cent) solution in water.
10. One (one hundred twenty ml) bottle of salvolatile having the doses and mode of administration indicated in the bottle.
11. One pair of scissors.
12. One roll of adhesive plaster (six cm x one metre)
13. Two rolls of adhesive plaster (two cms x one metre)
14. Twelve pieces of sterilised eye pads in separate sealed packets.
15. A bottle containing hundred tablets (each of three hundred twenty five mg) of aspirin or any other analgesic.
16. Twelve roller bandages five cms wide.
17. Twelve roller bandages ten cms wide.
18. One tourniquet
19. A supply of suitable splints
20. Three packets of safety pins.
21. Kidney tray.
22. A snake bite lancet.
23. One (thirty ml) bottle containing potassium permanganate crystals.
24. One copy of first aid leaflet issued by Director General
25. Six triangular bandages.
26. Two pairs of suitable, sterilized, latex hand gloves.

Tablets for: fever, headache, body ache, stomach ache, loose motion, acidity, cold, upper respiratory tract infection, urinary tract infection, low backache, abdomen pain, minor injuries, Tab. Sorbitrate, Cap. Nefedine, etc.



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### Annexure 9

#### Articles for Ambulance Room/First Aid Post (as per Schedule – IV, BOCW Central Rules, 1998)

1. A glazed sink with hot and cold water always available.
2. A table with a smooth top at least 180cm x 105 cm.
3. Means for sterilizing instrument
4. A couch and three chairs.
5. Two Stretchers and one examination bed with bed sheet, a pillow and cover
6. Two buckets or containers with close fitting lids and two rubber hot water bags.
7. A kettle and spirit stove or other suitable means of boiling water.
8. Twelve plain wooden splints 900cm x 100cm x 6cm.
9. Twelve plain wooden splints 350cm x 75cm x 12cm.
10. Six plain wooden splints 250cm x 50cm x 12cm.
11. Six wooden blankets.
12. Three pairs artery forceps.
13. One bottle of spiritus annemiae arenatuins (120ml).
14. Smelling salt (60gm)
15. Two medium size sponges.
16. Six hand towels.
17. Four kidney trays.
18. Four cakes of toilet soap, preferably antiseptic soap.
19. Two glass tumblers, two wine glasses, two tea spoons and two clinical thermometers.
20. Two graduated (120ml) measuring glasses.
21. Two minimum measuring glasses.
22. One wash bottle (1000cc) for washing eyes.
23. One bottle (one litre) carbolic lotion 1 in 20.
24. One screen and one electric hand torch.
25. Four first-aid boxes or cupboards.
26. An Adequate supply of tetanus toxide.
27. Injections- morphia, pethidine, atrophine, adrenaline, coramine, novocaine (6 each).
28. Cramine liquid (60ml).
29. Tablets- antithistaminic antispasmodic (25 each).
30. Syringes with needles-2cc, 5cc, 10cc, and 500cc and needle destoryer
31. Three surgical scissors
32. Two needle holders, big and small.
33. Suturing needles and materials.
34. Three dissecting forceps, three dressing forceps and three scalpels.
35. One stethoscope and one Blood Pressure apparatus.
36. Rubber bandage-pressure bandage.
37. Oxygen cylinder (min. 330 litres capacity) with necessary attachments and one Ambu bag.



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38. Weighing machine, measuring, near vision chart, distance vision chart, wash basin, high pressure drum for sterile items – one each.
39. Atropin eye ointment
40. IV fluids and sets – ten numbers
41. Suitable, foot operated, covered, refuse containers
42. Adequate number of sterilized, paired, latex hand gloves

Injections and other materials: Inj. Dexamethasone, Inj. Hydrocortisone, Inj. Avil, Inj. Dopamine, Inj.

Adrenelin, Inj. Deriphyllin, emergency control drug, demulcent drink, etc.



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**Annexure - 10**

**FORMAT OF OBSERVATION REGISTER OR COMPLAINT RECORDS**

(To be filled in by Safety officer or Site Engineers)

Sl. No.	Date	Area/ location	Observation/ hazard	Remedial measures recommended	Name of person responsible	Action taken on	Signature of Safety Officer



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Annexure - 11

FORM NO. SGCW - 1

**FORM FOR COMPLETION CERTIFICATE**

(Prescribed under Cl.1.2 of Annexure of AERB Safety Guide for Works  
Contract))

I/We certify that the installation detailed below has been installed by me/us and tested and that to the best of my/our knowledge and belief, it complies with Indian Electricity Rules, 1956 as well as IS: 732-1963 code of practice for Electrical Wiring Installations. [System voltage not exceeding 650 Volts (Revised)].

Electric installation at .....

Voltage and system of supply a)

Particulars of work	Number	Total load	Type of system of wiring
i) Light Points			
ii) Fan points			
iii) Plug points (3 pin)			
iv) Motors			

b) If the work involves installation of overhead lines and/or underground cable

\_\_\_\_\_

c) Earthing:

Description of earthing electrode, size of earth wire and number of electrodes provided:

d) Test results:

1. Insulation resistance for the whole installation:

i. Between conductors:

ii. Between each conductor and earth:

2. Resistance of earthing electrode or earthing system

3. Maximum earthing resistance of installation

( )  
Signature of Supervisor  
Name and address of Supervisor

( )  
Signature of Contractor  
Name and address of Contractor.



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**Annexure - 12**

**FORM NO. SGCW-2**

**'A' APPLICATION FOR SERVICE CONNECTION BY CONTRACTOR**

(Prescribed under Cl.1.3 of Annexure of AERB Safety Guide for Works  
Contract)

*(to be filled in triplicate)*

1. Name & Address of Contractor:
2. Reference to Tender & Work Order:
3. Completion period:
4. Connected load details:  
(please attach details in a separate sheet)
5. Max. demand anticipated :
6. Nature of service connection required:  
(whether single or three  
phase)
7. Place where  
service required:
  - a) Works:
  - b) Colony:
8. If supply of electricity is free or chargeable:  
(Please enclose extract of conditions from the tender)
9. Details of meter provided:
  - a) If meter required from the Department, whether Security Deposit is paid:
  - b) Details of SD (Security Deposit):
  - c) Whether meter is tested or not, if tested, attach test report, if not, details of testing fee deposited:
10. Name of Supervisor/Electrician in charge of installation and maintenance:
11. Electrical license No. of person mentioned against col. 10:
12. Electrical safety appliances available for use:
13. Fire extinguishers available for use:
14. First Aid facility/box available for use, if any:

(Signature of the Contractor)

Name:

Date:



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**'B' CERTIFICATE BY THE CONTRACTOR**

Certified that my/our installations have been carried out in accordance with I.E. Rules and that I/We have employed competent persons to handle the installations.

I/we am/are agreeable to the bills, in respect of this service connections being raised on the basis the connected load furnished above, in case the actual consumption falls below the one stipulated by the tender conditions.

(Signature of the contractor)

Name:

Address:

Date:

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**'C' CERTIFICATE BY THE CONTRACT CONTROL ENGINEER**

Verified the particulars and forwarded to the Engineer In charge.

(Signature of Contract control Engineer)

Name:

Section: Civil/Electrical/Mechanical.

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**'D' CERTIFICATE BY THE ENGINEER IN CHARGE**

Certified that the particulars furnished by the Contractor are true to the best of my knowledge and belief and that I have satisfied myself as to the safe conditions of electrical installations for which the service connection is applied for.

Signature:

Name:

Date:

Designation with section:

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**'E' CERTIFICATE BY THE SAFETY ENGINEER**

Certified that I have inspected the electrical installations referred herein and after satisfying myself about the safe conditions of the installation, I hereby recommend that the service connection be given to the Contractor.

Date:

Signature of Safety Engineer.  
Name:



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**'F' AUTHORISATION BY THE ELECTRICAL ENGINEER**

Service connection may be/may not be given for the reasons noted hereunder.

Signature of Electrical Engineer.

Name:

Designation:

Date:

---

**'G' 'REPORT OF COMPLIANCE'**

Service connection is given by me on

- |                      |    |
|----------------------|----|
| a) Meter Nos.        | 1. |
|                      | 2. |
| b) Initial readings: | 1. |
|                      | 2. |
| c) Locations:        | 1. |
|                      | 2. |
| d) Meter Sealings:   | 1. |
|                      | 2. |

Signature of Electrical Engineer  
(Metering and Billing)

Name:

Designations:

Date:

1<sup>st</sup> copy to Contract Control Engineer

2<sup>nd</sup> copy to Safety Engineer

and 3<sup>rd</sup> copy to Electrical Engineer

Note: After all the formalities are completed and Report of Compliance after power supply is given.



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## Annexure - 13

### **FORMAT FOR INJURY REPORT FOR CONTRACT/CASUAL WORKER**

1. Name of the injured person:
2. Age: Sex: Male / Female
3. Date and time of the accident:
4. Place where the accident occurred:
5. Name of Project and Contractor:
6. Name of contracting division/section:
7. Name of BARC supervisor:
8. Nature of job:
9. Was this his regular job?:  

---

  
—
10. How did the accident occur (please give details):
11. Nature of injuries:
12. Was the patient referred to hospital?
13. If yes, whether admitted:
14. What was wrong with the working method/instructions:
15. What was defective? Any unsafe condition existed?:
16. Was the accident due to fault of any person other than injured?:
17. If yes, who and how?:



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18. Did any similar accident occur earlier in the project?:
19. What safe guards / instructions could have prevented the accident?:
20. What steps will be taken to prevent recurrence of similar accident?:

(Name & Signature of Contractor)

(Name & Signature of Engineer-in-charge)

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21. Comments from Head of the contracting Division/Section:

(Head of Contracting Signature Division/Section)



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**Annexure 14**

**FORMAT FOR INSPECTION OF FIRE EXTINGUISHERS**

Sl. No.	Fire Extinguisher No.	Type of Fire Extinguisher	Date of monthly inspection	Date of annual inspection	Status	Place of Fire Extinguisher	Signature



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**Annexure 15**

**FORMAT FOR TESTING OF PORTABLE AND OTHER ELECTRICALLY  
OPERATED EQUIPMENT**

Sl. No.	Name of Equipment	Capacity (HP)	IR value 1Ph	3 Ph IR Value			Remarks
				R M□	Y M□	B M□	

(Name & Signature of Contractor)

(Name & Signature of Dept. Representative)



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## Annexure 16

### ABBREVIATIONS

A&CED:	Architecture & Civil Engineering Division
AEFR :	Atomic Energy Factory Rules
AERB :	Atomic Energy Regulatory Board
ASTM :	American Society for Testing and Materials
BOCW :	Building and Other construction Workers
BS :	British Standards
DB :	Distribution Board/
Box DCP :	Dry Chemical
Powder DG :	Diesel
Generator	
ESG :	Engineering Services Group
ELCB :	Earth Leakage Circuit Breaker
HRC :	High Rupturing Capacity
IHSS :	Industrial Hygiene and Safety Section
IS :	Indian Standards
kmph :	kilometre per hour
KVA :	kilo-volt-ampere
MCB :	Miniature Circuit Breaker
MS :	Mild Steel
PCC :	Plain Cement Concrete
PPE :	Personal Protective Equipment
Re-bar :	Reinforcement bar
RCC :	Reinforced Cement Concrete
RMC :	Ready Mix Concrete
RPM :	Revolution Per Minute
RSSD :	Radiation Safety Systems Division
QA :	Quality Assurance
QC :	Quality Control
SU :	Safety Unit
SLSC :	Site Level Safety Committee
SIDE :	Switch off, Isolate, Discharge and Earth
UV & IR:	Ultra Violet & Infrared Radiation
WC :	Water Closet



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**SECTION-III (iii)**

**MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY**  
**ARRANGEMENTS FOR WORKERS EMPLOYED BY BARC OR ITS**  
**CONTRACTORS**



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## SECTION-III (iii)

### MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY BARC OR ITS CONTRACTORS

1. **Application:** These rules shall apply to all building and construction works in charge of BARC/Department of Atomic Energy in which twenty or more workers are ordinarily employed or are proposed to be employed on any day during the period during which the contract work is in progress.
2. **Definition:** Work place means a place where twenty or more workers are ordinarily employed or are proposed to be employed in connection with construction work on any day during the period during which the contract work is in progress.
3. **First-Aid Facilities:**
  - (i) At every work place there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
  - (ii) The first-aid box shall be distinctly marked with a red cross on white back ground and shall contain the following equipment: —
    - a) For work places in which the number of contract labour employed does not exceed 50. Each first-aid box shall contain the following equipment's:
      - (1) Six (6) small sterilised dressings.
      - (2) Three (3) medium size sterilised dressings.
      - (3) Three (3) large size sterilised dressings.
      - (4) Three (3) large sterilised burn dressings.
      - (5) One (1) (30 ml.) bottle containing a two per cent alcoholic solution of iodine.
      - (6) One (1) (30 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
      - (7) One (1) snake-bite lancet.
      - (8) One (1) (30 gms.) bottles of potassium permanganate crystals.
      - (9) One (1) pair scissors.
      - (10) One (1) copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
      - (11) One (1) bottle containing 100 tablets (each of 5 gms.) of aspirin.



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- (12) Ointment for burns.
- (13) A bottle of suitable surgical antiseptic solution.
- b) For work places in which the number of contract labour exceeds 50. Each first-aid box shall contain the following equipment's:
  - (1) Twelve (12) small sterilised dressings.
  - (2) Six (6) medium size sterilised dressings.
  - (3) Six (6) large size sterilised dressings.
  - (4) Six (6) large size sterilised burn dressings.
  - (5) Six (6) (15 gms.) packets sterilised cotton wool.
  - (6) One (1) (60 ml.) bottle containing a two per cent alcoholic solution of iodine.
  - (7) One (1) (60 ml.) bottle containing Sal-volatile having the dose and mode of administration indicated on the label.
  - (8) One (1) roll of adhesive plaster.
  - (9) One (1) snake-bite lancet.
  - (10) One (1) (30 gms.) bottle of potassium permanganate crystals.
  - (11) One (1) pair scissors.
  - (12) One (1) copy of the First-Aid leaflet issued by the Director General, Factory Advice Service and Labour Institute, Government of India.
  - (13) A bottle containing 100 tablets (each of 5 gms.) of aspirin.
  - (14) Ointment for burns.
  - (15) A bottle of suitable surgical antiseptic solution.
- (iii) Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
- (iv) Nothing except the prescribed contents shall be kept in the first aid box.
- (v) The First-Aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.
- (vi) A person in charge of the First-Aid box shall be a person trained in First-Aid treatment, in work places where the number of contract labour employed is 150 or more.



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(vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance of the works, First-Aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.

(viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or persons suddenly taken ill to the nearest hospital.

#### 4. Drinking water:

- (i) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
- (ii) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- (iii) Every water supply of storage shall be at a distance of not less than 50 feet from any latrine, drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap-door which shall be dust and water proof.
- (iv) A reliable pump shall be fitted to each covered well, the trap-door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

#### 5. Washing facilities:

- (i) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.
- (ii) Separate and adequate cleaning facilities shall be provided for the use of male and female workers.
- (iii) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

#### 6. Latrines and Urinals:

- (i) Latrines shall be provided in every work place on the following scale, namely:
  - a) Where females are employed, there shall be at least one latrine for every 25 females.
  - b) Where males are employed, there shall be at least one latrine for every 25 males.



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Provided that where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females, as the case may be, up to the first 100, and one for every 50 thereafter.

- (ii) Every latrine shall be under cover and so partitioned off as to secure privacy and shall have a proper door and fastening.
  - (iii) **Construction of latrines:** The inside walls shall be constructed of masonry or some suitable heat resisting non-absorbent materials and shall be cement washed inside and outside at least once a year. Latrines shall not be of a standard lower than bore-hole system.
  - (iv) a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women only" as the case may be.  
b) The notice shall also bear the figure of a man or of a woman, as the case may be.
  - (v) There shall be at least one urinal for male workers up to 50 and one for female workers up to 50 employed at a time. Provided that where the number of male or female workmen, as the case may be, exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females up to the first 500 and one for every 100 or part thereof, thereafter.
  - (vi) a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.  
b) Latrines and urinals other than those connected with a flush sewerage system shall comply with the requirements of the Public Health Authorities.
  - (vii) Water shall be provided by means of a tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
  - (viii) **Disposal of excreta:** Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed off by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn into manure).
  - (ix) The contractor shall, at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such work on his behalf.
- 7. Provision of shelter during rest:** At every place there shall be provided, free of cost, four suitable sheds, two for meal, and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 metres from the floor



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level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 Sq.m. per head.

Provided that the Engineer-in-Charge may permit to his satisfaction a portion to the building under construction or other alternative accommodation to be used for the purpose.

### 8. Creches:

- i) At every work place at which 20 or more women workers are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bed-room. The rooms shall be constructed with specifications as per Clause 19H (ii) a, b and c.
- ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- iii) The contractor shall supply adequate number of toys and games in the play rooms and sufficient number of cots and beddings in the bed room.
- iv) The contractor shall provide one ayaa to look after the children in the creche when the number of women workers does not exceed 50 and two Dais when the number of women workers exceeds 50.
- v) The use of the rooms earmarked as creches shall be restricted to children, their attendants and mothers of the children.

### 9. Canteen:

- (i) In every work place where the work regarding the employment of contract labour is likely to continue for six months and wherein contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.
- (ii) The canteen shall be maintained by the contractor in an efficient manner.
- (iii) The canteen shall consist of at least a dining hall, kitchen, store room, pantry and washing places separately for workers and utensils.
- (iv) The canteen shall be sufficiently lighted at all times when any person has access to it.
- (v) The floor shall be made of smooth and impervious material and inside walls shall be lime washed or colour washed at least once in each year:

Provided that the inside walls of the kitchen shall be lime washed every four months.

- (vi) The precincts of the canteen shall be maintained in a clean and sanitary condition.
- (vii) Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.



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- (viii) Suitable arrangement shall be made for the collection and disposal of garbage.
- (ix) The dining hall shall accommodate at a time 30 per cent of the contractor labour working at a time.
- (x) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square metre (10 sft) per diner to be accommodated as prescribed in sub-rule 9.
- (xi) a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers, in proportion to their number.
- b) Washing places for women shall be separate and screened to secure privacy.
- (xii) Sufficient tables, stools, chairs or benches shall be available for the number of diners to be accommodated as prescribed in sub-rule 9.
- (xiii) (a) (1) There shall be provided and maintained sufficient utensils, crockery, furniture and any other equipment necessary for the efficient running of the canteen.
- (2) The furniture, utensils and other equipment shall be maintained in a clean and hygienic condition.
- (b) (1) Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
- (2) A service counter, if provided, shall have top of smooth and impervious material.
- (3) Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipment.
- (xiv) The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
- (xv) The charges for food stuffs, beverages, and any other items served in the canteen shall be based on No profit, no loss and shall be conspicuously displayed in the canteen.
- (xvi) In arriving at the price of food stuffs and other articles served in the canteen, the following items shall not be taken into consideration as expenditure, namely: —
- (a) The rent of land and buildings;
- (b) The depreciation and maintenance charges for the building and equipment provided for the canteen;
- (c) The cost of purchase, repairs and replacement of equipment including furniture, crockery, cutlery and utensils;
- (d) The water charges and other charges incurred for lighting and ventilation;



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(e) The interest and amounts spent on the provision and maintenance and equipment provided for in the canteen.

(xvii) The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

- 10. Anti-Malarial Precautions:** The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.
- 11.** The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contract.
- 12. Amendments:** Government may, from time to time, add to or amend these rules and issue such directions as it may consider necessary for the purpose of removing any difficulty which may rise in the administration thereof.

\* \* \* \* \*



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**SECTION-III (iv)**

**DEPARTMENT OF ATOMIC ENERGY CONTRACTORS LABOUR REGULATIONS**



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## SECTION-III (iv)

### DEPARTMENT OF ATOMIC ENERGY CONTRACTORS LABOUR REGULATIONS

#### 1. Short Title:

These regulations may be called the “Department of Atomic Energy Contractors. Labour Regulations”.

#### 2. Definitions:

i) **“Workmen”** means any person employed by the Department of Atomic Energy or its Contractor directly or indirectly through a sub-contractor, with or without the knowledge of the Department of Atomic Energy, to do any skilled, semi-skilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person-

a) Who is employed mainly in a managerial or administrative capacity; or

b) Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercise either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature; or

c) Who is an out worker, that is to say, a person to whom any article or materials are given out by or on behalf of the principal employer to be made up, cleaned, washed, altered, ornamental finished, repaired, adopted or otherwise processed for sale for the purposes of the trade or business of the principal employer and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the Control and management of the principal employer.

ii) **“Fair Wages”** means wages whether for time or piece work fixed and notified under the provisions of the Minimum Wages Act from time to time.

iii) **“Contractors”** shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a sub-contractor.

iv) **“Wages”** shall have the same meaning as defined in the payment of wages act.

3. i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

ii) When an adult worker is made to work for more than 9 hours on any day for more than 48 hours in any week he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.



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- iii) (a) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules, 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.
- (b) Where a Minimum Wages prescribed by the Government under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.
- (c) Where a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at over time rate.

#### **4. Display of Notice regarding wages etc.:**

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clean and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers, giving the minimum rates of wages fixed under the Minimum Wages Act, the actual wages being paid, the hours of work for which such wages are earned, wage periods, dates of payment of wages and other relevant information as per Annexure 'A'.

#### **5. Payment of Wages:**

- (i) The contractor shall fix wage periods in respect of which wages shall be payable.
- (ii) No wage period shall exceed one month.
- (iii) The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand, such persons are employed shall be paid before the expiry of the seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
- (iv) Where the employment of any worker is terminated by or on behalf of the contractor, the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.
- (v) All payments of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
- (vi) Wages due to every worker shall be paid to him direct or to other person authorised by him in this behalf.



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- (vii) All wages shall be paid in current coin or currency or in both.
- (viii) Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the payment of Wages Act, 1956.
- (ix) A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgement.
- (x) It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the Engineer-in-Charge or any other authorised representative of the Engineer-in-Charge who will be required to be present at the place and time of disbursement of wages by the contractor to workmen.
- (xi) The contractor shall obtain from the Engineer-in-Charge or any other authorised representative of the Engineer-in-Charge as the case may be, a certificate under his signature at the end of the entries in the "Register of wages" or the "Wage-cum-Muster Roll" as the case may be in the following form:

"Certified that the amount shown in column No. \_\_\_\_\_

has been paid to the workmen concerned in my presence on \_\_\_\_\_ at

\_\_\_\_\_

### 6. Fines and deductions which may be made from wages:

- i) The wages of a worker shall be paid to him without any deductions of any kind except the following:
  - a) Fines.
  - b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
  - c) Deductions for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deduction which he is required to account, where such damage or loss is directly attributable to his neglect or default.
  - d) Deduction for recovery of advances or for adjustment of over payment of wages, advances granted shall be entered in a register.
  - e) Any other deduction which the Central Government may from time to time allow.
- ii) No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.



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Note: An approved list of acts and omissions for which fines can be imposed is enclosed as Annexure -I.

- iii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.
- iv) The total amount of fine which may be imposed in anyone wage period on a worker shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.
- v) No fine imposed on any worker shall be recovered from him by installment, or after the expiry of sixty days from the date on which it was imposed.
- vi) Every fine shall be deemed to have imposed on the day of the act or omission in respect of which it was imposed.

### 7. Labour Records:

- i) The contractor shall maintain a "Register of persons employed" on work on contract in Form XIII of the CL (R & A) Central Rules, 1971 (Annexure -B).
- ii) The contractor shall maintain "Muster Roll" in respect of all workmen employed by him on the work under the contract in form XVI of the CL (R & A) Rules, 1971 (Annexure -C).
- iii) The contractor shall maintain "Wage Register" in respect of all workmen employed by him on the work under the contract in form XVII of the CL (R & A) Rules, 1971 (Annexure -D).

#### iv) Register of accidents:

The Contractor shall maintain a register of accident in such form as may be convenient at the work place but the same shall include the following particulars:

- a) Full particulars of the labourers who met with accident.
- b) Rate of wages.
- c) Sex.
- d) Age.
- e) Nature of accident and cause of accident.
- f) Time and date of accident.
- g) Date and time when admitted in Hospital.
- h) Date of discharge from Hospital.
- i) Period of treatment and result of treatment.
- j) Percentage of loss earning capacity and disability as assessed by Medical Officer.
- k) Claim required to be paid under workmen's Compensation Act.
- l) Date of payment of compensation.
- m) Amount paid with details of the person to whom the same was paid.



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- n) Authority by whom the compensation was assessed.
- o) Remarks.

v) **Register of Fines:**

The contractor shall maintain a "Register of Fines" in the form XII of the CL (R & A) Rules, 1971 (Annexure -K).

- vi) The contractor shall maintain a "Register of deductions for damage or loss" in the form XX of the CL (R & A) Rules, 1971 (Annexure -J).

vii) **Register of Advances:**

The contractor shall maintain a "Register of Advances" in the form XXI of the CL (R & A) Rules, 1971 (Annexure -K).

viii) **Register of overtime:**

The contractor shall maintain a "Register of Overtime" in the form XXIII of the CL (R & A) Rules, 1971 (Annexure -L).

### 8. Attendance Card-cum-Wage slip:

- i) The contractor shall issue an attendance card-cum-wage slip to each workman employed by him in the specimen form at (Annexure -E).
- ii) The card shall be valid for each wage period.
- iii) The contractor shall mark the attendance of each workmen on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
- iv) The card shall remain in possession of the worker during the wage period under reference.
- v) The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- vi) The contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card himself.

### 9. Employment Card:

The contractor shall issue an Employment Card in Form XIV of the CL (R & A) Central Rules, 1971 to each worker within three days of the employment of the worker (Annexure -F).

### 10. Service Certificate:



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On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a service certificate in form XV of the CL (R & A) Central Rules, 1971 (Annexure -G).

### 11. **Preservation of Labour Records:**

All records to be maintained under Regulations Nos. 6 and 7 shall be reserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge, Labour Officer or any other officers authorised by the Department of Works & Housing in this behalf.

### 12. **Power of Labour Officers to make investigations or enquiry:**

The Labour Officer or any other person authorised by Central Government on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of the Fair Wages Clauses and the Provisions of Regulations. He shall investigate into any complaint regarding the default made by the contractor or sub-contractor in regard to such provision.

### 13. **Report of Labour Officer:**

The Labour Officer or other person authorised as aforesaid shall submit a report of result of his investigation or enquiry to the Engineer-in-Charge concerned indicating the extent, if any to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned in case an appeal is made by the contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Engineer-in-Charge after the Chief Engineer has given his decision on such appeal.

- i) The Engineer-in-Charge shall arrange payments to the labour concerned within 45 days from the receipt of the report from the Labour Officer or the Chief Engineer as the case may be.

### 14. **Appeal against the decision of Labour Officer:**

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorised may appeal against such decision to the Chief Engineer concerned within 30 days from the date of decision, forwarding simultaneously a copy of his appeal to the Engineer-in-Charge concerned but subject to such appeal, the decision of the Officer shall be final and binding upon the contractor.

### 15. **Prohibition regarding representation through lawyer:**

- i) A workman shall be entitled to be represented in any investigation or enquiry under these regulation by:
  - a) An officer of a registered trade union of which he is a member.
  - b) An officer of a federation of trade unions referred to in clause (a) is affiliated.



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- c) Where the employer is not member of any registered trade union, by an officer of a trade union, connected with, or by any other workman employed in the Industry in which the worker is employed.
- ii) An employer shall be entitled to be represented in any investigation or enquiry under these regulations by:
  - a) An officer of an association of employers of which he is a member.
  - b) An officer of a federation of associations of employees to which association referred to in clause (a) is affiliated.
  - c) Where the employer is not a member of any association of employers, by an officer of association of employer, connected with, or by any other employer engaged in the Industry in which the employer is engaged.
- iii) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under regulations.

### 16. **Inspection of Books and slips:**

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorised by the Central Government on his behalf.

### 17. **Submission of returns:**

The contractor shall submit periodical returns as may be specified from time to time.

### 18. **Amendments:**

The Central Government may from time to time, add to or amend the regulations and any question as to the application, interpretation or effect of these regulations the decision of the Chief Engineer concerned in that behalf shall be final.



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ANNEXURE 'A'

**LABOUR BOARD**

Name of work \_\_\_\_\_

Name of contractor \_\_\_\_\_

Address of contractor \_\_\_\_\_

Name and address of Division \_\_\_\_\_

Name and address of Labour Officer \_\_\_\_\_

Name and address of Labour Enforcement Officer \_\_\_\_\_ Date \_\_\_\_\_

Sl. No	Category	Minimum wage fixed	Actual wage paid	Number present	Remarks

Weekly holiday \_\_\_\_\_

Wage period \_\_\_\_\_

Date of payment of wages \_\_\_\_\_

Working Hours \_\_\_\_\_



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**ANNEXURE-B**

**FORM XIII**

**Register of workmen employed by contractor**

Name and Address of contractor:

Name and Address of establishment in/under which contract is carried on:

Nature and Location of work:

Name and Address of Principal Employer:

Sl. No.	Name and surname of workman	Age and sex	Father' s/ husband' Name	Nature of employment	Permanent home address of the workman	Local address	Date of commencement of employment	Signature or impression of the workman	Date of termination of employment	Reasons for termination	Remarks
1	2	3	4	5	6	7	8	9	10	11	12



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ANNEXURE-C

**FORM XVI**  
**MASTER ROLL**

Name and address of contractor:

Name and address of establishment in/under which contract is carried on:

Nature and location of work:

Name and address of Principal Employer:

For the month of/fortnight:

Sl. No	Name of workman	Father's/ Husband's Name	Sex	Dates	Remarks
1	2	3	4	5	6



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ANNEXURE-D

## FORM XVII REGISTER OF WAGES

Name and address of contractor:

Name and address of establishment in/under which contract is carried on:

Nature and location of work:

Name and address of Principal employer:

Wage period: Monthly/Fortnightly

Sl.No	Name of workman	Serial in the register of workmen	Designation/Nature of work	No. of Days worked	Unit of work done	Daily rate of wages/ piece Rate	Amount of wages earned					Deductions if any	Net amount paid	Signature/ Thumb impression of workmen	Initials of contractor or his representative
							Basic wages	Dearness allowance	Over time	Other cash payment	Total				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16



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**ANNEXURE-E**

**WAGE CARD**

Wage Card No.:

Name and address of contractor:

Date of issue:

Name of work with location:

Designation:

Name of workman:

Month/Fortnight:

Rate of wages:

	Morning	Evening	Rate	Amount	Initial
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Received from \_\_\_\_\_ the sum of Rs. \_\_\_\_\_ on account of my wages. The Wage Card is valid for one month from the date of issue.

Signature



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**ANNEXURE-E**

**(Reverse)**

**FORM XIX**  
**WAGE SLIP**

Name and address of contractor: \_\_\_\_\_

Name and Fathers/Husbands name of workman: \_\_\_\_\_

Nature and location of work: \_\_\_\_\_

For the Week/Fortnight/Month ending: \_\_\_\_\_

1. No. of days worked: \_\_\_\_\_

2. No. of units worked in case of piece rate workers \_\_\_\_\_

3. Rate of daily wages/piece rate: \_\_\_\_\_

4. Amount of overtime wages: \_\_\_\_\_

5. Gross wages payable: \_\_\_\_\_

6. Deductions, if any: \_\_\_\_\_

7. Net amount of wages paid: \_\_\_\_\_

Initials of the contractor or his representative



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**ANNEXURE- 'F'**

**FORM XIV**

**EMPLOYMENT CARD**

Name and address of contractor \_\_\_\_\_

Name and address of establishment in/under: \_\_\_\_\_

which contract is carried on

Name of work and location of work: \_\_\_\_\_

Name and address of Principal employer: \_\_\_\_\_

1. Name of the workman: \_\_\_\_\_

2. Sl. No. in the register of workman: \_\_\_\_\_  
employed

3. Nature of employment/designation: \_\_\_\_\_

4. Wage rate (with particulars of unit in: \_\_\_\_\_  
case of piece work)

5. Wage period: \_\_\_\_\_

6. Tenure of employment: \_\_\_\_\_

7. Remarks: \_\_\_\_\_

Signature  
of Contractor



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ANNEXURE-G

**FORM - XV**  
**SERVICE CERTIFICATE**

Name and address of contractor: \_\_\_\_\_

Name and location of work: \_\_\_\_\_

Name and address of workman \_\_\_\_\_

Age or Date of birth \_\_\_\_\_

Identification marks \_\_\_\_\_

Father / husband's Name \_\_\_\_\_

Name and address of establishment in/under which contract is carried on \_\_\_\_\_

Name and address of principle employer \_\_\_\_\_

Sl. No	Total period for Which Employed		Nature of work Done	Rate of wage (with particulars of Unit in case of piece work)	Remarks
	From	To			
1	2	3	4	5	6

Signature



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ANNEXURE-H

## FORM - XII REGISTER OF FINES

Name and address of contractor:

Name and address of establishment in/under which contract is carried on:

Nature and location of work:

Name and address of Principal employer:

Sl. No	Name of workman	Father' s/Husband' s Name	Designation/ nature of employment	Act/ omission for which fine imposed	Date of offence	Whether workman showed cause against fine	Name of person in whose employee' s explanation was heard	wages period and wages payable	Amount of fine imposed	Date on which fine realised	Remarks
1	2	3	4	5	6	7	8	9	10	11	12



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### ANNEXURE-I

#### LIST OF ACTS AND OMISSIONS FOR WHICH FINES CAN BE IMPOSED:

In accordance with rule 75 of the Department of Atomic Energy Contractor's Labour Regulations to be displayed prominently at the site of work in both English and local language.

1. Wilful insubordination or disobedience, whether alone or in combination with other.
2. Theft, fraud or dishonesty in connection with the contractors beside a business or property of Department of Atomic Energy.
3. Taking or giving bribes or any illegal gratifications.
4. Habitual late attendance.
5. Drunkenness fighting, riotous or disorderly or indifferent behaviour.
6. Habitual negligence.
7. Smoking near or around the area where combustible or other materials are locked.
8. Habitual indiscipline.
9. Causing damage to work in the progress or to property of the Department of Atomic Energy or of the contractor.
10. Sleeping on duty.
11. Malingering or slowing down work.
12. Giving of false information regarding name, age, father's name etc.
13. Habitual loss of wage cards supplied by the employers.
14. Unauthorised use of employer's property for manufacture or making of unauthorised articles at the work place.
15. Bad workmanship in construction and maintenance by skilled workers which is not approved by the Department and for which the contractors are compelled to undertake rectifications.
16. Making false complaints and/or misleading statements.
17. Engaging on trade within the premises of the establishments.
18. Any unauthorised divulgence of business affairs of the employees.
19. Collection or canvassing for the collection of any money within the premises of an establishment unless authorized by the employer.
20. Holding meeting inside the premises without previous sanction of the employers.
21. Threatening or intimidating any workman or employee during the working hours within the premises.



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ANNEXURE-J

**FORM - XX**  
**REGISTER OF DEDUCTIONS FOR DAMAGE OR LOSS**

Name and address of contractor: \_\_\_\_\_

Name & address of establishment in/under which contract is carried on: \_\_\_\_\_

Nature & location of work: \_\_\_\_\_

Name & address of principal employer: \_\_\_\_\_

Sl.No	Name of workman	Fathers/ Husband' s Name	Designation/nature of employment	Particulars of damage or loss	Date of damage or loss	Whether workman showed cause against deduction	Name of person in whose presence employee' s explanation was heard imposed	Amount of deduction	No. of instalment	Date of recovery		Remarks
										First instalment	Last instalment	
1	2	3	4	5	6	7	8	9	10	11	12	13



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ANNEXURE-K

## FORM – XXII REGISTER OF ADVANCES

Name and address of contractor: \_\_\_\_\_

Name & address of establishment in/under which contract is carried on: \_\_\_\_\_

Nature and location of work: \_\_\_\_\_

Name and address of Principal Employer: \_\_\_\_\_

Sl. No.	Name of workman	Fathers/ Husband' s Name	Designation/nature of- employment	Wage period and wages payable	Date and amount of advance given	Purpose(s) for which advance made	No. of instalments by which advance to be repaid	Date and amount of each instalment repaid	Date on which last instalment was repaid	Remarks
1	2	3	4	5	6	7	8	9	10	11



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ANNEXURE-L

**FORM - XXIII**  
**REGISTER OF OVERTIME**

Name and address of contractor: \_\_\_\_\_

Name and address of establishment in/under which contract is carried on: \_\_\_\_\_

Nature and location of work: \_\_\_\_\_

Name and address of Principal Employer: \_\_\_\_\_

Sl. No.	Name of workman	Fathers/ Husband' s Name	Sex	Designation/nature of employment	Dates on which Overtime worked	Total over time worked or production in case of piece rated	Normal rate of wages	overtime rate of wages	overtime earnings	Rate on which overtime wages paid	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

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**SECTION-III (v)**

**ADDITIONAL CONDITIONS**



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### ADDITIONAL CONDITIONS

1. Materials Obtained from Dismantlement:

The contractor in the course of their work should understand that all materials (e.g. stone and other materials) obtained in the work of dismantling, excavation etc. will be considered Government property-and issued to the contractor (if they require the same for their own use) at rates approved by the Chief Engineer. If they do not require these materials, they will be disposed off to the best advantage of Government.

2. Delay in Obtaining Materials by The Department:

Owing to difficulty in obtaining certain materials in the open market, the Government has undertaken to supply materials as specified in Schedule 'A' here to annexed rates states therein. There may be delay in obtaining the materials by the Department and the contractor is, therefore, required to keep himself in touch with day-to-day position, regarding the supply of materials from the Engineer-in-Charge and to so adjust the progress of the work that their labour may not remain idle nor may there be any other claim due to or arising from delay in obtaining the material. It should be clearly understood that no claim whatsoever shall be entertained by the Government on account of delay in supplying materials. In case the materials included in schedule of supply of materials are not supplied by the Department and in case the use of such material is required in the works, the contractor with prior orders of the Engineer-in-Charge, for the use of such materials/ sections etc. from his own stocks or sources, may use of such materials of approved and tested quality. In all such cases the contractor shall produce the details of these materials such as quality, quantities including testing certificates and shall be entitled to claim extra payment for such use. The extra payment/ deduction would be the difference between the actual price (to be supported by vouchers) and the issue price.

3. Any damage to work resulting from rains or from any other cause until the work is taken over by the Department after completion will be made good by the contractor at his own cost.

4. The contractor shall get himself acquainted with the nature and extent of the work and satisfy himself about the availability of quarry and of kiln for collection and conveyance of materials required for the construction. The contractor's quoted rate should take into account all these factors and will not be allowed any extra lead for collection and conveyance of materials for any reasons whatsoever.

5. The contractor shall deposit royalty and obtain necessary permit for supply of Red Bajri, stone kankar etc. from local authorities.

6. Security deposit should not be paid till clearance certificate from Labour Officer is obtained by Contractor.

7. Land for erecting Labour Colony for housing the contractor's labour will be made available by the Department if it is mentioned in Schedule 'A' (Refer Proforma of



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Schedules). If not, Labour Camp shall not be erected at the site of the work nor any Labour shall be allowed to live at site.

8. In case the Land for erecting Labour Colony is provided by the department; the contractor will have to make his own arrangements for water & electricity for the labour colony. Additionally, Contractor has to make his own provision for the housing of construction labour with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures & they shall be removed by the contractor at his own expenses to the satisfaction of the Engineer-in-charge within 10 days from the date of completion.
9. The contractor shall conform to the provision of any Government acts which relate to works and to the regulations and by laws of any local authorities. The contractor shall give all notices required by the said acts or laws etc. and pay all fees payable to such authorities and allow for those contingencies in his tendered rates including fees for encroachments, costs of restorations etc. and all other fees payable to the local authorities.
10. The contractor shall undertake to have site clean free from rubbish to the satisfaction of the Engineer-in-Charge. All surplus materials, rubbish etc. will be removed to the place fixed by the Engineer-in-Charge and nothing extra will be paid.
11. Convenience for Department's Activities:  

The contractor shall not deposit materials on any site which will seriously be inconvenient to any of the Department's activities. The Engineer-in-Charge may require the contractor to remove any materials which are considered by him to be of danger or inconvenience to the activities of the department or cause them to be removed at the contractor's cost.
12. Employment of Certified Plumbers:  

Certified plumbers should be employed by the contractor on the work for main sewer filtered and unfiltered main.
13. Employment of Licensed Electrical Foreman (for electrical works only)  

The contractor should employ a licensed electrical foreman to supervise the electrical works.
14. The contractor shall not employ a woman and man below the age of eighteen (18) on the work of painting with products containing lead in any form. Where ever men above the age of eighteen (18) are employed on the work of lead painting, the following principles must be observed for use.
  - i) a) White lead, sulphate of lead, products containing these pigments shall not be used in painting operation except in the form of paste or paint ready for use.



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- b) Measures shall be taken in order to prevent danger arising from the application of paint in the form of spray.
  - c) Measures shall be taken wherever practicable to prevent danger arising from dust caused by the rubbing down and scrapping.
  - ii) a) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
  - b) Suitable arrangements shall be made to prevent clothing put off during working hours being spoiled by painting materials.
  - c) Overalls shall be worn by working painters during the whole of the working period.
  - iii) a) Case of lead poisoning and of suspected lead poisoning shall be notified and shall be subsequently verified by a medical man appointed by the Competent authority of BARC.
  - b) The B.A.R.C. may require, when necessary a medical examination of workers.
  - c) Instructions with regard to the special hygiene precautions to be taken in the Painting trade shall be distributed to working painters.
15. In any section of these specifications where item of material or equipment are specified by brand name, catalogue number or by names of manufacturers, the contractor is required to use the same material / equipment only. Equivalent to the material / equipment shall be acceptable (after reducing/increasing the rate to extent of difference in cost) in case of its non-availability and after confirming the same in writing from the manufacturer only with the written approval of Engineer-in-Charge.
16. Substitute of Materials:
- (a) In any section of these specifications where items of material or equipment are specified by brand name, catalogue number, makes or by names of manufacturers the reference is intended to be descriptive and not restrictive and is solely for the purpose of indicating the type or quality of item that will be acceptable. An equivalent / alternate make / brand shall be acceptable whether so specifically stated or not at the discretion of the Engineer-in-Charge.
  - (b) The Engineer-in-Charge reserves the right to have certain tests and / or analysis made of any proposed substitute material or equipment to determine its acceptability for the purpose specified.
    - i) Samples of the proposed substitute material or equipment certified by the manufacturer, shall be submitted to the Engineer-in-Charge for test and / or



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analysis. The quantities of the items in question required for these tests and / or analysis shall be determined by the Engineer-in-Charge.

- ii) During the progress of the work, the Engineer-in-Charge may, should be deem it advisable, take samples of the substitute item for check test or analysis.
- iii) All costs of the tests, check tests and / or analysis made shall be borne by the contractor.
- iii) No proposed substitute for a specified item shall be used in the work of the contract prior to written authorization by the Engineer-in-Charge, such written authorization to state the amount of the adjustment, if any to be made in favour of the Department.
- v) Should the use of authorized substitute materials and / or equipment proposed by the Contractor, require, in the opinion of the Engineer-in-Charge changes or modifications in the designing, drawing, specifications or work to be performed under the contract in any way, all of the cost of making such changes or modifications, whether or not considered at the time of the substitute was approved shall be borne by the Contractor. Said costs shall include, but not be limited to the finishing installation by the Contractor of any additional materials or equipment which in the opinion of the Engineer-in-Charge may be deemed necessary to accommodate the substitute materials and / or equipment in the work.

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**SECTION-IV**

**SPECIAL INSTRUCTIONS TO TENDERERS**



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### SECTION-IV

### SPECIAL INSTRUCTIONS TO TENDERERS

1. These special instructions /additional conditions of contract shall be read in conjunction with general conditions of contract, technical specifications or any other document forming part of this contract. In case of any variation between the clauses stipulated in the special instructions /additional conditions of contract and those stipulated in the general conditions of contract etc., the stipulation in the special instructions /additional conditions of contract shall take precedence.
  - a) Location and scope of the Work: Please refer Proforma of Schedules.
2. The tenderer is requested to visit the site to acquaint himself with the site conditions, working conditions, approaches, availability of materials, facilities for storing construction materials, dumping facilities for his Labour force, geological and weather conditions and all other relevant information required for tendering before submitting his tender.
3. The tenderer should also note that other contractor will be working in the vicinity and this work will have to be carried out in proper co-ordination with them. The tenderers shall also note that they shall have to clear the site of vegetation, debris etc. before commencement of the work and that no extra payment is permissible on account of clearance of site, removal of debris etc. coming in the way of construction work.
4. Staking out base lines and levels: The contractor shall layout his work from base lines and grade established by the Department and shall be responsible for all measurements in connection therewith. The contractor shall at his own expense furnish all stakes, templates, platforms equipment, ranges and labour that may be required in setting of layout of any part of the work. The contractor shall be held responsible for the proper execution of the work to such lines and grades as may be established or indicated on the drawings and in specifications. The contractor shall take benchmarks, lines and levels. The contractor is to construct and maintain proper benches at the intersections of all main walls, columns, etc. in order that the lines and levels may be accurately checked at all times, theodolite, levels, prismatic compass, chain, steel and metallic tapes and all other surveying instruments found necessary for the work shall be provided by the contractors for use at site in connection with this work.
5. Drainage in the vicinity of the building: The contractor shall be entirely responsible for the provision and maintenance of the efficient drainage arrangements in the work site to lead of all water whatever pumped from the excavation or on account of rains, springs or any other sources whatsoever. Flooding or ponding of water in the work site shall not be permitted under any circumstances whatsoever and the contractor shall take all precautions to prevent the same by providing suitable pump or other dewatering arrangements. The cost of repairing damages, if any, to the work under execution or to any Government property in and around the site shall be entirely borne by the contractor when such damages are due to non-compliance with the above conditions.



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6. Traffic interference & inconvenience to the public: The contractor shall conduct his operations so as to interfere as little as possible with the traffic. When interference to traffic is inevitable, notice of such interference shall be given to the Engineer-in-Charge well in advance (at least 2 days). The contractor shall take all precautionary and other measures, such as providing warning signals, temporary diversions etc. all as directed by the Engineer-in-Charge. The contractor shall exercise full care to ensure that no damage is caused by him or his workmen, during the operations, to the existing water supply and power lines. The cost of any such damage and risks arising out of this shall be entirely borne by the contractor. The contractor shall not deposit materials on any site which will seriously inconvenience the public. The Engineer-in-Charge may require the contractor to remove any materials which are considered to be of danger or inconvenient to the public or cause them to be removed at the contractor's cost.
7. Commencement and Completion of Work in Proper Schedule: The entire work shall be completed within a period of (as specified in NIT/ Schedule 'F') months including monsoon period. The execution of the works shall commence from such time period as mentioned in Schedule 'F'.

Time being the essence of the contract, a broad-based time schedule showing the important phases of the work has been prepared by the Department for contractor's information and enclosed herewith (mentioned in Schedule 'F'). It will be necessary for the contractor to adhere to this programme of work and he will have to prepare and submit detailed programme of work and showing the various activities of work taking into consideration the departmental programme. This programme shall be submitted by the contractor within a fortnight of the acceptance of the tender for the approval of the Engineer-in-Charge, which will then form part of the contract and the work is to be carried out in all respects as per time schedule.
8. Co-Operation with other Contractors: The contractor shall afford all facilities and give complete co-operation for the execution of various other works, if required to be carried out simultaneously by other agencies while his own work is in progress. The co-ordination will be effected in consultation with the Engineer-in-Charge of the work. Other contractors are also likely to be authorised by BARCs to work in the same area during the grading stage for the construction of buildings, Electrical, Air-conditioning, Services and Public Health and other miscellaneous works.

The contractor shall afford all facilities

  - a) The contractor shall afford all facilities for using scaffolding etc. by the other contractors.

No extra claims on account of facilities provided for carrying out the work mentioned above will be entertained.
9. Specifications and Drawing
  - a) The drawings furnished to the contractor shall be interpreted by the use of given dimensions and nomenclature only, and the drawings shall not be scaled. Drawings to a large scale shall have precedence over those to a smaller scale.



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- b) Prior to the execution of the work the contractor shall check all drawings, specifications and shall immediately report all errors, discrepancies and/or omissions discovered therein to the Engineer-in-Charge and obtain appropriate orders in the same. Any adjustments made by the contractor without prior approval of Engineer-in-Charge shall be at his own risk. Each description of item in the schedule of quantities shall be read in conjunction with the relevant drawings and specifications and the contractor's rate shall be deemed to be such complete work unless otherwise specified by the contractor while tendering.
  - c) Cost of all shop drawings, drain drawings, fabrication drawings or formwork drawings and details to be furnished by the contractor shall be deemed to be included in his tendered rates for the form work. Approval of shop drawings shall not be construed as authorising additional work of increased costs to the Department.
  - d) Prior to submission for approval, the contractor shall be responsible for thoroughly checking all drawings to ensure that they comply with the intent and the requirements of the contract specifications and that they fit in with the overall layout. Drawings found to be inaccurate or otherwise in error will be returned for correction by the contractor.
  - e) For all drawings to be submitted by the Contractor for the approval of the Engineer-in-Charge., the contractor shall submit 6 (six) copies of each drawing for approval.
  - f) The approval of the drawings by the Engineer-in-Charge shall not be construed as a complete dimensional check but will indicate only that the general method of construction and detailing is satisfactory. The contractor shall be responsible for the dimensions and design of adequate connection, supports, details & satisfactory construction of the work.
10. Contractor's stores and site office: Suitable area near the site of the work (if available, specified in Schedule 'A') shall be allocated to the contractor free of cost for storing his equipment, plant, materials, etc. and for his site office. He will, however, be solely responsible for watching or guarding his property and materials issued to him by BARC. Contractor shall cover all materials at site with requisite insurance against theft larceny, dacoits, fire tempest and flood. He, however will have to dismantle the sheds and vacate the land after the receipt of due notice from Engineer-in-Charge., if the same is obstructing any work.
11. Approach Roads: Contractor shall be permitted to use the existing roads in the establishment area for the purpose of transporting labourers and materials etc. The Engineer-in-Charge, however, will not undertake to provide any approach roads to the site of work. It shall be entirely the responsibility of the contractor to provide and maintain such temporary approach roads at his own cost for the purpose of movement of men, materials and equipment. Layout of such approach road shall be submitted to Engineer-in-Charge for his approval before undertaking the construction of the same. Such approach roads shall be made available to other agencies carrying out the work in the same area in consultation with Engineer-in-Charge of the works without any extra cost.
12. Temporary Buildings: Warehouse, shed, workshop and office facilities as required by the contractor shall be provided by him at his own expenses. Prior approval of the Engineer-in-Charge shall be obtained in respect of location, layout and details of these buildings. After



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the work is over these temporary facilities shall be removed by the contractor at his own expenses to the satisfaction of the Engineer-in-Charge within Ten (10) days from the date of completion.

13. Inspection: The work shall be conducted under the general direction of the Engineer-in-Charge and is subject to inspection by his appointed representative to ensure strict compliance with the terms of contract. No failure of the Engineer-in-Charge or his designated representative during the progress of work to discover or to reject materials or work not in accordance with the requirements of this contract shall be deemed an acceptance thereof, or a waiver of defects therein, and payment by the Engineer-in-Charge a partial or entire occupancy of the premises shall be construed to be an acceptance of work or materials which are not strictly in accordance with the requirements of this contract. No changes whatsoever to any provision of the specifications shall be made without written authorization from the Engineer-in-Charge.
14. Water: Contractor has to make his own arrangement for water required for the work. If water is made available by the Department (refer Schedule 'A'), only piped water will be made available to the contractor at site at one place on the main line to be determined by the Engineer-in-Charge. The contractor shall make his own arrangements for drawing water from the main. He shall bear the cost of making all connections, boosting water, laying all the pipe lines, installing a tested meter of approved make, maintaining all installations and dismantling the same on completion of work and making good any damage due to such piping of work and its removal. The meter shall be provided with masonry chamber, with a lid and locking arrangement.  
The contractor shall pay for all the water drawn by him at the rate specified in Schedule 'A'. In case it is observed that the water meter is out of order the consumption of water for the period during which the meter was out of order shall be worked out on the basis of 1 % of the cost of items of construction requiring water, during the said period.  
The contractor shall provide at his own cost adequate storage of water required for his work and drinking for the labour to tide over temporary stoppage in the supply of water. No claims for any help of work in this account will be entertained.
15. Requirement of electric power: The tenderers should submit along with their tenders the total approximate requirement of electric power that may be required by them for the execution of the work. Contractor has to make his own arrangement for electricity required for the work. If made available by the Department the rate is specified in Schedule 'A'
16. Electricity:

Guidelines for temporary power supply at site and general safety procedure

(B) General:

- i) Contractor's License for Electrical works:  
The contractor/subcontractor shall possess a license of appropriate competency (Class- I) issued by competent authority and valid in Karnataka jurisdiction for carrying out electrical installation of the type and magnitude covered in this document. Engagement of subcontractor shall be subject to approval by BARC.



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All linemen, wiremen, electrician, supervisors and engineers engaged by the contractor or his sub-contractor shall possess valid license of appropriate competency issued by the statutory authority.

Copy of the licenses referred above shall be made available to the BARC/ for verifications periodically during the execution of work until closure of contract.

The contractor shall take all necessary measures to ensure safety of men and material inside the BARC premises as per the rule of BARC and statutes. contractor shall be solely responsible in this aspect.

- ii) Electrical power supply at medium voltage (415 volts, 3-phase, 4 wires) for construction purposes and general lighting will be made available (if mentioned in Schedule 'A') at the site or near the site of work, at the discretion of the Engineer-in-Charge, at one point. The contractor is responsible for laying the power lines at their own cost, in an approved manner as indicated in the subsequent clauses. The power supply will be made available subject to the following conditions:
  - a) The contractor should submit a list of equipment he proposes to connect for constructional and general lighting purposes indicating his power requirements in appropriate form enclosed (Annexure-I) for approval of Engineer-in-Charge.
  - b) Submit a list of licensed electrical staff he will be posting at site.
  - c) The contractor should pay the minimum charges based on his power demands at Current tariff rates prevailing at site as charged by supply authorities
  - d) Suitably rated KWH meter will be supplied and installed by contractor and test certificates as per ISS from authorised test laboratory or manufacturer is submitted.
- iii) All extension from this point shall be executed in an approved manner with prior permission of Electrical Engineer-in-Charge. The installation shall conform to Indian Electricity Rules, Indian Electricity Act 1910 & IRE Regulations as per the latest Revisions and got executed by Licensed Electrical Contractors only.
- iv) The entire installation shall be subject to the following tests before energisation of installation including portable equipment.
  - a) Insulation resistance test
  - b) Polarity test of switches
  - c) Earth continuity test
  - d) Earth electrode resistance



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The testing procedure and results shall conform to ISS & Code of practice. The contractor shall provide the necessary skilled and unskilled labour and also instruments for conducting the test. The tests shall be carried out in the presence of Electrical Engineer-in-Charge and submitted in proforma enclosed (Annexure-II).

- v) Double grounding shall be provided for all equipment. Power supply will be effected after completion of above.
- (B) After energising, the installation continuity of power supply will be subject to the following:
- i) The contractor shall submit a test report as per Clause (A) (vii) a,b, c, d for his complete installation every Two (2) months or after rectifying any faulty section in the specimen test report enclosed (Annexure II). One such test report for the complete installation shall be submitted before onset of monsoon.
  - ii) The contractor should not connect any additional load without prior permission of Electrical Engineer. For obtaining additional power required, test reports should be submitted.
  - iii) Where distribution boards are located at different places, the contractor shall submit schematic drawing indicating all details like size of wires, OH or cable feeders, earthings etc.
  - iv) The supply will be switched off by the Electrical Engineer by prior arrangement with Civil Department for normal and preventive maintenance etc., of Departmental equipment once in a month. The duration and time will be intimated to contractor. The availability of power supply will be further subject to shut down due to any emergency break downs or switch off by supply authorities for their maintenance works. Contractor is not eligible for any compensation due to above.

Government will not be liable for any loss or damage to the contractor's equipment as a result of variations in voltage or frequency of interruptions in power supply. In the event of any failure / interruptions /stoppage of power supply for a continuous period not exceeding 24 hours the contractor shall have no claim whatsoever against Government. For any power failure / stoppage resulting in interruptions for a continuous period exceeding 24 hours, the contractor will be eligible only for reasonable extension of time for any compensation in this account.

Government will not be liable for any loss to the contractor arising from failure or interruption or stoppage of works any attendant delays consequent upon such failure, interruption or stoppage of power supply or variations in voltage or frequency.

- (C) The following are provided for general guidance of the contractor and should be read as specific requirements, in addition to complying with Indian Electricity Act, Indian Electricity Rules, I.S. Regulations.



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- i) The minimum clearance to be maintained for all overhead line shall be 4 meters along roads and 6.1 meters across roads.
  - ii) Wherever cables or wires are laid on poles a guard wire of adequate size shall be run along the cables/wires and earthed effectively.
  - iii) Metallic poles as general rule should be avoided and if used should be earthed individually.
  - iv) All loose hanging of wire and cables should be avoided and should be properly supported and an approved method of fixing shall be adopted.
  - v) Installation shall not cause any hindrances to movement of men and materials.
  - vi) Reinforcement rods or any metallic part of structures should not be used for supporting wires and cables fixtures, equipment etc.
  - vii) All cables and wires should be adequately protected mechanically against damages.
  - viii) In case the cable is required to be laid in ground, it should be adequately protected by covering the same with bricks, PCC tile or any other approved means.
  - ix) Laying of cables and wires direct on floor shall be avoided but if, required the same shall be taken through G.I. / M.S. pipes etc.
- (D) i) All the switch boards, equipment etc. should be protected from rain and should not be exposed to weather. The contractor should provide proper enclosure of approved size and shape for protection against rain.
- ii) As far as possible, switch fuse units and Distribution Boxes etc. with HRC fuses should be used.
  - iii) The switch fuse units should be checked for their proper function. As far as possible, new equipment should be used. However, the same shall be in a very good condition. ISI marked equipment from reputed manufacturers will be preferred. Switch fuse units of appropriate ratings of fuse be utilised for the required power supply and all terminals in the external supply should, as far as possible, be taken from the bottom of the switch such that rain water or its spray will not enter the switch boards from the top. All switches of the switch boards should have proper gaskets so that no water will enter even if rain water or its spray falls on the switches.
  - iv) All the Distribution Boards, Switch fuse units, Bus bar chambers etc. shall be dust and vermin proof.
- The distribution boards, switches etc. shall be so fixed that they should be easily accessible. The position and location of all equipment, switches etc. shall be informed to the Electrical Engineer-in-Charge at the time of energisation. Also, the same should be informed as soon as any change is done.
- (E) i) Only PVC insulated & PVC sheathed wires or armoured PVC insulated and sheathed cables should be used for external power supply connections of



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temporary nature. Weather proof rubber wire should not be used for any temporary power supply connections. Taped joints in the wires shall be avoided as far as possible and the connections shall be made in looping system. At the terminal points of the switch boards, an effective PVC Box or alternatively M.S. Box, with proper glands and sealing arrangements, should be provided to ensure that no moisture leaks at the terms of the switches.

- ii) All armoured cables shall be properly terminated by using suitable cable glands, standard conductor cables shall be connected by using cable lugs/sockets, Cable lugs should preferably be crimped, cable lugs should be proper size and should correspond to the current rating and size of the cables. Twisted connections will not be allowed.
  - iii) All the cables glands shall be properly earthed.
  - iv) All connections to lighting fixtures, starters or other power supply should be provided with PVC insulated, PVC sheeted twin core wires to have better mechanical protection for preventing possible damage to equipment or injury to personnel. No taped joints will be allowed and the connections may be looping system.
  - v) All the lighting fixtures and lamp holders shall be of good quality and in good condition. Badly repaired or broken holders etc. will not be allowed for use.
  - vi) The working areas shall be adequately lighted. The lighting fixtures shall be fixed in such a manner such that sufficient head clearance is provided for general working.
  - vii) For day-to-day lighting needs, it is preferable to use an extension board with three-pin plugs. This allows you to connect multiple light points as needed, without creating any wire joints.
  - viii) The connection for portable machines shall be taken through Three (3) pin plugs points, Iron clad industrial type plug outlets are preferred. While taking supply through plug outlet a plug top must be used. The third pin of the plug shall invariably be earthed and 3 core wire shall be used.
  - ix) Wire guards shall be provided on bulbs as far as possible.
- (F) i) Method of earthing, installation and size of earth electrodes and earthing conductors and earth testing results shall conform to relevant I.S. etc.
- ii) Generally, the contractor shall make his own arrangements for main electrode and taping thereof. The existing earth points available at site can be used at the discretion of the Electrical Engineer-in-Charge with prior permission.
  - iii) Joints in earthing conductor shall be avoided as far as possible. However, in case of a joint it should be properly soldered or jointed in an approved manner. Twisting of wires will not be allowed. Loop earthing of equipment shall not be allowed. However, tappings from on earth bus may be done. Every equipment should be provided with two independent earth connections except for portable equipment.



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- iv) All three-phase equipment shall be provided with duplicate earthing. All light fixtures and portable equipment should be effectively earthed to main earthing.
- (G) Power supply to all the machines and lighting fixtures etc. shall be switched off when not in use.
- i) Persons having valid wireman's license / competency certificate must be employed for carrying out electrical work and repair of equipment, installation and maintenance at site. A qualified /licensed supervisor may also be employed for supervision.
- ii) An electric power failure and/or accident caused due to noncompliance of above mentioned instructions will entirely be the responsibility of the contractor.
- iii) On recommendations by the Electrical Engineer-in-Charge reserves the right to disconnect the power supply to the contractor without prior intimation. If the above-mentioned instructions are not followed, contractor will not be eligible for any compensation due to such disconnections.

### Safety Instructions: Electrical Operations

#### A. Installations:

- Electrical equipment and installations should be so designed, installed and maintained at to prevent danger from contact with live conductors and / or from electrically originated fire. Only qualified/licensed persons should be permitted to install, adjust, examine on repair electric equipment/circuits.
- Materials for all electrical equipment should sealed with regard to working voltage, load and working environment, such equipment should conform to the relevant standards.
- Exposed live parts at electrical circuits and equipment operating with alternating current (AC) at 50 volts or more should be generally provided with permanent enclosures / cover.
- Crane trolley wires and other conductors, which cannot be completely insulated, should be placed such that they are inaccessible under normal working conditions.
- Armouring and sheathing of electric cables, metal circuits and their fittings, metallic fittings and other non-current carrying parts of electrical equipment and apparatus should be effectively grounded.
- Grounding conductor of wiring system should be copper or other corrosion resistant material. An extra grounding connection should be made in appliances / equipment where chances of electric shock is high.



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- Electric fuses and / or circuit breakers installed in equipment circuits for short circuit protection should be of proper rating. It is also recommended that high rapture capacity (HRC) fuses should be used wherever possible in circuits carrying currents more than 15 amps.
- Open-type distribution boards should be placed only in dry, well-ventilated rooms. They should not be positioned near storage batteries or exposed to chemical fumes.
- Isolating switches should be provided for disconnecting electrical equipment or conductors from the source of supply when repair or maintenance work has to be done on them.
- In front of distribution boards, a clear space of 105 cm (3.5') should be maintained in order to have easy access during an emergency.
- Adequate working space should be provided around electrical equipment which require adjustment or examination during operation.
- As far as possible electrical switches should be excluded from a place where there is danger of explosion. All electrical equipment such as motors, switches and lighting installed in work room where there is possibility of explosion hazard should be explosion proof type approved by CMRS, Dhanbad.
- After installation of new electric system and/or other extensive alterations to existing installations, an Electrical Engineer-in-Charge before the new system should make thorough inspection or new extension is put in use.

### B. Operation & Maintenance:

- A person who works with electrical installation / equipment should be aware of the electrical hazards, use of protective devices and safe operational procedures. They should be given training in fire-fighting, first aid and artificial resuscitation techniques.
- The supervisor should instruct in the proper procedure, specify and enforce the use of necessary protective equipment such as adequately insulated pliers, screw drivers, fuse pullers and similar hand tools. Only wooden ladders should be used to reach the heights in electrical work.
- Before any maintenance work is commenced on electrical installation / equipment the circuits should be de-energised and ascertained to be dead by positive test with an approved voltage testing device. Switches should be tagged or the fuse holders withdrawn before starting the work.
- Adequate precautions should be taken in two important aspects that there shall be no danger from any adjacent live part and that there shall be no



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chances of re-energisation of the equipment on which the persons are working.

- While working or near a circuit, whenever possible the use of only one hand should be practised even though the circuit is supposed to be dead. The other hand may preferably be kept in pocket.
- When it is necessary to touch electrical equipment (for example when checking for overload or motors) back of the hand may be used. Thus, if accidental shock were to cause muscular contractions, one should not 'freeze' to the conductor.
- Operation of electrical equipment should be avoided when standing on wet floor or when hands are wet.
- Before blown fuses are replaced, the circuit, should be locked out and investigations should be made for the cause of the short-circuit or overload.
- Pliers, screw drivers, testing lights and other tools for the work should be adequately insulated for voltage involved.
- When two persons are working within reach of each other, they should never work on different phases of the supply.
- When structural repairs, modification or painting works are undertaken, appropriate measures should be taken for the protection of persons where work may bring them into the proximity of live equipment I circuit.
- Temporary electrical connections should be removed as soon as the stipulated work is over.
- An insulation resistance test should be carried out every time an equipment is connected back after alterations or repair. Also, insulation resistance tests (meggar tests) should be made periodically and significantly low readings or sudden changes should be carefully investigated. Outside installations which are exposed to weather should be tested more frequently.
- It should be ensured that no extension boards are over loaded while tapping. Only standard three pin plugs should be used for tapping electricity. Broken sockets I plugs should be replaced immediately with good ones. Joint free cables only should be used for connecting equipment I apparatus.
- Floors should be kept free from trailing electrical cables to avoid tripping hazard.

### C. Portable Electrical Equipment:



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- Portable electrical equipment should be regularly examined, tested and maintained to ensure that the equipment and its loads are in good order.
- All portable appliances should be provided with a three pin plugs. It should be ensured that the metal part of the equipment should be effectively earthed.
- Bare wire should not be used for tapping electricity
  - a) It should be ensured that the insulation and wire size of extension cords are adequate for the voltage and current to be carried.
  - b) All loose wiring such as trailing and flexible cables for portable lamps, tools and apparatus should be regularly examined.

#### D. General Safety Procedure:

- It should be ensured that power supply to equipment is disconnected before any repair work is undertaken.
- Insulated tools shall be used for working on electrical equipment.
- At building constructional sites, helmets and safety shoes shall be used.
- In case of an accident, the security staff on duty shall be informed immediately. The Engineer-in-Charge, Electrical Engineer-in-Charge, Safety Co-ordinator of the Project, Administrative Officer of the Project and BARC, Mysore dispensary shall also be informed.
- In case of an electrical accident a report should also be sent to the Electrical Inspector, on prescribed proforma, under intimation to the Electrical Engineer-in-Charge and the Engineer-in-Charge. Also, resuscitator may be used.
- In case of fire hazard, BARC- EIC shall also be informed immediately.
- The contractor shall keep a first aid kit at site.
- In case of working at a high elevation either safety belts shall be used or railing/enclosure shall be provided around the working platform/Cage/ladder etc.
- Ropes, shackles, chains, slings etc. to be used (specially for use of tying the scaffolding etc.) shall be periodically checked for integrity and mechanical soundness and corrected by replacement.
- All safety procedures and practices as informed by Department should be followed.

17. Removal of Workmen and Supervisory Staff: The contractor shall employ only individuals who are careful, skilled, and experienced in their respective trades for the



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execution of the work. The Engineer-in-Charge reserves the right to object to and require the contractor to remove any person employed by the contractor if, in the opinion of the Engineer-in-Charge, that person is misconducting themselves, is incompetent, or is negligent in the proper performance of their duties. Such individuals shall not be re-employed on the work without the Engineer-in-Charge's permission.

18. Schedule of Quantities: A schedule of probable quantities in respect of the work and specification is enclosed. The schedule of probable quantities is liable to alterations by omission, deduction or additions at the discretion of the Engineer-in-Charge.
19. Tender Rates: All tendered rates shall be inclusive of all taxes, duties, levy or cess, fee, royalty charges etc. levied under any statute **but exclusive of GST (Good and Services Tax), as applicable on the last date of online submission of the tender including extensions, if any.**

Unless otherwise stated in the schedule of quantities, rates for all items shall be for the complete work including supply tools, tackles, machineries, labour fixing of all materials etc.

The contractor, when called for by the Department, should furnish detailed analysis in support of the rates quoted by him against each item of the tender. The Department reserves the right to utilize the analysis thus supplied in settling any deviations or claims arising on this contract.

20. Supply of materials: Materials stated in Schedule 'A' will be issued by department depending upon availability as indicated in Schedule 'A'.
21. Withdrawal of Tender: The tender should be valid for the validity period mentioned in the NIT. Should the tenderer withdraw or modify his tender within this validity period, his earnest money deposit will be liable for forfeiture.
22. Measurements: Where mode of measurements is not specified the measurements will be taken at site as per latest IS Code of practice for measurements.  
The contractor or his representative shall accompany the Engineer-in-Charge or his representative when required to do and assist in taking measurements and shall agree to the measurements recorded on the spot.  
All measuring tapes shall be of steel and scaffolding and ladders that may be required for taking measurements shall be supplied by the contractor.  
If the contractor fails to accompany the Engineer-in-Charge or other persons who has been duly authorised by the Engineer-in-Charge to take measurements, then he shall be bound by the measurements recorded by the Engineer-in-Charge or his representative.
23. Samples: Samples of all the materials to be incorporated in the works shall be submitted to the Engineer-in-Charge for his approval without any extra cost. The approved samples will be kept with the Engineer-in-Charge the completion of work. Materials not conforming strictly to the samples are liable to be rejected.
24. Contractor's Staff: The tenderer shall furnish along his tender the list of Engineer s and supervisory staff with their qualifications and experience he proposes to employ for execution of the work covered by this contract.

25. Deleted.

26. One copy of the drawings to be kept at the Site: The contractor shall keep one copy of each drawing at the site. These copies shall be made available for inspection and use by the Engineer-in-Charge and any other persons authorized by the Engineer-in-Charge at all reasonable times.



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27. Proper Drawings and Instructions: The Engineer-in-Charge shall have full powers and authority to supply to the contractor from time to time during progress of the work such further drawings and instructions as shall be necessary for the purpose of proper adequate execution and maintenance of the work and the contractor shall carry out the work and be bound by the same.
28. Work to The Satisfaction of The Engineer-in-Charge: Save in so far as it is legally or physically impossible the contractor shall examine and complete and maintain the works in strict accordance with the entire satisfaction of the Engineer-in-Charge and shall comply with and adhere strictly to the instructions and directions of Engineer-in-Charge on any important matter concerning the work. The contractor shall take instructions and directions only from the Engineer-in-Charge or his authorised representative.
29. Watching and Lighting: The contractor shall in connection with the works provide and maintain at his own cost all lights, guards, fencing and watching and duly constituted authority for the protection of the workers or for safety and convenience of the public or otherwise.
30. Care of Work: From the commencement to the completion of works, the contractor shall take responsibility for the care thereof and all temporary works and in case any damage, loss or injury shall happen to the works from any cause whatsoever at his own cost repair and make good the same so that on completion, the works shall be in good order and condition and in the conformity in every respect with the requirements of the contract and the Engineer-in-Charge's instructions.
31. Giving of Notices and Payment of Fees:
  - a) The contractor shall give notices and pay all fees required to be given or paid by any National / or State Statute Ordinance or other laws or any Regulations of Bye-Laws or any local or other duly constituted authority in relation to the execution of the works or of any temporary works any by the rules and regulation of all public bodies and companies whose property or rights are affected or may be affected in any way of the works or any temporary works. All quarry fees, royalties, octroi duties including town duty and ground rent for stacking materials, if any should be paid by the contractor. If refunds of such payments are however, admissible in respect of Government contracts under the rules of municipal or local authorities the contractor may obtain such refunds by following the prescribed procedures laid down by those quantities. The assistance of Bhabha Atomic Research Centre shall be in such cases, be restricted only to the extent of issue of a certificate that materials so imported have become the property of Government in Bhabha Atomic Research Centre. The contractor shall be entitled to such refunds whatsoever so obtained and should take this into account while quoting his rate in the tender.
  - b) The contractor shall confirm in all respect with the provision of such statute, ordinance or law as aforesaid and the Regulations or by laws of any local or other duly constituted authority indemnified against all penalties and liability of every kind of breach of such statute, ordinance or law regulations or bye-laws.
32. Access to Site: The Engineer-in-Charge and any persons authorized by him shall at all times have access to the works and to the site and to all workshops and places where is being prepared or where materials, manufactured articles, or a machinery are being obtained for the works and the contractor shall afford every facility for and every assistance in obtaining the right to such access.



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33. Plant etc. to be exclusive use for the work: All painting equipment scaffolding ladders and materials provided by the contractors shall when brought on to site to be deemed to be exclusively/intended for the construction and completion of the works, and the contractor shall not remove the same or any part thereof (save for the purpose of moving it from one part of the site to another) without the consent in writing of the Engineer-in-charge such shall not be unreasonably withheld.
34. Department Not Liable for Damages to Plant etc.:
  - a) The Department shall not at any time be liable for the loss of or injury to any of the said construction plant and temporary work of materials.
  - b) If any plant or equipment or machinery purchased out of advances taken from the Department, such plant, equipment or machinery shall have to be issue by the contractor at least to the extent of such advance and pledged in the name of the Department until all such advances shall have been paid to the Department.
35. Urgent repairs: If by reason of any accident or failure or other event occurring to, in connection with the works or any part thereof either during the period of maintenance any remedial or other work on repair shall in the opinion of the Engineer-in-charge be urgently necessary for security and the contractor is unable or unwilling, Engineer-in-charge at once to do his own or other workmen to such work or repair as may consider necessary. If the work or repair so done is work which in the opinion of the Engineer-in-charge, the contractor was liable to do at his own expenses under the contract, all the costs and charge properly incurred by the Engineer-in-charge in doing so, shall on demand, be paid by contractor or may be deducted from any moneys due to which may become due to the Contractor provided always that the Engineer-in-charge shall be soon after the occurrence of any such emergency as may be reasonably practicable notify the contractor thereof in writing.
36. CONTRACTOR' MACHINERY. PLANT & EOUIPMENTS: The tenderer shall furnish with the tender a list of plant and equipment that he proposes to bring to site at his own cost for the execution of the work, to enable Government to assess his mode of execution of work.
37. Supply of construction drawings will be phased by the Department to suit the time schedule exposed hereinafter. In case of delay in supply of drawings, the contractor will be eligible for suitable extension of time only, in the event such a delay has, in the opinion of the Engineer-in-charge, whose decision shall be final, affected the progress.
38. The contractor shall at his own cost, install, run and maintain a weigh batching plant and, if required a refrigeration plant for supplying concrete of the specified quality for different parts of the work covered by this tender.
39. The contractor may be allowed to carry out work in shifts with the prior approval of the Engineer-in-charge.
40. The tenderers are required to note that as specified under Clause 19 & 45 of Conditions of Contract, the contractor has to comply with the provisions of the "Contract: Labour" (Regulation and Abolition) Act 1970 and rules contract labour (R&A) central Rules 1971, child labour (Prohibition & Regulation) Act 1986 and with the provisions of building and other construction workers (Regulation of Employment and conditions of service) Act 1996 and building and other construction workers welfare cess Act 1986 orders issued there under from time to time. As per para v(a) under Clause 25 of said act and central rules, it is obligatory on the part of the contractor to pay wages to all. "the labour employed by him on the work at the same rates of wages as fixed by the Principal Employees (in this



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case BARC) in respect of labour directly engaged by the Principal Employer in the vicinity.

41. Deleted

42. Government Labour Acts / laws: The contractor has to follow strictly the Government Labour Acts, which are in force at present and introduced from time to time, such as, Acts enforced by Regional Provident Fund Commissioner, Directorate of ESIS and Enforcement Officer of Contract Labour Act, and all necessary arrangement for labour, security insurance will have to be made by the Contractor at his own cost.

43. Deleted

44. Security Regulations: (i) The contractor has to follow strictly the security regulations prevailing in BARC from time to time especially in regard to working hours, movement of materials and entry permits. The security regulations in vogue are broadly as under:

- a) The contractor shall make applications to the Engineer-in-Charge every day for issue of entry permits, photo passes for casual labourers to be deployed on the works.
- b) On recommendation by the Engineer-in-Charge, the contractor shall collect the required number of tokens from the security Department and distribute the same among the authorised labour force, He shall also be responsible for accounting and surrendering of tokens issued by the Security department at the end of day's work. The tokens can be used only for short duration in the morning hours. In the event of loss or misplacement of tokens/ vigil passes fee of Rs. 200/-for first instance/ Rs. 500/-for second instance/ Rs. 1000/-for third instance per token or as in vogue at time to time on the basis of police complaint will be levied.
- c) The contractor shall make an application for the photo passes to be issued by the Security Department for his regular supervisory staff.
- d) No persons other than those holding tokens or photo passes shall be normally be permitted to enter work site. In case, the contractor desires to bring any other personnel to the work site he shall obtain permission of Security Department well in advance through Engineer-in-Charge.
- e) All materials and articles brought by the contractor to the work site shall have to be declared at the security gate. Similarly, no materials shall be taken out from the Department premises without proper gate pass, which will be issued by the Engineer-in-Charge to the contractors on written request. It is to be noted that loading of contractor's materials in vehicles and trucks shall be done in the presence of Department personnel. The contractor's representative will have to escort the materials till the security check is over.
- f) For working on Saturdays, Sundays, Holidays and late hours even through permission will be accorded by the Engineer-in-Charge, the contractor will have to make application to the Security Department also and keep them informed well in advance.

Any breach of above security regulations and rules in force from time to time will be viewed seriously.

45. Information regarding accidents: The contractor is also to promptly report the case(s) of the accident(s) involving injuries to his worker(s) to the local Security Post / Security Officer.

46. The contractor, his employees and agents shall not disclose any information or drawings furnished to him by Government. All drawings, reports and other information prepared by the contractor/by the Government or jointly by both for the execution of the contract shall



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not be disclosed without the prior approval of the Engineer-in-Charge. No photograph of the works or plant within the premises shall be taken without the prior approval of the Engineer-in-Charge.

47. Verification of Credentials of Contractor's/Sub-contract's Personnel:

- a) Contractors, their employees, workers and casual labourers:
  - i. It will be the responsibility of the contractor to produce Character certificate for himself and his employees / workers before seeking permission for entry into BARC area. Contractor shall give ID card to all employees working inside BARC.
  - ii. The contractor shall employ labourers only after due verification of their credentials and track of past record. They should maintain a register showing the particulars of labourers including their residential address and submit the same to the Project Engineer periodically for verification. The contractor shall ensure that no labourer with criminal record in the past, is employed on BARC works. If any labourer with undesirable antecedents is found to be employed, the contractor shall forthwith remove such labourers from the work site on demand by the Project Engineer. The contractor shall be held solely responsible in the event of any adverse report / enquiry from the law enforcing authorities. Contractor shall give ID card to all labourers working inside BARC.
  - iii. It will be mandatory on the part of the Tenderer to provide Character Certificate for their Engineers, Supervisors and authorised representative, - who are authorised to draw tokens/passes - for day today works inside BARC Campus.
- b) Representatives of firms:

Representatives of firms who are required to visit BARC for supplying materials will not be issued with identity cards. They will be given entry by issuing entry permission on day to day basis.

48. Security Regulations: (ii) As a part of keeping Nation-wide vigil on Government Establishments, the Security set up in BARC also has been beefed up and accordingly the following restrictions are in force till further orders.

- a) Any motor vehicle with or without any construction related materials will be given an entry permit to BARC premises after convincing the purpose of entry, if and only if it is; accompanied by an authorised departmental employee throughout its movement within the premises.
- b) The movement of contractor's Vehicle within BARC premises is restricted and normally one specified vehicle will be permitted for his personal movement at the discretion of the Project Engineer during the contract period after thorough security verification. The contractor has to apply for such vehicle permit to the department through the Project Engineer- in the standard proforma, after receiving the Work Order.
- c) Each Labourer has to give his/her bio-data in the standard proforma to the Department for obtaining the labour entry pass and normally such an entry pass will be issued only after a thorough verification of the bio-data.
- d) The Department will make every possible arrangement to minimise the inconvenience to the contractor from security point of view. However, due to any unforeseen reasons, any delay, inconvenience or loss occurred to the contractor no claim for compensation whatsoever in nature shall be entertained by the Department.
- e) Contractor has to take separate written permission for labours & vehicles for working on holidays in advance from the BARC security/ EIC.



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- f) The above additional regulations are indicated only to make aware the contractor about the latest security set up in BARC premises.
49. Confidentiality Clauses:
- i. Confidentiality:  
No party shall disclose any information to any Third party' concerning the matters under this contract generally. In particular, any information identified as " Proprietary" in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party.  
This clause shall apply to the sub-contractors, consultants, advisors or the employees engaged by a party with equal force.
  - ii. "Restricted information" categories under Section 18 of the Atomic Energy Act, 1962 and "Official Secrets" Under Section 5 of the Official Secrets Act, 1923:  
Any contravention of the above-mentioned provisions by any contractor, sub-contractor, consultant, adviser or the employees of a contractor, will invite penal consequences under the above said legislation.
  - iii. Prohibition against use of BARC's name without permission for publicity purposes  
The contractor or Sub-contractor, consultant, adviser or the employees engaged by the contractor shall not use BARC's name for any publicity purpose through any public media like press, Radio, TV or internet without the prior written approval of BARC.
50. Statement of Wages: As per the minimum wages circular issued by Ministry of Labour & Employment, applicable on the last date of submission of tender.
51. Provisions Under Contract Labour (Regulation & Abolition) Act 1970 Required to be Fulfilled by Contractors.
- a) Every Contractor employing Twenty (20) or more workmen on any day should obtain license from Asst. Labour Commissioner, Bangalore or from the required place. They should also obtain Registration under BOCW Act if they are engaged in construction activities. (Rule 12).
  - b) Every Civil Contractor employing 10 or more workmen should obtain a Registration under Building and Other Construction Workers Act from Asst. Labour Commissioner, Bangalore.
  - c) Notice of commencement of contract work should be given to Labour Enforcement Officer by the Contractor in from VI-A. [Rule 1(3)].
  - d) Notice of completion of contract work should be given to Labour Enforcement Officer by the Contractor in Form VI-A. [Rule 81(3)].
  - e) Notices showing rates of wages, hours of work, wage periods, date of payment of wages, date of payment of unpaid wages, names and addresses of Inspections in English, Hindi and in local language should be displayed at Work Site. [Rule 81 (i) (i)].
  - f) A copy of the above Notice is to be sent to Labour Enforcement Officer.
  - g) Maintain a Register of workmen in Form XIII. (Rule 74).
  - h) Issue Employment Card to workmen in Form XIV. (Rule 76).
  - i) Issue a Service Certificate to workmen in Form XV on termination of employment for any reason whatsoever. (Rule 77).
  - j) Maintain Muster Roll of Workmen in Form XVI. [Rule 78 (1) (a) (i)].
  - k) Maintain Register of wages in Form XVII. Contractors may maintain a Combined Register of Wages-cum-Muster Roll, if the wage period is a fortnight or less.



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- l) Provide Wage slip to workmen in Form XIX. [Rule 78 (1) (b)].
- m) Maintain a Register of Deduction for Damage/ Loss in Form XX. [Rule 78 (1) (a) (ii)].
- n) Maintain a Register of Fines in Form XXI. [Rule 78 (1) (a) (ii)].
- o) Maintain a Register of Advances in Form XXII. [Rule 78 (1) (a) (ii)].
- p) Maintain a Register of Overtime in Form XXII. [Rule 78 (1) (a) (iii)].
- q) Send Half Yearly Return in Form XXIV to ALC/ LEO. [Rule 82 (1»)].
- r) A first Aid Box with essential medical items to be maintained. (Rule 58).
- s) Every contractor should ensure disbursement of wages to his workmen in the presence of authorized representative of BARC. (Rule 72).
- t) Every contractor shall display an abstract of the Act and Rules in English, Hindi and in the language spoken by the majority of the workers. (Rule 79).

52. Contract Price: In consideration of the work, supply and services to be executed/made/performed by the Contractor as per Scope of work and for any other obligations to be met by the Contractor under the contract, the Owner shall pay to the Contractor an estimated Contract Price as stated below

Rs.....

(Rupees.....)

The Contract Price as stated in this Clause has been arrived at based on the quantities and the rates as stated in schedule of items quantities of this Agreement. The Contract Price to be paid to the Contractor shall be adjusted based on the actual quantity installed under various items of work as per the schedule of items / quantities and the unit rates as agreed against those items of works. Any item supplied excess shall be taken back by the contractor.

The rates quoted in the tender shall include all charges for clearing of site before commencement as well as after completion, water, electric consumption meters, double scaffolding, shuttering, boxing, staging, planking, timbering and pumping out water including bailing, fencing, hoarding, plant and equipment, storage sheds, watching and lighting, by night as well as day including Sundays and Holidays temporary plumbing and electric supply, protection of the public and safety of adjacent roads, streets, cellars, pavements, walls, houses, buildings and all other installations, matters or things and the Contractor shall take down and remove any or all such shuttering, scaffolding, staging, planking, timbering, strutting, shoring etc., as occasion shall require or when ordered so to do, and fully reinstate and make good all matters and things disturbed during the execution of work and to the satisfaction of the Department. The rate quoted shall be deemed to be for the finished work to be measured at site. The rate quoted shall also be firm irrespective of any variation in quantities of items given in the schedule of items.

53. Terms of payment: As per SOQ/ Conditions of Contract/ Specifications. Any other special payments shall be mentioned in Proforma of Schedules.

54. Insurance:

- a) Contractor's All Risk Policy (This provision shall be applicable only when so provided in Proforma of Schedules): The contractor shall obtain CAR policy for the contract value valid for the contract period including extensions if any, from a nationalized insurance company.



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- b) The contractor should ensure that all their employees / workers/ labours working inside the BARC premises are covered either under Employees Compensation Insurance Policy/ Group Insurance/ Personal Insurance Policy or ESIC for the contract period including extensions if any. This clause is also applicable to the Sub-Contractor's employees / workers/ labours working inside the BARC premises.
55. Deduction from contract price: The Contractor shall reimburse to the BARC all costs, charges, damages or expenses which the BARC may have paid or incurred and to the extent to which the Contractor is liable under this Contract to pay within 30 days up on written request from the BARC, failing which such costs, charges, damages or expenses shall be deducted by the BARC from any money due or becoming due by him to the Contractor under this Contract or any other Contract failing which such amounts shall be considered as debt due from the Contractor to the BARC and shall be recoverable accordingly.
56. Approval by the BARC:
- Drawings and documents as per technical specification shall be submitted by the contractor and shall be subject to the approval/review of the BARC. All changes from the agreed specifications / drawings shall be subject to the approval of the BARC.
  - All sub-contractors hired for design and engineering, manufacture, supplies and any other work/services covered under the Contract shall be subject to prior written approval of the BARC.
  - While the contractor shall make/execute / perform supplies, work and services in terms of the Contract, the BARC shall have the right to check and approve design, type, quality, quantity, materials and workmanship of any or all items of supplies, work and services where considered necessary by the BARC to ensure that supplies, work and services made/executed/ performed by the contractor are in accordance with the provisions of this Contract.
  - To enable the BARC to accord approval/review, the contractor shall submit back-up data/calculations /assumptions as may be required by the BARC.
  - Where approval of the BARC is necessary or implied but is not specifically provided for elsewhere in this Contract, such approval shall also come within the purview of this contract.
  - Approval by the BARC in terms of this schedule shall not relieve the contractor of his obligations under this Contract.
57. Sub-Contracting: (This provision shall be applicable only when so provided in Proforma of Schedules.)
- The contractor shall not sub-contract the Contract Work in whole to third parties for the performance of this Contract.
  - The contractor may sub-contract a portion (s) of the Contract Work as indicated in Proforma of Schedules to third parties with the prior written approval of the BARC. The contractor shall furnish full particulars about the proposed Subcontractor(s) and the details of the work to the BARC while seeking such approval.
  - The contractor shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the competent authority. (Refer Orders "Public Procurement No.1", "Public Procurement No. 2", "Public Procurement No. 3" and "Public Procurement No. 4"



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issued by Public Procurement Division, Department of Expenditure, ministry of Finance, Government of India their amendments/addendum from time to time.)

- d) BARC shall give approval or shall refuse approval in writing within 30 days of receipt of request along with all supporting details. Contractor shall have alternate arrangement in case BARC rejects sub-contractors listed by the contractor.
  - e) The sub-contractor approved by BARC shall not be changed by the contractor during execution of the work. However, if change is warranted the contractor may do so, with permission of Engineer-in-charge.
  - f) Bought out items, critical components, proprietary items and equipment manufactured and supplied by specialized manufacturers which the contractor intends to incorporate in the Contract Work shall not come within the purview of the provision. The decision of Engineer-in-Charge with regards to the procurement of bought out items, critical components, proprietary items and equipment manufactured and supplied by specialized manufacturers shall be final and binding on the contractor.
  - g) In case of sub-contracting, the contractor shall hire the services of manufacturer's installation/commissioning personnel for supervision of installation / commissioning, testing and commissioning of the equipment supplied by them.
  - h) The approval extended by the BARC to Subcontractors recommended by the contractor shall not discharge the contractor from the Contract obligations. The contractor shall remain solely liable for any action, deficiency, and/or negligence on the part of his Subcontractors.
  - i) In the event certain obligations extended by a Subcontractor/ manufacturer to the contractor are extended beyond the guarantee period specified in the Contract, the BARC shall automatically be entitled to the benefit thereof.
  - j) In no event shall the BARC be deemed to have any Contract obligations whatsoever in respect of contractor's Subcontractors and/or title-holders of any sub-orders placed by him.
  - k) Engagements of labour on a piece work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting/ Sub-Contracting.
  - l) It shall be the responsibility of contractor to sort out any dispute / litigation with the Subcontractors without any time & cost overrun to the BARC. The contractor shall be solely responsible for settling any dispute / litigation arising out of his agreement with the Subcontractors. The contractor shall ensure that the work shall not suffer on account of litigation/ dispute between him and the Subcontractors. No claim of hindrance in the work shall be entertained from the Contractor on this account. No extension of time shall be granted and no claim what so ever, of any kind, shall be entertained from the Contractor on account of delay attributable to the selection/rejection of the Subcontractors or any dispute amongst them.
58. Secrecy:
- a) All maps, plans, drawings, specifications, schemes and the subject matter contained therein and all other information given to the contractor by the BARC in connection with the performance of the Contract Work shall be held confidential by the contractor and shall remain the property of the BARC and shall not be used or disclosed to third parties by the contractor for any purpose other than for which they have been supplied or prepared. The contractor may disclose to third parties, upon execution of secrecy agreements satisfactory to the BARC, such part of the drawings, specifications or information, if such disclosure is necessary for the performance of the Work.



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- b) The contractor shall follow at site all security rules as framed by the Department from time to time regarding removal of material from site, issue of identity cards, control of entry of personnel, and all similar matters. The contractor and his personnel shall abide by all security measures imposed by the Engineer-in-Charge or his duly authorized representative from time to time.
59. Rejection of Defective plant:
- a) If the completed plant or any portion thereof, before it is accepted or taken over, be defective or fails to fulfill the requirements of the Contract, the BARC shall give the contractor notice setting forth particulars of such defects or failure and the contractor shall forthwith make the defective plant good or alter the same to make it comply with the requirements of the Contract. Should he fail to do so within a reasonable time, the BARC may reject and replace at the risk and cost of the contractor, the whole or any portion of the plant, as the case may be, which is defective or fails to fulfill the requirements of the Contract. However, such rejection/replacement by the BARC shall not absolve the contractor of his responsibilities under this Contract.
- b) In the event of such rejection, the BARC shall be entitled to the use the plant in a reasonable and proper manner for a time reasonably sufficient to enable him to obtain other replacement plant.
60. During defect liability period/ Guarantee / Warranty:
- a) For a period of twelve (12) calendar months (Six (6) months in the case of work costing Rs. 10,00,000/- (Rs. Ten Lakhs) and below except road work) from the date of issue of completion certificate,
- b) The contractor shall be responsible for all the defects and deficiencies in the work within the scope of this contract, during the defect liability period. The liability of contractor for defects and deficiencies may arise due to:
- Improper planning and design of the project, if planning and design is in the scope of contract.
  - Works, Tools, Plant & Machinery, Materials or Workmanship not being in accordance with this contract.
  - Improper upkeep & maintenance during construction of the work.
  - Improper upkeep, operation and/or maintenance during defect liability period, if these are in the scope of this contract.
  - Failure by the contractor to comply with any other obligation under this contract.
- c) Such defects and deficiencies shall be made good by the contractor at his own cost after getting instructions/notice from the Engineer-in-Charge within the time period specified in such instructions/notice. However, contractor need not wait for instructions/notice from Engineer-in-Charge for rectification of defects in work which come to his notice and he should initiate action for needful rectification of defect on priority, under intimation to Engineer-in-Charge, to avoid any untoward incident.
- d) Methodology for rectification of defects: The design, methodology and quality of rectification of defects carried out by the contractor shall be as per sound engineering practice and shall be approved by Engineer-in-Charge. The decision of Engineer-in-Charge shall be final and binding on the Contractor.



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- e) During defect liability period the contractor shall be liable to replace any parts that may fail or show signs of defects in parts of his own manufacture or those of his Sub-contractors under the conditions as per the Contract and under normal use and arising from faulty designs, materials or workmanship or installation or from any act of omission of the contractor.
- f) All such replacements of defective parts mentioned above shall be made free of cost at site by the contractor and the return of the defective parts to the contractor's works shall be contractor's responsibility and shall be made at his expense. The BARC will however, render such assistance in this matter as will expedite the same. In the case of defective parts not repairable at site but essential in the meantime for the commercial use of the plant, the contractor shall replace at site but free of cost to the BARC the said defective parts, before the defective parts are removed to his works.
- g) Manufacturer's Guarantee / Mechanical Guarantee.
- i. All manufacturers' guarantees for all bought out items / equipment /instruments etc. shall be made available to BARC and shall be valid for the entire defect liability period. If such guarantees are not issued by the manufacturer, the contractor shall guarantee the bought-out items for the entire defect liability period along with his guarantee for the Civil works/ foundations as a whole.
  - ii. Contractor shall guarantee for the period as mentioned elsewhere in the tender document against defective performance of all equipment / instruments / mechanical /electrical parts under contractor's scope of supply. Any defects found in either materials or workmanship shall be rectified / replaced by the contractor at his own expense within the time specified by BARC.
  - iii. The contractor shall guarantee the performance of the foundations & related works to meet the specifications when tested in accordance codes / specification / Exhibits of Technical Documents of this tender.
- h) In the event that the contractor fails to repair or rectify the defect or deficiency within the period specified by the Engineer-in-Charge, the Engineer-in-Charge shall be entitled to get the same repaired, rectified or remedied at the contractor's cost and recover such amount from any dues like performance guarantee, security deposits etc. available with Engineer-in-Charge. Engineer-in-Charge may take action for debarment of contractor from tendering in the department by following due process. For inaction or failure to rectify the defects (mentioned above) within specified time limit, the Engineer-in-Charge may also initiate legal and/or other actions under other applicable laws in addition to other remedies available in the contract.
61. Rights of BARC to vary or cancel the contract:
- a) The BARC shall have the right, during the performance of the Contract, to make changes in the specifications as may be necessary or desirable subsequent to issue of the order or include extra work resulting from final design changes and miscellaneous modifications. It is obligatory on the part of the Contractor to carry out the changes/ extra work.
  - b) Prior to commencement of any extra work or additional work involving possible claim by the Contractor; additional claim(s) if any, over and above the Contract price, shall be submitted to the BARC with detailed estimate in writing, and approval of BARC shall be obtained by providing all other information / documents



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- as may be needed/ requisitioned for substantiating such work. In Estimate/ rate analysis material & labour components shall be as per CPWD schedule of rates.
- c) Any amount to be allowed in respect of any variation and/ or alteration of the contract work effected by the BARC under this article shall be added to or deducted from the Contract Price as the case may be.
- d) The contractor shall not change any works to be made pursuant to this Contract except as may become necessary to enable him to meet his technical obligations under this Contract, provided however that such changes shall be subject to prior written approval of the BARC.
- e) If any changes are required for completeness of the work or the contractor himself changes as per above article, the contractor shall not be entitled to extra price or time.
- f) Any change/modification required by the BARC to correct defective workmanship, non-standard installation and non-compliance of statutory regulation by the contractor, shall be undertaken free of cost by the contractor within the time schedule. For such modification the contractor shall take prior approval of the BARC and shall furnish the revised drawing/corrected print after carrying out the modification. All modifications shall also be incorporated in as-built drawings.
- g) In the event that a change should affect the guarantees of the process/system, a readjustment of such guarantees shall be agreed upon jointly.
- h) BARC shall have further power to cancel the Contract if
- The contractor is not executing the order in accordance or as specified in the Contract.
  - The Contractor is not adhering to the phased program as agreed to or the Contractor is not proceeding fast enough to ensure completion by the time stipulated in the contract or that such time has already expired.
  - The Contractor has refused to carry out reasonable instructions of the BARC for the execution of the work.
  - The Contractor has committed any breach of Contract, BARC may at the cost of the Contractor and without prejudice to any other right of his,
    - ❖ perform himself such portion of the contract to which Contractor has failed to execute, or
    - ❖ take the Contract wholly or in part out of the Contractor and re-contract to any party, or
    - ❖ Cancel the contract.
62. In the event that the contractor fails perform their obligations under the contract, Engineer-in-Charge may take action for debarment of contractor from tendering in the BARC/DAE by following due process.
63. The contract shall intimate the Engineer-in-charge, in case he has been blacklisted/ debarred by any Govt. Department/Public sector undertaking/ entity/ authority / agency during the contract period including extensions if any.
64. Language: All documents, instructions, catalogues, brochures pamphlets, design data, norms and calculations, drawings, operation, maintenance and safety manuals, reports, labels, on deliveries, and any other data shall be in English Language.
65. Inspection and Tests at contractor's premises: Inspection and tests shall be carried out as per approved Quality Assurance Plan (QAP), which shall be based on technical



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specifications of this tender document. Various stages of inspection and testing shall be identified after receipt of detail Quality Assurance Plan / Inspection Test Plan from the contractor / manufacturer.

- a) The Engineer-in-Charge shall have the right to inspect and test the contract work or any part thereof at any reasonable time during the manufacture by himself or his authorized representative/agency. On demand from the Engineer-in-Charge, the contractor shall carry out such tests appropriately in the presence of the Engineer-in-Charge and at no charge to BARC/Inspection Agency. If a part of the plant is manufactured not on the contractor's own premises but on other premises, the contractor shall obtain permission for BARC to inspect and test the work as if the said plant were being manufactured on the contractor's premises. The inspection, examination, or testing carried out by the Engineer-in-Charge/Inspection Agency shall not relieve the contractor of any of his obligations under this Contract.
- b) The inspection and tests shall be so conducted as not to unreasonably impede the progress of manufacture.
- c) Contractor shall abide by all inspection procedures as per Technical Specification.
- d) BARC reserves the right to inspect the job at any point of time with respect to quality, progress, safety, quantity measurements. The contractor shall bear all costs of any and all inspections and tests and extend all such facilities to the BARC or his authorized representative to accomplish the same. The contractor / sub - contractor shall provide all instruments, tools, necessary testing and other inspection facilities to inspection engineer of BARC free of cost for carrying out inspection.
- e) Where special tests in addition to agreed tests are required by the BARC, the contractor shall bear the cost of the testing only if such special test proves that the equipment is not in accordance with the specifications.
- f) The contractor shall ensure full and free access to the inspection engineer of BARC at the contractor's or their sub-contractor's premises at any time during contract period to facilitate him to carry out inspection and testing assignments without any extra cost.
- g) All drawings, general arrangement and other contract drawings, specifications, catalogues etc. pertaining to equipment offered for inspection shall be got approved by BARC and copies shall be made available to BARC beforehand for undertaking inspection.
- h) The contractor shall carry out all instructions given during inspection and shall ensure that the work is being carried out according to the technical specifications of tender document.
- i) BARC upon giving 7 days' notice in writing and stating any grounds of objection, shall have the right to reject any or all equipment or demand rectification or replacement thereof.
- j) The contractor shall give BARC a minimum of three weeks clear notice of any work being ready for inspection and testing, specifying the period likely to be required for such inspection and testing. Thereafter, BARC or its inspector shall (unless inspection or test is voluntarily waived) on giving 7 (seven) days prior notice in writing to the contractor, attend at the contractor's or his subcontractor's premises for such inspection and testing. Should the BARC so instruct the contractor, the contractor shall proceed with the inspection and testing, without BARC's presence, which shall be deemed to have been made in BARC's presence. The proforma for the inspection certificate shall be approved by BARC.



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- k) When the tests have been satisfactorily completed at the contractor's or sub-contractor's premises, the BARC shall issue inspection certificate accordingly. Six copies of Inspection certificates complete with corresponding documents as per approved QAP shall be submitted to BARC for distribution.
  - l) If Test Certificates submitted by contractor are not satisfactory, material testing shall be carried out by contractor and Laboratory Test Reports shall be submitted for confirmation of specification requirements at no extra cost.
  - m) In case any inspection/test fails, re-inspection/ retest shall be carried out after necessary rectification/ replacement by the contractor.
  - n) No material / consumable shall be allowed to use without proper test certificates. No plant & equipment and material shall be shipped before inspection certificate and dispatch instructions have been issued by the BARC.
  - o) The satisfactory completion of inspection/test or issuance of the certificate by the BARC or his inspector/representative shall not discharge the contractor of his liability should the equipment on further inspection/ test during or after installation, be found not to comply with the requirement of the contract.
  - p) In the case of such plant & equipment, where tests set forth above cannot be conducted either partially or fully in contractor's premises but have to be conducted at site only after assembly/installation, the provisions under this article shall also apply. However, in such cases prior approval of the BARC shall be obtained by the contractor.
  - q) The contractor shall not offer any item for inspection in painted conditions unless otherwise agreed in writing with BARC.
  - r) The contractor shall ensure that the equipment / assemblies / component of the item required to be inspected are not assembled or dispatched before inspection.
  - s) The contractor shall ensure that the items once rejected by the BARC inspection engineer are not used in the subsequent works. Where parts rejected by BARC inspection engineer have been rectified or altered, such parts shall be segregated for separate inspection and approval, before being used in the work.
  - t) Where facilities for testing do not exist in the contractor's / sub-contractor's laboratories, samples and test pieces shall be drawn by the contractor/ sub-contractor in presence of Inspection Engineer of BARC and duly sealed by the latter and sent for tests in Government approved test house or any other testing laboratories approved by BARC Inspection Engineer at the contractor's cost.
  - u) The opinion of BARC on the mode of testing and interpretation of the results thereof shall be final and binding on the contractors and shall be without appeal.
  - v) Final Inspection: After completion of all tests as per specification, the whole work will be subject to a final inspection to ensure that job has been completed as per requirement. If any defect is noticed, the contractor will be notified by BARC, and he shall make good the defects with utmost speed. If, however, the contractor fails to attend to these defects within a reasonable time (time period shall be fixed by BARC) then BARC may have defects rectified at contractor's cost.
66. Safety:
- a) All equipment shall be complete with approved safety devices and with provision for safe access of personnel to and around the equipment for operation and maintenance. The design of plant & machinery shall include not only those usually furnished components but also the additional covers, stairways, ladders, steel structural platforms for operators control panels, handrails, partitions etc. which are necessary for safe



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operation of the plant. Wherever National Building Code (NBC) requirements are to be incorporated in the design the same shall be considered in the design even if it is not detailed in the specifications.

- b) The contractor must take sufficient care in moving his construction plants and equipment from one place to another so that those may not cause any damage to the property of the BARC / other contractors particularly to the overhead and underground cables and other service lines.
- c) When the work is carried out at night or in the obscure daylight, adequate flood lighting in the working area shall be made by contractor at his own cost and got approved by the BARC. All permissions from statutory bodies for working shall be obtained by the contractor.
- d) The safety posters/regulation for prevention of accidents shall be displayed by the contractor at appropriate places. Notices and warning signs shall be displayed for all sources of dangers.
- e) All electrical drives and equipment must be equipped with safety devices. The safety provisions shall conform to the recognized standards, safety codes and statutory regulations.
- f) All safety measures as required to be adopted as per the statutory regulations and the safety rules shall be strictly followed by the contractor during the execution of the Contract.
- g) Adequate number of first aid boxes shall be provided and maintained at work site.
- h) The following safety measures should be strictly adhered to during execution of works:
  - Providing the working platform with toe board and handrail for continuous working at heights.
  - Providing safety belt and life line at all times for men working at heights.
  - Providing dust or fume respirator in places where dust and fume concentration exists.
  - Providing goggles and welding screens.
  - Providing acid and alkali proof rubber gloves for handling acid and alkali and chemical which are corrosive.
  - Providing rubber gloves for working on electrical works.
  - Ensuring proper lashing and securing of the components while being transported in vehicles.
  - The vehicles must have side supports or have body to support the materials conveyed.
  - The materials should not be allowed to extend or overflow the sides of the vehicles.
  - Materials should not be allowed to overhang from the rear edge of the body of the vehicle.
  - Driver of the vehicle must possess license.
  - Vehicle must not be overloaded prescribed limits.
  - Red flags and lights for parts projecting from the body of vehicle must be provided.
  - The speed restrictions within the factory premises must be strictly adhered to.
  - The gas cylinders must be always handled on trolleys or kept tied down when not in use. They should never be rolled as roller for conveying.
  - Cylinders should not be used without regulators.
  - All excavations areas must be barricaded and safety/ caution tapes must be provided.
  - All electrical connections must be properly earthed.



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- No work should be taken up for execution inside shop floor, without obtaining necessary work permit.
- Providing helmet, safety belt, safety shoes etc., for high level work and sufficient number of Industrial Safety nets at appropriate level to safeguard the persons working at high level particularly in trusses, girders, roofing etc., of industrial and high roof buildings.
- The contractor should maintain a register regarding the driver license particulars.
- All personal protective equipment shall be issued to all workforce and shall be used as per standard industry practice.
- Providing helmet, safety belt, safety shoes etc., for high level work and sufficient number of Industrial Safety nets at appropriate level to safeguard the persons working at high level particularly in trusses, girders, roofing etc., of industrial and high roof buildings.
- Contractor including their sub-contractors, agents and labour engaged on the work are required to scrupulously adhere to the safety regulations, safety precautions and measures.
- Any violation thereof will invite punitive action being taken against them. Also, contractors with frequent violations of safety regulations will not be entrusted with further work in this organization.

i) Safety precautions to be observed while transporting materials:

i. Vehicle:

- Vehicles carrying material should have proper registration documents and must be produced on demand by our Security Staff.
- The light on right side, i.e., over the driver's cabin shall be in working condition.
- Both the head lights as well as park lamps must be in working conditions.
- The vehicles should have valid smoke emission test conducted before entering the BARC premises and should the same should be produced to security/safety personnel if required.

ii. Movement of vehicle:

- The vehicle should not travel at more than 20 kmph in our premises.
- The driver of the vehicle must possess heavy duty license and produce on demand by the Security Staff.
- Vehicles carrying inflammable liquids in the tank containers should have grounding chain or the tank should be coated with insulating material also to avoid Static Electricity.
- In road junctions and speed breakers the speed should be lowered and vehicle should proceed cautiously.
- The driving should 'KEEP TO THE LEFT' at all places.
- The vehicle should not be parked on road which could obstruct the vehicular traffic.
- The vehicle should pass only through the approved routes. Short cuts should be forbidden.
- There must be a safe distance behind another moving truck.
- The driver should avoid making quick starts, jerky stops or quick turns at excessive speed.

67. House Keeping:

- a) It is the responsibility of the contractor to maintain general cleanliness and proper housekeeping at work site. The contractor shall organize disposal of excavated



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- earth/garbage/ rubbish/ scrape, electrode butts etc. on day-to-day basis to identified disposal areas/safe areas as per BARC.
- b) All rubbish including muck and sludge, as it accumulates from time to time during the progress of the work and at completion, is to be cleared and carted away and all materials condemned by BARC shall be removed from site as and when required during the entire duration of the work.
  - c) The contractor shall dispose of the unserviceable materials, debris etc., to the earmarked area within / outside the premises as decided by BARC. No extra payment shall be paid on this account. Serviceable materials shall be stored in designate area separately after obtaining acknowledgement of BARC.
  - d) While transporting materials from site and disposal of surplus materials, the spilled-over materials / earth / debris etc. on the road should be got cleaned by the contractors after the day's work is over.
  - e) Contractor shall arrange to dispose of debris and any other waste product created while carrying out the work, outside BARC's premises. The contractor shall take due care while disposing of such waste materials and ensure that any rules/regulations laid down by local panchayat/ municipal corporation, BARC, or any other statutory Body are not violated. The contractor shall be responsible and answerable to any complaint arising out of improper disposal of wastage. Quoted rate shall involve the cost of same, and no extra payment shall be made towards this account.
  - f) The contractor should ensure proper awareness to workers to maintain a green and clean environment inside / outside the plant. The contractor must collect and dispose of all the waste and scrap materials at the designated place only as directed by Engineer - in - Charge.
68. Protection of Existing Facilities:
- a) The contractor will familiarize himself with and obtain information and details from BARC in respect of all existing structures, overhead lines, existing pipelines and utilities existing at the job site before commencing work. The contractor shall execute the work in such a manner that the said structures, utilities, pipelines etc. are not disturbed or damaged, and shall indemnify and keep indemnified BARC from and against any destruction, damages thereto. In case of any type of damages, contractor shall execute the replacement / rectification work free of cost.
  - b) Contractor shall obtain all safety clearance (viz. Excavation, Cold work permit, permit for working on heights) from BARC, as may be required from time to time, prior to start of work.
  - c) Despite all precautions, should any damage to any structure / utility etc. occur, the contractor shall contact Engineer-in-charge and contractor shall forthwith carry out repair at his expenses (restored to their original condition) under the direction and to the satisfaction of Engineer-in-charge.
69. Site Facilities: The contractor shall arrange for the following facilities at site, for workmen deployed/ engaged by him at his own cost:
- a) Arrangement for First Aid.
  - b) Arrangement for clean & potable drinking water.
  - c) A creche where 10 or more women workers are having children below the age of 6 years.
  - d) Any other facility/utility as may be required as per the existing laws.



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- e) In addition to above, all workmen working at heights and in adverse weather conditions like under direct sunlight etc, shall be provided with a 50 gm glucose pack per each shift.
  - f) Proper rest facility with drinking water for the lunch period.
  - g) Proper facilities for Toilets.
70. Contractor's Site Office and Stores:
- a) Contractor at his own cost shall construct his Site Office, Stores and Fabrication Shed (in Fabrication Yard). The same shall be dismantled by the contractor prior to submission of Final Bill.
  - b) Contractor or his authorized representative shall be always available in his Office, so that necessary information / instruction could be delivered whenever necessary.
  - c) Before construction of any temporary facility, contractor shall submit proposal with necessary sketches and obtain approval from BARC. Unauthorized construction shall be demolished at the risk and cost of contractor.
  - d) The contractor shall remove all temporary buildings / facilities, etc., before leaving the site after completion of works in all respect.
  - e) The contractor will be responsible for carry out the warehouse management & material control of his supplied items in accordance with approved warehousing & material control procedure, which is to be submitted by the contractor during kick-off meeting. Contractor shall submit the reconciliation list of ordered items, consumed items, and items inventory.
  - f) The contractor shall provide and maintain proper temporary sheds for the storage and protection of materials etc. and other work that may be brought or executed in the site including the tools and materials of contractor.
71. Construction Rules and Regulations: Contractor shall observe in addition to Codes specified in respective specification, all national and local laws, ordinances, rules, and regulations and requirements pertaining to the work and shall be responsible for extra costs arising from violations of the same.
72. On completion of work, contractor shall mark the center lines of equipment foundation N-S & E-W axis and finished levels. A foundation handing over protocol indicating required & achieved values for all dimensions / levels shall be submitted for each foundation (Applicable for machine / equipment foundations also).
73. Security: The contractor shall arrange to obtain, through BARC, well in advance, all necessary entry permits/gate passes for his staff and labor. Entry and exit of his men and materials shall be subject to vigorous checking by the security staff. Workers shall be escorted from the main gate up to the site by designated supervisors of the contractor, and they are not allowed to roam here and there inside the premises.
74. Drawings and Documents: Drawings accompanying the tender document are preliminary, indicative of scope of work, and are issued for bidding purpose only. Purpose of these drawings is to enable the contractors to make an offer in line with the requirements of BARC. The working drawing shall be issued in phased manner at the time of execution.
75. Checking of Levels: Contractor shall be responsible for checking levels / orientation / alignment of all foundations, fixtures, etc. well in advance of taking up erection work, and bring to the notice of Engineer-in-Charge, discrepancies, if any. Necessary rectifications on



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- account of any minor variations shall be carried out by the contractor within the contracted rates. Delivery extension shall not be granted for any type of rectification work.
76. **Construction Equipment & Mechanization of Construction Activities:** The contractor shall without prejudice to his overall responsibility to execute and complete the work as per specifications and time schedule, progressively deploy adequate equipment, and tools & tackles and augment the same as decided by Engineer-in-Charge depending on the exigencies of the work so as to suit the construction schedule. Contractor to ensure deployment of all required tools, tackles & equipment and take all safety precautions during execution of work. The contractor shall mechanize the construction activities to the maximum extent by deploying all necessary construction equipment / machinery in adequate numbers and capacities. The contractor needs to submit the schedule for arrangement of heavy cranes and their mobilization plan.
77. For materials supplied by BARC, if lost or damaged while in charge and custody of the contractor, recovery shall be made by the Department at the rate specified in Proforma of Schedules or the cost there of + 1 % handling charges whichever is higher. For the purpose arriving at the cost of materials, rates at which the articles have been purchased by the Department or the ruling market rates whichever is higher shall be taken into consideration.
78. **Site Organization:** The Contractor shall furnish the site organization chart indicating deployment plan. The contractor shall without prejudice to his overall responsibility to execute and complete the works as per specifications and time schedule progressively deploy adequate qualified and experienced personnel together with skilled /unskilled manpower and augment the same as decided by BARC depending on the exigencies of work to suit the construction schedule without any additional cost to BARC.
79. **Additional / Extra Works:** BARC reserves the right to execute any additional works / extra works, during the execution of work, either by themselves or by appointing any other agency, even though such works are incidental to and necessary for the completion of works awarded to the contractor. The contractor identified vide this tender shall not raise any objections, whatsoever to all such steps taken by BARC.
80. It shall be the responsibility of the contractor to obtain the approval for any revision and/or modifications decided by the contractor from BARC before implementation. Also, such revisions and / or modifications if accepted / approved by BARC shall be carried out at no extra cost to BARC. Any change required during functional requirements or for efficient running of system, keeping the basic parameters unchanged and which has not been indicated by the contractor in the data / drawings furnished along with the offer shall be carried out by the contractor at no extra cost.
81. All expenses towards mobilization at site and demobilization, including bringing in equipment, work force, materials, dismantling the equipment, clearing the site etc. shall be deemed to be included in the prices quoted and no separate payments on account of such expenses shall be entertained. It shall be noted that the quoted rates are deemed to include mobilization of workforce equipment, tools & tackles, and working during time extension granted by BARC.



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82. It shall be entirely the contractor's responsibility to provide, operate and maintain all necessary construction equipment, safety gadgets, lifting tackles, tools and appliances to perform the work in a workman like and efficient manner and complete all the jobs as per time schedule.
83. Preparing approaches and working area for the movement and operation of the lifting equipment, levelling the areas for assembly and erection shall also be responsibility of the contractor. The contractor shall acquaint himself with access availability facilities, local labour etc., to provide suitable allowances in his quotation. The contractor may have to build temporary access roads to aid his own work, which shall also be taken care of while quoting for the work.
84. The procurement and supply in sequences and at the appropriate time of all materials, and consumables shall be entirely the contractor's responsibility and his rates for execution of work will be inclusive of supply of all these items.
85. Work shall be carried out in shifts to achieve committed targets. For smooth progress of work in all shifts, contractor shall ensure availability of adequate resources (manpower, machinery including supervision) on site as directed by BARC.
86. Working hours: The normal working hours will be from 0900 Hrs. to 1730 Hrs. on normal working days from Monday through Saturday and excluding Sundays and holidays. Depending upon the requirement, time schedule and the targets set to complete the job in time, the works may have to continue beyond normal working hours to the extent of round the clock and Holidays also, for which no extra claim shall be entertained. Permission for working beyond 1730 hrs. on normal working days from Monday through Saturday and for working on Sundays & Holidays may be permitted by BARC based on written request by contractor, provided contractor complied with all statutory requirements and applicable labour laws. Any permission to be obtained for the same is in the scope of contractor. It is therefore imperative that the contractor mobilizes sufficient manpower and tools & tackles to complete the work within 0900 hrs. to 1730 hrs. from Monday through Saturday only excluding Sundays & holidays.
87. Coordination with other agencies: The contractor shall be responsible for proper coordination with other agencies operating at the site of work so that work may be carried out concurrently, without any hindrance to others. BARC shall resolve disputes, if any, in this regard, and the decision shall be final and binding on the contractor.
88. Documentation:
- a) Completion Documents: The following documents, as-build drawings shall be submitted by the contractor in Triplicate & one soft copy in CD; as part of completion documents:
- i. Test certificate for materials supplied by the contractor.
  - ii. Certified records of field tests on materials / equipment, as applicable.
  - iii. Material appropriation statement as required.
  - iv. Inspection Certificates/ Reports.
  - v. Catalogues, Operating & maintenance manual.
  - vi. Guarantee certificates.
  - vii. Other documents as mentioned in Technical Specification.



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- viii. No Claim certificate in the format prescribed by BARC.
- ix. Return of all drawings and documents issued to the Contractor.
- x. "AS BUILT" Drawings: Upon completion of work, the contractor shall complete all drawings to "As built" status (including all sub-contractor's/ vendor / Sub - vendor's drawings for bought out items, with details of embedded and covered works, incorporating all additions and alterations) and shall submit for the approval of BARC. This shall be duly certified by BARC.
- b) Others:
- i. Project Scheduling and Monitoring: The following schedules / documents / reports shall be prepared and submitted by the contractor for review / approval at various stages of the contract.
- Contract shall submit the following with 15 days of placement of Work Order:
    - Detailed PERT/Bar Chart, which shall include materials procurement plans, mobilization plan for men (man-hour histogram), machinery and materials.
    - Site Management plan showing location of office, store yard, Site laboratory, labour colony and other Temporary facilities.
    - Job hazard analysis, quality assurance plan, Emergency Evacuation Procedure (including fire order), Storm water Management Plan, Heavy transport and heavy lifting plan (Rigging Plan), Monsoon counter measures and preparation plan, site organization chart etc.
  - Project Review Meetings: The contractor shall present the program and status at various review meetings as required. Contractor will provide his authorized nominee at site to take participation in weekly meeting to sign the Records of Meeting. Weekly co-ordination meetings / Weekly Review Meeting shall be done at venue as decided by BARC.
  - Weekly site co-ordination meetings shall be attended by the contractors working on site & proper intimation should be given to the BARC in order to monitor the project more efficient way. The relative decision for the execution of tender items shall be given in these meetings by BARC by producing working drawings/hand-made sketches if any.
- c) Progress Reports:
- Monthly Progress Report: Scheduled vs Actual progress shall be reported on a monthly basis. Necessary catch-up plan for any lags noticed shall be formulated by contractor and submitted for BARC's review & approval. The catch-up plan shall be duly implemented by the contractor.
  - This report shall be submitted in three copies on a monthly basis within five calendar days from cut-off date as agreed upon, covering overall scenario of the work. The report shall include but not be limited to the following:
    - Brief introduction of the work Activities executed /
    - Achievements during the month.
    - Scheduled vs actual percentage progress and progress curves for sub-ordering, manufacturing / delivery, sub-contracting, construction activities and overall quantum wise status of purchase orders against scheduled.
    - Areas of concern / problems / hold ups, impact and action plans.
    - Resource deployment status
    - Summary for Material Requisitions and deliveries, subcontracting and construction



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- Distribution: BARC Two copies & One at Site.
  - i. Weekly Report: This report (3 copies) will be prepared and submitted by the contractor on weekly basis and will cover following items:
    - Activities programmed and completed during the week.
    - Resources deployment status (manpower and machineries)
    - Progress achieved against target in construction.
    - Areas of concern
    - Construction percentage progress scheduled and actual.
    - Distribution: BARC Two Copies & One at Site.
  - ii. Daily Report: Contractor will submit on daily basis Progress Report to be generated at site in electronic form or hard copy and shared through E- Mail at the address provided by BARC giving all the details including valid reasons for delay if any vis-a-vis to commitment i.e. weekly plan /monthly plan /approved bar chart.
- d) Coding/Numbering Scheme: A coding scheme for identifying the drawings, equipment, structures, spares and shipping shall be adopted by the contractor in a sequential manner. The objective shall be to provide the following:
- i. Streamlined archives management.
  - ii. Effective control with respect to identification of equipment and drawings to be supplied.
  - iii. Identification of the spare parts for easier inventory control.
  - iv. The scheme will be finalized with the successful contractor during detailed engineering/ initial planning.
89. Typographical or Clerical Errors: Accepting Authority's (mentioned in Schedule "F", Refer Section-VII (i)) clarifications regarding partially omitted particulars or typographical or clerical errors shall be final and binding on the contractor.
90. The bidder who has been awarded the contract (referred to as the 'L1 Bidder') must maintain their status as the lowest bidder throughout the duration of the contract. Should the 'L1 Bidder' be unable to maintain this status, they are required to provide a sufficient rebate on their quoted rates to ensure that their bid remains the lowest.
91. W.r.t escalation clauses of GCC (10CA, 10CC), in case there is change in the Wholesale Price Index (WPI) series & the WPI data as per the series existing at the time of submission of tender is discontinued by "Office of the Economic Adviser"; then the linking factor between new series & old series will be decided by Engineer-in-Charge. The price index of nearest similar Material/ Individual Commodities / group Items in the new series will also be decided by Engineer-in-Charge. The decision of the Engineer-in-Charge shall be final and binding on the contractor.
92. The rates quoted by the tenderer in the bill of quantities will be deemed to be for the finished work and shall include all charges for the following (if applicable):
- a) Plant, double scaffolding, frame work, ladders, ropes, nails, spikes, tools, materials and workmen, protection from weather, temporary supports, platform and the maintenance of the same.
  - b) All temporary canvas, lights, tarpaulin, barricade, office & store set-up etc. All such temporary weather-proof sheds at such places and in a manner approved by the Engineer-in-Charge.



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- c) All testing of materials and destructive samples as per standards & QAP/ITP.
- d) Rates quoted by contractor are deemed to include deployment of competent Quality Control Engineers from start to completion of work for upkeep and maintain all QA/QC records in accordance to ITP/QAP/Relevant codes/any other requirement as specified in Tender.
- e) Transit insurance of material covered under this tender will be in scope of contractor at his cost.

### 93. General:

- a) Failure to submit the BG in proper format within the time stipulated will not entitle the Contractor for seeking any change in the Effective Date of Contract.
- b) All progress payments except the last payment shall be regarded as payments by way of advance against the final payment only and not as payment for work actually completed and shall not preclude defective/imperfect/incomplete work to be removed. It will not be considered as an admission of the due performance of the Contract, or any part thereof nor shall it include, determine or affect in any way the powers of the BARC under these conditions or in any other way vary or affect the Contract.
- c) The BARC reserves the right to encash Bank Guarantees if sufficiently convinced of negligence and lack of dedication to work on the part of the Contractor.
- d) It shall be distinctly understood that notwithstanding the reviews and suggestions if any, by BARC, the sole and ultimate responsibility for the safety, stability and performance of the form work and staging and all other temporary works shall be that of the contractor.
- e) The contractor has to ensure efficient use of natural resources like water, fuel oil and lubricants.
- f) The partners or Directors of the contractor shall meet the officers of BARC at the site of works or at their respective offices whenever requested to do so.
- g) BARC reserves the right to use the premises and any portion of site for execution of any work not included in this contract which BARC may desire to get executed by other agencies. The contractor shall allow all reasonable facilities for the execution of such work but shall not be required to provide any plant or material for which work except by special arrangement with BARC in such a manner as not to impede the progress of the works included in this contract and the contractor shall not be responsible for any damage or delay which may happen or be occasioned by such work.
- h) The contractor shall be represented at site at all times during the tenure of the contract by responsible and qualified engineers approved by BARC. Such engineers shall form the contractor's project management and site supervisory team. They shall be in constant attendance upon all activities of the work. Contractor's Personnel shall be available at all reasonable working hours to receive instructions, notices or communications and clear away on completion and make good all works distributed.
- i) The contractor shall at all times give access to the staff of the statutory bodies as well as other agencies associated with the project and shall provide them all facilities like scaffolding, water, lighting etc. at site for discharging their duties.
- j) The contractor shall provide at his cost all temporary lighting arrangement required for the works to enable the contractor to complete the work in the specified time.
- k) No concreting shall be done during the absence of BARC representative.



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- l) The portions of the site to be occupied by the contractor shall be defined and/or marked on the site plan, failing which these shall be indicated by BARC at site and the operations beyond the areas are not permitted. In respect of any land permitted by BARC for the use of the contractor for the purpose of or in connection with the contract, the same shall be subject terms and condition as may be imposed by BARC. Such use or occupations shall not confer any right of tenancy of the land to the contractor.
- m) The contractor shall have no right to put up any construction of his own of any nature or type on BARC's land, except temporary constructions as provided in the contract. Such construction will be erected at the contractor's own cost. The contractor shall at his own cost demolish all such constructions, remove the all his materials, equipment and debris, clean and level the site, before handing over the completed work to BARC.
- n) The contractor shall provide if necessary or if required for the site all temporary access thereof and shall alter adapt and maintain the same as required from time to time and shall take up and clear them away as and when no longer required and as and when ordered by BARC and make good all damages done to the site. The contractor shall note that the final bill will not be certified for payment till the action as above is completed by the contractor to the entire satisfaction of BARC.
- o) All documents, drawings, tracings, photo prints and writing (except letters) shall be the sole property of BARC and must be returned to them on completion of work. The drawings maintained on the site are to be carefully mounted on boards of appropriate size. They are to be protected from ravages from termites, ants, silverfish and other insects.
- p) The Time schedule includes monsoon period also, hence request for time extension due to monsoon will not be entertained by BARC. Any extra charges / rate amendment shall not be entertained due to delay in execution of contract where delay is attributable to the contractor or in Force majeure conditions.
- q) During the execution of the work contractor must check his work with his drawings. The contractor shall be responsible for all the errors in this connection and shall have to rectify all defects and / or error at his own cost failing which BARC reserves the rights to get the same rectified at the risk and cost of the contractor.
- r) Any damage to work resulting from rains or from any other cause until the work is taken over by the Department after completion will be made good by the contractor at his own cost.
- s) During inclement weather the contractor shall suspend concreting and plastering for such time as BARC may direct and shall protect from injury all works in the course of erection.
- t) Should the work be suspended by reason of rain, strike, lockouts or other cause the contractor shall take all precautions necessary for the protection of the work at his own expense shall make good any damages arising from any of this cause.
- u) The contractor shall build temporary benchmarks in the form of concrete pedestals.
- v) The contractor shall provide requisite protection for the executed work from adverse weather conditions. Any damage caused must be made good by the contractor at his own expense.
- w) Safety & Security of the materials brought by the contractor and the portion of executed work, will be Contractor's responsibility till final bill and hand over. BARC shall not be held responsible in any manner.
- x) This Tender/ Contract is subject to Mysuru jurisdiction only.



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## ANNEXURE – I (Claim A(ii)) (Under Clause 51.15)

### FORM OF REQUISITION FOR SUPPLY OF ENERGY

To

\_\_\_\_\_  
\_\_\_\_\_

Sir,

I/We, require power supply at 415V, 3 Phase 4 wire for our installation at the following location for a period of \_\_\_\_\_ year/months.

Location of the Project : \_\_\_\_\_

The installation shall be executed by the following Electricity Contractor:

Name of the Contractor : \_\_\_\_\_

License No. & Grade : \_\_\_\_\_

The details of the proposed layout are as follows:

	Description	H.P./KW	Type of Starting	Single Phase or 3Phase
Meters (i)				
(ii)				
(iii)				

Other Plants.

Lighting Layouts

Lights at office, stores etc.

Ceiling fans.

Heaters:

Socket 54 x 5 ph.

154 x 5 p.h.

Outdoor Lights:



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Number and Wattage.

1. We propose to install overhead lines with bare conductors/double P.V.C. insulated wires/underground cables.

Brief details to be given (wires type of pole to be used etc. in case of underground cables – Type & Number of joints)

We shall be providing the earthing layout as follows:

- |     |   |   |                         |
|-----|---|---|-------------------------|
| (a) | Type of each electrode                                    | : | Plate/pipe coiled earth |
| (b) | Materials   | : | Copper/G.I.             |
| (c) | No. of electrodes & Location:                             |   |                         |
| (d) | Min. size of earth conductor on OH layout & bearer wires: |   |                         |
| (e) | Any other relevant details                                | : |                         |

2. Total maximum demand for our layout will not exceed \_\_\_\_\_KW/KVA.
3. We shall be providing our own KWH meter and test certificate for the KWH meter will be submitted before effecting power supply.
4. We agree to pay towards electricity bill during the calendar months for consumption of energy on unit basis at rates indicated or minimum charges on the connected load whichever is higher.
5. The installation shall be executed conforming to I.S. Code of practice and Indian Electricity Rules with their latest revision.
6. We shall be submitting required test reports in proforma enclosed every month and before on set of monsoon.
7. We shall maintain our installation in good repair and conform to all statutory regulations of Central/State Government and also as per safety regulations that will be intimated by the Department from time to time at our own cost and risk. We have also read the guide lines to temporary supply of Department and agree to abide by them.

Signature of the Contractor



# Government of India Bhabha Atomic Research Centre Mysuru

**ANNEXURE – II**  
**(Claim A (vii) & B (I))**  
**Under Clause 51.15**

**TEMPORARY POWER SUPPLY**

**DETAILS AND TEST REPORTS**

Ref No.: \_\_\_\_\_ Date: \_\_\_\_\_  
Name of the contractor: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

Name of the Licensed

Electrical Contractor/ : \_\_\_\_\_  
Supervisor : \_\_\_\_\_  
\_\_\_\_\_

I/We hereby certify that the installation detailed below has been installed by me/us and tested and that to the best of my/our knowledge and belief, it complied with Indian Electricity Rules, 1956.

Electrical Installation at \_\_\_\_\_  
Voltage and system of supply \_\_\_\_\_

1. Particulars of works:

(a) Internal Electrical Installations:

No. of Load Type of system of writing

(i) Light point

(ii) Fan Point

(iii) Plug point

a) 3 Pin 5 Amp.

b) 3 Pin 15 Amp.

c) Others.

Motors	Description	HP/KW	Type of Starting	Single Phase/Three Phase
(i)				a)
(ii)				
(iii)				

b) Other plants.

c) If the work involves installation of overhead line and/or underground cables:

a) i) Type and description of overhead lines.

ii) Total length and No. of Spans.

b) i) Total length of underground cable and its size.

ii) No. joints                      End joint

   Tee joint                      St. through joints.

NOTE: All outdoor lines should be of doubly installed lines and wires should conform to IS 3035.

II. Earthing:



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- i) Description of earthing electrode.
- ii) No. of earth electrodes.
- iii) State of main earth load.
  - (i) Main control switch \_\_\_\_\_mps\_\_\_\_\_ Vltts. \_  
 \_\_\_\_\_PH\_\_\_\_\_N
  - (ii) Energy meter details Sr.No. \_\_\_\_\_ make \_\_\_\_\_.  
 \_\_\_\_\_ph\_\_\_\_\_wire  
 ( \_\_\_\_\_230)  
 \_\_\_\_\_250V  
 \_\_\_\_\_Rev/kwh  
 Initial reading on the Meter \_\_\_\_\_ on \_\_\_\_\_
  - (iii) Meter test certificate attached: Yes/No.

(iv) Test results.

a) Insulating Resistance

i) Insulation resistance of the whole system of conductors to earth  
 \_\_\_\_\_mega ohms.

ii) Insulation resistance between the phase conductor and neutral.

Between Phase R and neutral \_\_\_\_\_mega ohms

Between Phase Y and neutral \_\_\_\_\_mega ohms

Between Phase B and neutral \_\_\_\_\_mega ohms.

iii) Insulation resistance between the phase conductors in case of polyphase supply.

Between phase R and Phase Y \_\_\_\_\_mega ohms.

Between phase Y and Phase B \_\_\_\_\_mega ohms.

Between phase B and Phase R \_\_\_\_\_mega ohms.

iv) Insulation resistance of motor/other plants.

S.No.	Equipment	Capacity	I.A. Test Result

b) Earth continuity test

Maximum resistance between any point in the earth continuity conductor including metal conducts and main earthing lead.

\_\_\_\_\_ohms.

c) Earth electrode resistance

Resistance of each earth electrode.

i) \_\_\_\_\_ohms.

ii) \_\_\_\_\_ohms

iii) \_\_\_\_\_ohms

iv) \_\_\_\_\_ohms

d) Name and signature of License wireman who will operate and maintain Contractor's installations:

License No. \_\_\_\_\_



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Signature of Electrical Supervisor/Contractor  
License No. & Class

Signature of the Contractor  
Name &Address:

\*\*\*\*\*



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**SECTION-V**

**GENERAL & TECHNICAL SPECIFICATIONS**  
**(UPLOADED SEPARATELY)**



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**SECTION-VI**

**TENDER DRAWINGS**  
**(IF APPLICABLE-UPLOADED SEPARATELY)**



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**SECTION-VII (i)**

**PROFORMA OF SCHEDULES**  
**(UPLOADED SEPARATELY)**



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**SECTION-VII (ii)**

**PRE-QUALIFICATION/ UNDERTAKING FORMS & FORMS OF BANK  
GUARANTEE BOND FOR BID SECURITY/ PERFORMANCE SECURITY/  
SECURITY DEPOSIT**



# Government of India Bhabha Atomic Research Centre Mysuru

## LETTER OF TRANSMITTAL (on Letter Head of the Bidder)

Date:

From:

To  
Chief Engineer/ Superintending Engineer  
Bhabha Atomic Research Centre,  
Yelwal,  
Mysore –571 130

Subject: Submission of Tender document for

Tender No: \_\_\_\_\_

Name of the Work: \_\_\_\_\_

Sir,

Having examined the details given in tender documents(s) for the above work, I / We hereby submit the relevant information.

1. I/We hereby certify that all the statements made and information supplied in the enclosed Forms, Undertaking and other accompanying documents / statements are true and correct.
2. I/We have furnished all information and details necessary for Eligibility/Pre-Qualification and have no further pertinent information to submit.
3. I/We submit the requisite certified solvency certificate and authorize the Chief Engineer/ Superintending Engineer, BARC, Mysuru to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/we also do not have any objection in, BARC officials to approach individuals, employers, firms and corporation to verify our competence and general reputation.
4. I/We submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following works:

S. No.	Name of work	Certified by/from

Enclosures. 1.

2.

5. **Certificate:** (i) It is certified that the information given in the enclosed Eligibility/ Pre-Qualification bid are corrects. (ii) It is also certified that I/ WE shall be liable to be debarred, disqualified in case any information furnished by me/us is found to be incorrect and also Tender Inviting Authority/ Engineer-in-charge shall be free to forfeit the entire amount of EMD & Performance Guarantee. (iii) It is also certified that I/ WE shall be liable to be debarred, if the tender is withdrawn or modified by us within the validity period and before award of work whichever is earlier.

Date of submission:

Signature of the Bidder(s), with seal  
Name of the Authorised person submitting the Bid:  
Designation of the Authorised person submitting the Bid:



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**Bhabha Atomic Research Centre Mysuru**

**FORM - A**  
**FINANCIAL INFORMATION**

**(To be given on Letter Head of Chartered Accountant)**

- I. Financial Analysis** - Details to be furnished duly supported by figures in balance sheet/profit and loss account for the last five years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Upload Scanned Copy).

Particulars	Financial Year				
	FY:	FY:	FY:	FY:	FY:
i) Gross Annual turnover on Construction works (In Rupees Lakhs)					
ii) Profit / Loss (In Rupees Lakhs)					
Certified by					
Name and address of Chartered Accountant with seal					

- II. Financial arrangements for carrying out the proposed work.** (Line of Credit, working capital, Liquid capital, fixed deposited etc.- Upload Scanned Copy)

**III. Solvency Certificate from bankers of the bidder in the prescribed Form "B"**

Unique Document Identification Number (UDIN) .....

Signature of Chartered Accountant .....

Name of Chartered Accountant .....

Membership No. of ICAI

Date and Seal

Signature of the Bidder(s), with seal



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**Bhabha Atomic Research Centre Mysuru**

**FORM - B**

**FORM OF BANKERS CERTIFICATE FROM A SCHEDULED PUBLIC / PRIVATE**  
**SECTOR BANK**

**(To be given on Letter Head of the Bank)**

This to certify that to the best of our knowledge and information that M/s /Shri. \_\_\_\_\_ having marginally noted address, \_\_\_\_\_ as a customer of our bank are/is respectable and can be treated as good for any engagement up to a limit of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_).

This certificate is issued without any guarantee or responsibility on the bank or any of the officers.

Signature & Seal of the bank officer

Date .....

**Note:**

1. Bankers Certificate Should be on the letter head of the Bank, addressed to tendering authority.
2. In case of Partnership firm, certificate should include name of all partners as recorded with the Bank.
3. The date of the certification shall not be older than one year from the “date of opening of Part A” i.e., Techno-Commercial Bids.
4. **The scanned copies of following certificates are to be uploaded along with Form-B:**
  - (a) Profit & Loss account certified by CA & as submitted to Income Tax Department.

Signature of the Bidder(s), with seal



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**Bhabha Atomic Research Centre Mysuru**

**FORM- B-1**

**FORM FOR CERTIFICATE OF NET WORTH FROM CHARTERED ACCOUNTANT**  
**(To be given on Letter Head of Chartered Accountant)**

"It is to certify that as per the audited balance sheet and profit & loss account during the financial year<sup>#</sup> (1<sup>ST</sup> April ..... to 31<sup>st</sup> March ....), the Net Worth of M/s ..... (Name & Registered Address of individual/firm/ company), as on **31<sup>st</sup> March** .....<sup>#</sup> is Rs. .... after considering all liabilities. It is further certified that the Net Worth of the company has not eroded by more than 30 % in the last three consecutive financial years ending **31<sup>st</sup> March** .....<sup>#</sup>."

Unique Document Identification Number (UDIN) .....

Signature of Chartered Accountant .....

Name of Chartered Accountant .....

Membership No. of ICAI.....

Date and Seal.....

Signature of the Bidder(s), with seal

Notes:

1. # Financial year shall be as specified in the Tender Documents.



# Government of India Bhabha Atomic Research Centre Mysuru

## FORM – C

(on Letter Head of the Bidder)

### DETAILS OF ALL WORKS SATISFYING THE SIMILAR WORKS CRITERIA COMPLETED DURING THE LAST SEVEN YEARS ENDING PREVIOUS DAY OF LAST DAY OF ONLINE SUBMISSION OF THE TENDER.

S. No.	Name of work /project and location	Owner or sponsoring organization	Final completion cost of the work	Stipulated date of commencement as per the contract	Actual date of commencement	Stipulated date of completion as per contract	Actual date of completion	Justified period of Extension of Time ( If applicable)	Litigation /arbitration cases pending /in progress with details*	Name & Address / Phone No. of officer to whom reference may be made.	Remarks
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]

Signature of the Bidder(s), with seal

\*indicate gross amount claimed and amount awarded by the Arbitrator.

# Notes:

- Bidder shall upload the following (along with Form-C) for each work:
  - Scanned copies of the work order along with bill of quantities and rates
  - Scanned copies completion certificate or similar documentary evidence(s). The Completion certificate or similar documentary evidence(s) should contain the name of work, Work order no., Stipulated date of commencement, Actual date of commencement, Stipulated date of completion, Actual date of completion, justified period of extension of time (if applicable), Amount of compensation levied (if applicable), Amount of reduced rate items (if applicable), performance report (Format as per Form E). and final completion cost of the work. The completion certificate issued by the client shall be for individual Work Order.
  - For Work orders where the client is other than Central Government / State Government / Public Sector Undertaking of Central or State Governments /



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Central or State Autonomous bodies, the bidder shall upload –

- i. Certificate for bill wise payment (Format as per Form E-1) received by the bidder, which shall be signed with seal by Chartered accountant on letter head with Membership no & UDIN, and their respective TDS amount & TDS certificate number.
2. Clubbing two or more Work Orders in one completion certificate shall not be considered for evaluation. Bidder shall upload completion certificate for each individual Work Order.
3. The Works listed by the bidder without uploading the documentary proof shall not be considered. The documentary proof of Works uploaded without listing the same in Form-C shall not be considered.
4. Composite Works where only a part of a completed composite works satisfies similar works criteria, value of that part only shall be considered under similar works criteria. The bidder shall also upload the following details and documents:
  - a. Statement of final bill showing quantity of all items executed under the Work order and final bill value should be matching with the amount mentioned under final contract value in completion certificate or similar documentary evidence(s) certifying completeness of contract issued by client.
  - b. Statement (signed by the bidder) of all items and their quantities segregated from final bill which are fulfilling the similar works criteria and their total amount for consideration under the similar works criteria.
5. The above desired information can be uploaded as part of one or more document.
6. Separate sheets if any shall be numbered in sequence.



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**FORM – D**

**(on Letter Head of the Bidder)**

**DETAILS OF WORKS UNDER EXECUTION OR AWARDED**

**(No works shall be left out)**

Sl. No.	Name of work / Project and location	Owner or Sponsoring organization	Cost of work in Lakhs as per contract	Stipulated date of commencement as per the contract	Actual date of commencement	Stipulated date of completion	Up to date % progress of work	Slow progress if any and reasons thereof	Justified period of Extension of Time (If applicable)	Name & Address / Phone no. of officer to whom reference may be made	Remarks
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]

Certified that the above list of works is complete and no work has been left out & that the information given is correct to my knowledge and belief.

Signature of the Bidder(s), with seal

# Notes:

1. Bidder shall upload the following for each work:
  - a. Scanned copies of the work order along with bill of quantities and rates.
2. Separate sheets if any shall be numbered in sequence.



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## FORM - E PERFORMANCE REPORT OF WORKS REFERRED IN FORM "C" & "D"

(Separate certificate for each work/ Project to be submitted)

### Name of the Contractor:

1. Name of work/Project & Location
2. Agreement No.
3. Contract Value:
4. Cost of work i.e. Final Completed Contract value (with breakup of GST Amount, for works that are completed after the implementation of GST Act):
5. Date of start:
  - i. Stipulated date of commencement as per the contract:
  - ii. Actual date of commencement:
6. Date of completion:
  - i. Stipulated date of completion:
  - ii. Actual date of completion:
  - iii. Present position of work, if in progress.
7. Justified period of Extension of Time (If applicable)
8. Amount of compensation levied for delayed completion, if any.
9. Amount of reduced rate items, if any.
10. **Performance Report.**

(1) Quality of work	Very Good/Good/Fair/Poor
(2) Financial soundness	Very Good/Good/Fair/Poor
(3) Technical Proficiency	Very Good/Good/Fair/Poor
(4) Resourcefulness	Very Good/Good/Fair/Poor
(5) General behaviour	Very Good/Good/Fair/Poor
(6) Time Consciousness	Very Good/Good/Fair/Poor

11. Contract terminated/ foreclosure if any:

Dated:

**Signature of the client with Seal**  
**Name of the Authorised person:**

**Designation of the Authorised person (Executive Engineer or equivalent):**

### **Note:**

- 1) **Bidder shall upload Separate certificate for each work referred to in Form "C" & "D".**
- 2) **Performance Attribute "Satisfactory" shall be considered as "Good".**



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### FORM – E-1

**(To be given on Letter Head of Chartered Accountant)**

**Certificate giving details of bill wise payment received, TDS for all similar works executed for clients other than Central Government / State Government / Public Sector Undertaking of Central or State Governments / Central or State Autonomous bodies.**

Company Name	: M/s
Name of Contract	:
Contract Order no. / agreement no.	:
Contract Order / agreement date	:
Completion Certificate Number/ similar documentary evidence certifying completeness of Contract issued by client ( Only for the Completed Contracts)	:
Client's Name, Address & Contact Details	:
PAN no. of client	:
PAN no. of bidder	:

Sr. No.	Bill No.	Bill Period	Rate of TDS	Bill Amount	TDS Amount	Details of TDS Certificate as per Form 26AS/Form 16 A/AIS Annual Information System relating to the work only	
						Date	TDS certificate Number.

I/We have obtained all the information from the bidder which is necessary for the purpose of certification. It is certified that the all information are correct to the best of our knowledge and belief. The certification process involves examining the supporting documents.

Unique Document Identification Number (UDIN) .....



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Signature of Chartered Accountant .....

Name of Chartered Accountant .....

Membership No. of ICAI

Date and Seal

Signature of the Bidder(s), with seal

**Notes:**

1. The number of rows may be increased to suit the requirement.
2. The above format shall be uploaded separately for each Work referred in Form "C", where the client is other than Central Government / State Government / Public Sector Undertaking of Central or State Governments / Central or State Autonomous bodies.
3. Bidder shall take out the print of this format and get it filled and certified by Chartered Accountant under his signature and seal having membership no./FRN and UDIN.
4. Executed Value of the contract shall be commensurate with value of TDS certificate.
5. This form need to be supported with Form-26 as taken in HTML format or form 16-A.
6. In case of multiple contracts taken from a client, details of TDS/Form -26AS/AIS (Annual Information System) for each work need to be segregated and given separately.



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## **FORM - F** **STRUCTURE & ORGANISATION** **(on Letter Head of the Bidder)**

- 1 Name of the bidder(s)
- 2 Registered Address of the bidder(s):
- 3 Legal status of the bidder (Please tick and attach attested copies of original document defining the legal status)
  - (a) An individual; (b) A proprietary firm; (c) A firm in partnership
  - (d) A limited company or Corporation
- 4 Postal Address of the bidder(s) along with Ph. No. & E-mail for correspondence:
- 5 Name and designation of the Authorised person of the bidder(s) for correspondence:
- 6 Particulars of registration with various Government bodies if applicable as per NIT (attach attested photocopy)

### **Dept. /Organisation & Place of registration**

### **Registration No.**

- 1.
- 2.
- 7 Names and Titles of Director & Officers with designation proposed to be Deputed on this work
- 8 Designation of individuals authorised to act for the organization.
- 9 Was the bidder ever required to suspend for a period of more than six months continuously after you commenced the construction? If so, give the name of the project and reasons of suspension of work.
- 10 Has the bidder or any constituent partner in case of partnership firm, ever abandoned the awarded work before its completion? If so, give name of the project and reasons for abandonment.
- 11 Has the bidder, or any constituent partner in case of partnership firm, ever been debarred / black listed for tendering in any organisation at any time? If so give details.
- 12 Has the bidder or any constituent partner in case of partnership firm, ever been convicted by a court of law? If so, give details.
- 13 Please indicate below or attach the organization chart showing the company structure Including communication and responsibilities structure of engineering group, production Group, erection group (project group), Construction management, finance group and QA group, the positions of



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Directors and relevant key personnel (by name, educational qualification and experience),  
Specifically bring out the line of reporting.

- 14 In which fields the bidder has specialization and interest?
- 15 Any other information considered necessary but not included above.

Signature of the Bidder(s), with seal



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**FORM - G**

**DETAILS OF TECHNICAL & ADMINISTRATIVE PERSONNEL TO BE DEPLOYED**  
**FOR THE WORK**

Sl. No	Designation	Total Number of staff	Number Available/ proposed for this work	Name of the staff	Qualifications	Professional experience and details of work carried out	How these would be involved in this work	Remarks
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]

Signature of the Bidder(s), with seal

**Note: The key professional staff, listed in the offer, shall be available for the entire duration of the execution of the Assignment. These shall preferably be the permanent employees of the firm.**

- i) Proposed staff must have relevant educational qualification and experience as per the tender document.
- ii) No alternative to key professional staff may be proposed and only one curriculum vitae (CV) may be submitted/uploaded for each position. The firm's personnel shall have a good working knowledge of English.
- iii) Curriculum Vitae (C.V.) recently signed by the proposed key professional staff and countersigned by an authorized officer of the Contractor. Key information should include: (a) years with the firm/entity (b) degree of responsibility held in various assignments during the last ten years (c) permanent or temporary.
- iv) **In cases where the evaluation of the performance of Contractors (for Pre-Qualification, Refer NIT) shall be done as per the above "Form-G", the details mentioned in the evaluation criteria (Refer NIT) shall be submitted in separate sheets as per the above format, along with the supporting documents.**



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**FORM - H**

**DETAILS OF EQUIPMENT LIKELY TO BE USED IN CARRYING OUT THE PROPOSED WORK**

Sl. No	Name of Equipment	Nos	Capacity or Type	Age	Condition	Ownership status			Current Location	Remarks
						Presently owned (Invoice No. / Registration No. is to be mentioned)	Leased (Agreement no & Date is to be mentioned)	To be purchased		
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
1										
2										
3										
4.										





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10										
11										

**Note:**

- i. Details of any other plant & equipment required for the work not included in the above form & available with the applicant may also be indicated.**
- ii. In cases where the evaluation of the performance of Contractors (for Pre-Qualification, Refer NIT) shall be done as per the above “Form-H”, the details mentioned in the evaluation criteria (Refer NIT) shall be submitted in separate sheets as per the above format, along with the supporting documents.**

Signature of the Bidder(s), with seal



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**FORM – I**

**(To be submitted on Letter Head of Chartered Accountant)**  
**CALCULATION OF BIDDING CAPACITY**

**1. MAXIMUM VALUE OF CONSTRUCTION WORKS EXECUTED IN ANY ONE YEAR DURING THE LAST FIVE YEARS (ENDING ON THE PREVIOUS DAY OF LAST DATE OF ONLINE SUBMISSION OF THE TENDER) TAKING INTO ACCOUNT THE COMPLETED AS WELL AS WORKS IN PROGRESS. (A):**

Sl. No.	Name of Work / Project & Location	Owner or Sponsoring Organization	Cost of work in Rupees	Date of commencement as per Contract	Stipulated date of completion	Actual date of completion	Work Completed in one year	
							Percentage	Value in Rupees
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
<b>FROM FY TO FY</b>								
1)								
2)								
<b>FROM FY TO FY</b>								
1)								
2)								
<b>FROM FY TO FY</b>								
1)								
2)								
<b>FROM FY TO FY</b>								
1)								



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2)								
<b>FROM FY TO FY</b>								
1)								
2)								
<b>Maximum turn over in Construction Works executed in any one year during the last five years (ending on the previous day of last date of online submission of the tender) taking into account the completed as well as works in progress. The value of executed works shall be brought to current costing level by enhancing the actual value of works at a simple rate of 7% per annum calculated to last date of online submission of the tender (excluding extensions, if any) (A):</b>								



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**II. VALUE OF EXISTING COMMITMENTS AND ON-GOING WORKS TO BE COMPLETED DURING THE PERIOD OF COMPLETION OF WORK FOR WHICH TENDER HAS BEEN INVITED**

Sl. No.	Name of Work / Project & Location	Owner OR Sponsoring Organization	Contract Value of work in Rupees	Date of commencement as per Contract	Stipulated date of completion	Up to date percentage progress of work.	Remaining work in percentage ( 100-Column 7)	Existing commitments (((Column 4 x Column 8) /100))	Name and address/ telephone number of officer to whom reference may be made	Remarks
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
<b>a) Total (B) =</b>										
<b>III. Period of Completion of Work for Which Tender has been invited ( No of years (N) ) =</b>										
<b>IV. Bidding Capacity = ((AXNX2) -B) =</b>										

Certificate: I certify that all the awarded and ongoing works have been included in the above list

Signature of the Bidder(s), with seal



**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

I/We have obtained all the information from the bidder which is necessary for the purpose of certification. It is certified that the all information are correct to the best of our knowledge and belief. The certification process involves examining the supporting documents.

Unique Document Identification Number (UDIN) .....

Signature of Chartered Accountant .....

Name of Chartered Accountant .....

Membership No. of ICAI.....

Date and Seal.....



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**Bhabha Atomic Research Centre Mysuru**

**FORM-J**

**ASSETS AND LIABILITIES**

<b>ASSETS AND LIABILITIES (in Rs. Cores)</b>	<b>Financial Year</b>				
Total assets					
Current assets					
Total liabilities					
Current liabilities					
Profits before taxes					
Profits after taxes					
Total annual turnover					
Total annual turnover from					
- Design/Engineering					
- Manufacturing if any					
- Construction (including Material Content)					
- Construction (Labour Content)					
- Electrical Supply & Installation					
- Any other					

Signature of the Bidder(s), with seal



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**FORM-K**

**EXPERIENCE IN DEPARTMENT OF ATOMIC ENERGY ESTABLISHMENTS (IF ANY)**

<b>Sl. No.</b>	<b>Name of the DAE Units</b>	<b>Year of execution</b>	<b>Work Reference to work order No.</b>	<b>Contract Value Rs. Lakhs</b>	<b>Scheduled completion period</b>	<b>Actual completion period</b>

Signature of the Bidder(s), with seal



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**FORM-L**

**DETAILS REGARDING LITIGATION / ARBITRATION / DEBARMENT/  
BLACKLISTING/ TERMINATION/ RELINQUISHED CONTRACTS**

**Name of Bidders(s) or partner in a Joint Venture/ Consortium:**

1. Bidders(s) (including each of the partners of a Joint Venture/ Consortium) should provide information on any history of litigation or arbitration resulting from contracts executed in the last ten years or currently under execution, as required in this tender document. A separate sheet should be used for each partner of a /consortium.

<b>LITIGATION HISTORY</b>					
<b>Year</b>	<b>Name of client</b>	<b>Cause of Litigation</b>	<b>Matter Under Dispute</b>	<b>Award for or Against the Applicant</b>	<b>Disputed Amount</b>

2. Has the applicant ever defaulted or been declared in default on a contract?
3. List of occasions of
  - a. debarment/ blacklisting
  - b. Termination of contract due to poor performance of the bidder by any client firm (including any Central, State, or other government agency of entity).
  - c. Awarded contracts relinquished by client (including any Central, State, or other government agency of entity) firm before completion.
4. If no such adverse case a 'Nil' list to be enclosed. If no list is submitted, it shall be considered that the bidder confirms they have not encountered any such adverse occasion.
5. Within the last ten years, has the applicant (including individual persons thereof) including any partner, been charged with, or convicted of, any serious crime of felony or for corrupt practice?

Signature of the Bidder(s), with seal



**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

**FORM-M**

**PARTICULARS OF MANAGERIAL / ENGINEERING AND CONSTRUCTION**  
**PERSONAL, TECHNICIANS EMPLOYED AND IN SERVICE SINCE LAST FIVE (5)**  
**YEARS**

Sl. No	Name	Age	Qualification	Experience		Nature of work Handled	Previous Employment	Projects Handled
				In Organization	Previous			
[1]	[2]	[3]	[4]	[5a]	[5b]	[6]	[7]	[8]

Signature of the Bidder(s), with seal



**Government of India  
Bhabha Atomic Research Centre Mysuru**

**FORM-N**

**DETAILS OF SUB CONTRACTORS**

**(APPLICABLE ONLY IF SUBCONTRACTING IS ALLOWED AS PER TENDER**

**DOCUMENT)**

If it is foreseen that any part of the contract will be sub-contracted, state the type of work to be undertaken by the sub-contractor(s) and give below name and address of the probable sub-contractor(s) to be used along with their scope and financial and man-power resources.

Sl. No.	Work to be sublet	Name and address of Proposed Sub-Contractor

**Notes:**

1. Attach additional sheets to provide information regarding financial, qualified man-power and other resources of the proposed sub-contractor. If the sub-contractors have not been finalized, give details of all prospective sub-contractors.
2. More than one sub-contractor's name can be given.
3. Sub-contractor evaluation will be done by BARC. If found unsuitable for the job, can be rejected.
4. Attach list of engineering, manufacturing, erection, inspection and testing facilities available at sub-contractors with their signatures appended to it.
5. Man-power (Qualified) available with main Contractor to supervise and guide Sub-contractors work should also be given.

Signature of the Bidder(s), with seal



**Government of India  
Bhabha Atomic Research Centre Mysuru**

**FORM-O**

**DETAILS OF CONSORTIUM/JOINT VENTURE**

**(APPLICABLE ONLY IF CONSORTIUM/JOINT VENTURE IS ALLOWED AS PER  
TENDER DOCUMENT)**

If the Bidder intends to set-up a consortium for the project, please give the following information, otherwise state "NOT APPLICABLE".

1. Name s and addresses of consortium partners and / or their sub-contractor(s).

[indicate the scope of work of each partner and sub-contractor(s)].

2. Name of the company leading the consortium.

3. Name and addresses of bankers to the consortium.

Signature of the Bidder(s), with seal



**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

**FORM-P**

**STATEMENT OF MEN AND MACHINERY (to be filled)**

Sl. No.	Description	Manpower to be deployed by tenderer
1.	Have the tenderer visited the site	Yes / No
2.	Manpower Deployment:	
a.	Masons.	
c.	Fitter / Bar bending	
d.	Welders.	
e.	Labour	
f.	Semiskilled for Carpenter/Fitter.	
g.	Electrician.	
h.	Mechanical Operation	
i.	Safety Supervisor	
3.	Technical Staff Deployment:	
a.	Graduate Engineers.	
b.	Diploma Engineers.	
c.	Supervisors.	
d.	Quality Control Engineer.	
4.	Machinery Deployment:	
a.	Hoist / Tower Crane.	
b.	Scaffolding Materials.	
c.	Mechanical Rammer.	
d.	Welding Machines.	
e.	Material Testing Lab. Equipment.	

NOTE: 1) It is noted that the above deployment is minimum. After detailed programming and actual condition at site, additional deployment shall be done as necessary for completion of the work within the stipulated time period.

2) It is mandatory to fill up ANNEXURE – A, B & C by the tenderer. Non-compliance of the same, tender may be rejected.

Date: \_\_\_\_\_

Signature of the Bidder(s), with seal



**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

**FORM-Q**

List of offered makes for Materials, Components and Equipment: The Bidder has to fill the makes of the items, Materials, Components and Equipment as per the approved makes listed in Technical Specification of Tender Document. Bidder has to specifically fill the offered makes. The bidder may suggest any make/ brand meeting technical parameters during pre-bid stage and before technical bid submission.

<b>Sl. No.</b>	<b>Description Materials, Components and Equipment</b>	<b>Make/ Brand / Model No etc.</b>

Date: \_\_\_\_\_

Signature of the Bidder(s), with seal



**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

**FORM-R**

**STATEMENT OF CASH FLOW FOR THE WORK.**

Sl. No.	Months	Cash Flow %	
1	1 <sup>st</sup>		%
2	2 <sup>nd</sup>		%
3	3 <sup>rd</sup>		%
4	4 <sup>th</sup>		%
5	5 <sup>th</sup>		%
6	6 <sup>th</sup>		%
7	7 <sup>th</sup>		%
8	8 <sup>th</sup>		%
9	9 <sup>th</sup>		%
10	10 <sup>th</sup>		%
11	11 <sup>th</sup>		%
12	12 <sup>th</sup>		%

Date: \_\_\_\_\_

Signature of the Bidder(s), with seal



**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

**UNDERTAKING-A**

**TENDER ACCEPTANCE LETTER**  
**(To be submitted on Bidder's Letter head)**

**To,**  
**Chief Engineer/ Superintending Engineer**  
**Bhabha Atomic Research Centre,**  
**P.B. No.1, Yelwal P.O MYSORE –571 130**

**Sub: Acceptance of Terms & Conditions of Tender.**

**Tender Reference No:** \_\_\_\_\_

**Name of Tender / Work:** - \_\_\_\_\_

Dear Sir,

1. I / We have downloaded / obtained the tender document(s) for the above-mentioned Tender / Work from the web site (s) namely: <https://eprocure.gov.in/eprocure/app> , [www.barc.gov.in](http://www.barc.gov.in) & press Notice as per your advertisement, given in the above-mentioned website(s).
2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents which will form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.
3. The corrigendum(s) (including Pre-bid clarifications, if any) issued from time to time by your department/ organization too have also been taken into consideration, while submitting this acceptance letter.
4. I / We hereby unconditionally accept the tender conditions of above-mentioned tender document(s) / corrigendum(s) in its totality /entirety.
5. I / We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking/ entity/ authority / agency.  
or  
Instances of debar/blacklisting is attached separately.
6. I / We certify that all information furnished by our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department / organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including actions as taken by Department.

Yours Faithfully,  
(Signature of the Bidder (s), with Seal)



**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

**UNDERTAKING-B**

**(To be submitted on Bidder's Letter head)**

**TO WHOMSOEVER IT MAY CONCERN**

**Undertaking Pursuant to Section 206 AB of the Income Tax Act 1961**  
**Declaration confirming filing of Income Tax Return from immediate two preceding Years.**

I, \_\_\_\_\_ [Name], in the capacity of Individual / Proprietor/ Partner/ Director/Authorized signatory of \_\_\_\_\_ [Entity Name] with PAN \_\_\_\_\_, do hereby make the following declaration as required under the relevant provisions of the Income Act, 1961 (hereinafter referred as 'the Act'):

1. That I/We am /are authorized to make this declaration in the capacity as Individual / Proprietor/Partner/Director.
2. I/We hereby declare and confirm that I/We do not fall under the definition of 'specified person' as provided in section 206AB of the IT Act.
3. I/We have duly filed return of income for FY \_\_\_& FY \_\_\_ within due date as per Section 139 (1) of the Income-tax Act, 1961 - Yes/No (strike out whichever is not applicable).
4. If return has been filled the details are as follows:

I/We, \_\_\_\_\_ having PAN \_\_\_\_\_, hereby confirm that the provision of Section 206 AB is not applicable in my/our case as I/we am/are regular in filling of Income Tax Return. The details (along with proof of documents) of acknowledgement numbers and date of filing of Income Tax Returns for last two financial years are furnished below:

S. No.	Financial Year / (Assessment Year)	Date of Filing Income Tax Return	ITR Acknowledgement Number
1.			
2.			

5. I /We hereby take responsibility for any loss/liability fully including any tax, interest, penalty, etc. that may arise due to incorrect reporting of above Information.

All the aforesaid representations are true and correct, and we /I agree to furnish any evidence required at any time in support thereof.

On behalf of \_\_\_\_\_

<< Name of the authorized signatory >>

<< Designation >>

Name of the Entity:

Date:



**Government of India**  
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**UNDERTAKING-C**

**Undertaking as per Clause 11- Conditions of Contract.**

**(To be submitted on Bidder's Letter head)**

**CLAUSE 11: WORK TO BE EXECUTED AS PER SPECIFICATIONS, DRAWINGS, ORDERS, ETC.**

I / We, hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F', viz., Schedule of Quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in General Rules & Directions and Clause - 11 of the Conditions of Contract and with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

Place:

Date:

Signature of the Bidder(s), with seal



**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

**UNDERTAKING-D**

**(To be submitted on Bidder's Letter head)**

I/We \_\_\_\_\_ (Name of bidder) undertake and confirm that the eligible similar work(s) has/have not been executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for bidding in Department in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit and Performance Guarantee.

Place:

Date:

Signature of the Bidder(s), with seal



# Government of India Bhabha Atomic Research Centre Mysuru

## UNDERTAKING-E

(To be submitted on Bidder's Letter head)

If work is awarded to me, I/ we shall obtain EPF and ESIC registration / Employees Compensation Insurance Policy/ Group Insurance/ Personal Insurance Policy, as applicable to all the employees / workers/ labours working at BARC premises/ failing which Tender Inviting Authority/ Engineer-in-charge shall be free to forfeit the entire amount of EMD & Performance Guarantee submitted against this tender.

Signature of the Bidder(s), with seal



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**UNDERTAKING-F**

**(To be submitted on Bidder's Letter head)**

**Undertaking for the provisions of Public Procurement (Preference to Make in India), Order-2017, Order No. P-45021/2/2017-B.E. –II, Revision, dated 16/09/2020 and as amended from time to time.**

**NIT No. : -----**  
**NAME OF WORK: -----**

In reference to above mentioned Tender reference, I/we M/s..... (Bidder name) hereby certify that the Works/products/ Services offered ----- (Name of the Work) meet the requirement of the minimum local content as prescribed for "Class -1 Local Supplier" as mentioned in DPIIT order of Public Procurement (Preference to Make in India), Order-2017, Order No. "P-45021/2/2017- B.E. –II, Revision, dated 16/09/2020 and as amended from time to time.

We hereby confirm that the Local content for above mentioned work is..... % of total value of Work order.

Signature of the Bidder(s), with seal

Note: In case Procurement cost exceeds Rs. 10 Crore, this Percentage of Local content shall be certified statutory auditor/ cost auditor of company/ practicing cost accountant /practicing chartered accountant as defined in the above order.



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**UNDERTAKING-G**  
**FORM OF CERTIFICATE FOR ELIGIBLE SOURCE COUNTRIES**

**(To be submitted on Bidder's Letter head)**

1. I/We, ..... (Name of the Bidder) ....., have read the **NIT clauses** regarding restrictions on procurement from a Bidder of a country which shares a land border with India, and I/we am/are not from such a country or, from such a country (indicate country.....), have been registered with Competent Authority and submit a certificate herewith as evidence of valid registration by the Competent Authority.
2. I/We, ..... (Name of the Bidder) ....., have read the **NIT clauses** regarding restrictions on sub-contracting to contractors of a country which shares a land border with India. I/We hereby certify that I/We will not sub-contract any work to a contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. This clause is applicable only if sub-contracting is allowed in the tender document.
3. I/We hereby certify that I/We am/are fulfilling all requirements in this regard and eligible to be considered, in accordance to **NIT clauses**.
4. I/We acknowledge the right of the Employer that absence of such a certificate in the bid, if the Bidder belongs to such country stated above, shall disqualify the Bidder.
5. I/We acknowledge the right of the Employer to terminate the Bidder for false declaration or certificate, along with such other actions as may be permissible under law.

Signature of the Bidder(s), with seal



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**UNDERTAKING-H**

**GST UNDERTAKING BY FIRMS/ AGENCY**

**(To be submitted on Bidder's Letter head)**

**Tender Reference No:** \_\_\_\_\_

**Name of Tender / Work:** - \_\_\_\_\_

Dear Sir,

1. That the bidder(s) is registered under GST and compliant to GST provisions.
2. In case non-compliance of GST provisions and blockage of any input credit, the bidder(s) shall be responsible to indemnify BARC.
3. That all the input credits have been passed on to BARC by the bidder.

Place:

Date:

Signature of the Bidder(s), with seal



# Government of India Bhabha Atomic Research Centre Mysuru

## APPENDIX – ‘A’

BID SECURITY (BANK GUARANTEE)  
(on non-judicial stamp paper of value ` 100/-)

WHERE AS \_\_\_\_\_ (Name of Bidder) (herein after called “the Bidder”) has submitted his bid dated \_\_\_\_\_ (date) for undertaking the work of \_\_\_\_\_ (Name of work) (hereinafter called “the Bid”).

KNOW ALL PEOPLE by these presents that We \_\_\_\_\_ (Name of bank) of \_\_\_\_\_ (Name of country) having our registered office at \_\_\_\_\_ (hereinafter called “the Bank”) are bound to President of India, acting through Chief Engineer, BARC, Mysore-571130 for the sum of ` \_\_\_\_\_ (1) for which payment will and truly be made to be said BARC, Mysore, the Bank binds itself, his 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 after Bid opening the Bidder withdraws his Bid during the period of Bid validity specified in the Form of Bid or makes any modification in the terms and conditions of the tender which are not acceptable to BARC, Mysore, **OR**
- (2) If the Bidder having been notified of the acceptance of his Bid by BARC, Mysore during the period of bid validity
  - (a) Fails or refuses to execute the Form of Agreement in accordance with the instructions of Bidders, if required; **OR**
  - (b) Fails to commence the work specified in the tender document in prescribed time.

We \_\_\_\_\_ (Name of the Bank & Branch) undertake to pay BARC up to the above amount upon receipt of their first written demand, without BARC, Mysore having to substantiate their demand, provided that in their demand BARC will note that the amount claimed by them is due to them owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date \_\_\_\_\_ (2). This date may be extended by Chief Engineer, BARC, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE \_\_\_\_\_ SIGNATURE OF THE BANK \_\_\_\_\_

WITNESS \_\_\_\_\_

SEAL \_\_\_\_\_



**Government of India**  
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(Signature, name and address)

Notes:

1. The Bidder should insert the amount of Guarantee in words and figures denominated in Indian Rupees. This figure should be the same as specified in the tender document.
2. This date should be 225 days from the date opening of Part A mentioned in Sub Section-1. In case of extension of “date opening of Part A”, the originally stipulated date is to be considered.



# Government of India Bhabha Atomic Research Centre Mysuru

## APPENDIX – ‘B’

### FORM OF BANK GUARANTEE BOND FOR PERFORMANCE SECURITY (GUARANTEE)/ SECURITY DEPOSIT

In consideration of the President of India (hereinafter called “The Government”) having offered to accept the terms and conditions of the proposed agreement between..... and ..... (hereinafter called “the said contractor(s)”) .....for the work ..... (hereinafter called “the said agreement”) having agreed to production of an irrevocable Bank Guarantee for Rs.....(Rupees .....only) as a security / guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

1. We (indicate the name of bank) ..... (hereinafter referred to as the “the Bank”) hereby undertake to pay to the Government an amount not exceeding Rs.....only) on demand by the Government.
2. We (indicate the name of the bank) do hereby under take to pay the amounts due and payable under this Guarantee without any demure, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs..... (Rupees.....only).
3. We, the said bank further undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.  
The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.
4. We.....(Name of Bank)..... further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-Charge on behalf of the Government certified that terms and conditions of the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this Guarantee.
5. We.....(Name of Bank) ..... further agree with the Government that the Government shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor(s) and forbear or



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enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractor(s) or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This Guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).
7. We.....(Name of Bank) ..... lastly undertake not to revoke this Guarantee except with the previous consent of the Government in writing.
8. This Guarantee shall be valid up to .....unless extended on demand by Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs..... (Rupees.....only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

### Signed and sealed

Dated the .....day of .....for..... (Indicate the name of the Bank)



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**APPENDIX 'C'**

**INDENTURE FOR SECURED ADVANCE**

(For use in cases in which the contract is for finished work and the contractor has entered into an agreement for the execution of a certain specified quantity of work in a given time.)

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**Government of India**

**Department of Atomic Energy**

**State** : Karnataka  
**Administration** : Department of Atomic Energy  
**Division** : BARC, Mysore

THIS INDENTURE made the.....day of .....20.....  
BETWEEN..... (hereinafter called the Contractor which expression shall where the context so admits or implies be deemed to include his executors, administrators and assigns) of the one part and the President (hereinafter called the President which expression shall where the context so admits or implies be deemed to include his successors in office and assigns) of the other part.

WHEREAS by an agreement dated .....  
(hereinafter called the said agreement) the contractor has agreed.

AND WHEREAS the contractor has applied to the President that he may be allowed advance on the security of materials absolutely belonging to him and brought by him to the site of the works, he subject of the said agreement for use in the construction of such of the works as he has undertaken to execute at rates fixed for the finished work (inclusive of the cost of materials and labour and other charges).

AND WHEREAS the President has agreed to advance to the contractor the sum of Rs .....on the security of materials, the quantities and other particulars of which are detailed in Part-II of a Running Account Bill (B) for the said works signed by the contractor on ..... and the President has reserved to himself the option of making any further advances on the security of other materials brought by the contractor to the site of the said works.

NOW THIS INDENTURE WITNESSETH that in pursuance of the said agreement and in consideration of the sum of Rs. .... on or before the execution of these presents paid to the contractor by the President (the receipt where of the contractor both hereby acknowledge and of such further advance, if any, as may be made to him as aforesaid the contractor both hereby convenient and agree with the President and declare as follows:



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1. That the said sum of Rupees .....so advanced by the President to the contractor as aforesaid and all or any further sum or sums advanced as aforesaid shall be employed by the contractor in or towards expenditure the execution of the said works and for no other purpose whatsoever.
2. That the materials detailed in the said Running Account Bill (B) which have been offered to and accepted by the President as security are absolutely the contractor's own property and free from encumbrances of any kind and the contractor will not make any application for or receives a further advance on the security of materials which are not absolutely his own property and free from encumbrance of any kind and the contractor indemnifies and president against all claims to any materials in respect of which an advance has been made to him as aforesaid.
3. That the materials detailed in the said Running Account Bill (B) and all other materials on the security of which any further advance or advances may hereafter to be made as aforesaid (hereinafter called the said materials) shall be used by the contractor solely in the execution of the said works in accordance with the directions of the Divisional Officer of the said works, Civil Engineer-in-Charge Division (hereinafter called "the Divisional Officer) and in the terms of the said agreement.
4. That the contractor shall make at his own cost all necessary and adequate arrangements for the proper watch, safe-custody and protections against all risks of the said materials and that until used in construction as aforesaid said materials shall remain at the site of the said works in the contractor's custody and on his own responsibility and shall at all times be open to inspection by the Divisional Officer or any officer authorised by him. In the event of the materials or any part thereof being stolen, destroyed or damaged or becoming deteriorated in a greater degree that is due to reasonable use and wear thereof the contractor will forthwith replace the same with other materials of like quality or repair and make good the same as required by the Divisional Officer.
5. That the said materials shall not on any account be removed from the site of the works except with the written permission of the Divisional Officer or an officer authorised by him on that behalf.
6. That the advance shall be repayable in full when or before contractor receives payment from the President of the price payable to him for the said works under the terms and provisions of the said agreement. Provided that if any intermediate payments are made to the contractor on account of work done thereon the occasion of each such payment the President will be at liberty to make a recovery from the contractor's bill for such payment by deduction there from the value of the said materials than actually used in the construction and in respect of which recovery has not been made previously the value for this purpose being determined in respect of the each description of materials at the rates at which the amounts of the advances made under these presents were calculated.



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7. That if the contractor shall at any time make any default in the performance or observance in any respect of any of the terms and provisions of the said agreement or of these presents the total amount of the advance or advances what may still be owing to the

President shall immediately on the happening of such default be repayable by the contractor to the President together with interest thereon at twelve percent per annum from the date of respective dates of such advance or advances to the date of repayment and with all costs, charges, damages and expenses incurred by the President in or for the recovery thereof or the enforcement of this security or otherwise by reasons of the default of the contractor and contractor hereby covenants and agrees with the President to repay and pay the same respectively, to him accordingly.

8. That the contractor hereby charges all the said materials with the repayment to the President of India the said sum of Rs. .... and any further sum or sums advanced as aforesaid and all costs, charges, damages and expenses payable under these presents PROVIDED ALWAYS and it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the powers contained therein if and whenever the covenant for Payment and repayment herein before contained shall become enforceable and the money owing shall not be paid in accordance there with the President may at any time thereafter adopt all or any of the following courses as he may deemed best.

- a) Seize and utilise the said materials or any part thereof in the completion of the said works on behalf of the contractor in accordance with the provisions in that behalf contained in the said agreement debiting the contractor with the actual cost of effecting such completion and the amount due in respect of advances under these present and crediting the contractor with the value of work done as if he had carried it out in accordance with the said agreement and at the rates thereby provided. If the balance is against the contractor, he is to pay same to the President on demand.
- b) Remove and sell by public auction the seized materials or any part thereof and out of the moneys arising from the sale retain all the sum, aforesaid repayable or payable to the President under these presents and pay over the surplus (if any) to the contractor.
- c) Deduct all or any part of the money owing out of the security deposit or any sum due to the contractor under the said agreement.

9. That except in the event of such default on the part of the contractor as aforesaid interest on the said advances shall not be payable.

10. That in the event of any conflict between the provisions of these presents and the said agreement the provisions of these presents shall prevail and the event of any dispute or difference arising over the construction or effect of these presents the settlement of which



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has not been herein before expressly provided for the same shall be referred to the Chief Engineer, BARC, Mysore, time being in force shall apply to any such reference.

IN WITNESS thereof the said .....and..... by  
the order under the direction of the President have hereinto set their respective hands the day  
and ..... year ..... first  
above written.

Signed, sealed and delivered by the said contractor in the presence of:

{  
Signature  
Name  
Address

Witness

Signed by

by the order and direction of the President in the presence of:

{  
Signature  
Name  
Address

Witness



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## APPENDIX- 'D'

PROFORMA FOR GUARANTEE TO BE EXECUTED BY THE CONTRACTORS FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATERPROOFING WORKS.

Name of work:

Work order No:

Agreement No:

This agreement made this \_\_\_\_\_ day of \_\_\_\_\_ two thousand and \_\_\_\_\_ between M/s. \_\_\_\_\_

(hereinafter called the Guarantor of the one part)

and the PRESIDENT OF INDIA \_\_\_\_\_

(hereinafter called the Government of the other part)

WHEREAS THIS agreement is supplementary to a contract (hereinafter called the Contract) dated \_\_\_\_\_ and made between the GUARANTOR OF THE ONE PART AND GOVERNMENT of the other part, whereby the Contractor, inter alia, undertook to render the buildings and structures such as roof of buildings, overhead water tanks, underground tanks, lift pits, basement, toilets etc. in the said contract recited completely water and leak proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak proof for \_\_\_\_\_ years from the date of \_\_\_\_\_.

NOW THE GUARANTOR hereby guarantees that waterproofing treatment given by him will render the structures completely leak proof and the minimum life of such waterproofing treatment shall be 10 years to be reckoned from the date after the maintenance period prescribed in the contract.

Provided that the guarantor will not be responsible for leakage caused by earthquake or structural defects or misuse/ alteration of structures and for such purpose:

- (a) misuse shall mean any operation which will damage treatment, like chopping of firewood and things of the same nature which might cause damage.
- (b) Alteration shall mean construction of an additional structure or a part of the roof or construction adjoining to existing structure whereby treatment is removed in parts.
- (c) The decision of the Chief Engineer with regard to cause of leakage shall be final.

During this period of guarantee the guarantor shall make good all defects and in case of any defect being found render the building waterproof to the satisfaction of the Engineer-in-



## Government of India Bhabha Atomic Research Centre Mysuru

Charge at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from the Engineer-in-Charge calling upon him to rectify the defects, failing which the work shall be got done by the Department by some other contractor at the guarantor's cost & risk. The decision of the Engineer-in-Charge as to the cost payable by the Guarantor shall be final and binding.

That if the Guarantor fails to execute the waterproofing or commits breach there-under then the Guarantor will indemnify the Principal and his successors against all loss damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the Guarantor in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and cost incurred by the Government the decision of Engineer-in-Charge will be final & binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Obligator (Guarantor)\_\_\_\_\_and \_\_\_\_\_ for and on behalf of the President of India on the day, month and year first above written.

SIGNED SEALED AND DELIVERED BY (Obligator/ Guarantor) in the presence of:

- 1.
- 2.

Signed for and on behalf of the President of India in the presence of

- 1.
- 2.



# Government of India Bhabha Atomic Research Centre Mysuru

## APPENDIX- 'E'

### GUARANTEE BOND FOR ANTITERMITE TREATMENT

(For Guarantee to be executed by contractors for removal of defects after completion of antitermite treatment works)

This agreement made this.....day of ... two thousand \_\_\_\_\_. between M/s.\_\_\_\_\_

(hereinafter called "the Guarantor of the one part) and the PRESIDENT OF INDIA (hereinafter called "the Government" of the other part.)

Whereas this agreement is supplementary to a contract (hereinafter called "the Contract) dated.....and made between the Guarantor of the one part and the Government of the other part whereby the Contractor inter-alia undertook to render the buildings and structure completely termite proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structure will remain termite proof for ten years from the date of handing over of the building and or completion date of contract whichever is later.

NOW THE GUARANTOR hereby guarantees that the anti-termite treatment provided by him will render the structures completely termite proof and the minimum life of such anti-termite treatment shall be ten years to be reckoned from the date of handing over of the building and/or completion of the building whichever is later.

Provided that the Guarantor will not responsible for damages caused due to structural defects or misuse of premises/area.

a) Misuse of premises shall mean any operation which will disturb the chemical barrier like excavation under floors, breaking of walls at G.L. disturbing the treatment already carried out.

The decision of the Engineer-in-Charge with regard to cause of damage shall be final.



## Government of India Bhabha Atomic Research Centre Mysuru

During this period of guarantee the guarantor shall make all the arrangements to do the post constructional anti-termite treatment in all the buildings in case of any termite nuisance being found in the building, to the satisfaction of the Engineer-in-Charge at the cost of guarantor and shall commence the work for such treatment within seven days from the date of calling upon him to rectify the defects, by the Engineer-in-Charge, failing which the work shall be got done by the Department by some other contractor at the GUARANTOR'S COST and risk. The decision of the Engineer-in-Charge as to the cost payable by the Guarantor shall be final and binding.

That if the Guarantor fails to execute the anti-termite treatment or commits breach thereunder then the Guarantor will indemnify the principal and his successors against all loss, damage, cost, expense or otherwise which may be incurred by the Department by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and/or cost incurred by the Government the decision of the Engineer-in-Charge will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Obligator...

and by....and for and on behalf of the PRESIDENT OF INDIA on the  
day, month and year first above written.

SIGNED, sealed and delivered by (OBLIGATOR) in the presence of :

1.

2.

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY .

..... in the presence of:

1.

2.



**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

**APPENDIX- 'F'**

**Format for Submission of Pre-Bid Queries**  
**(To be submitted on Bidder's Letter head)**

<b>Sl. No.</b>	<b>Refer Section, clause no. Page no. of the Tender Document</b>	<b>Clause mentioned in the Tender Document</b>	<b>Pre-bid Query</b>

Date:

Signature of the Bidder(s), with seal

\*\*\*\*\*



**Government of India**  
**Bhabha Atomic Research Centre Mysuru**

**PART 'B'**  
**SECTION-VIII**

**SCHEDULE OF QUANTITY (SCHEDULE 'B')**  
**(UPLOADED SEPARATELY)**

## Section V

### TECHNICAL SPECIFICATIONS

#### Scope of the work: -

The scope of this work is to supply Foundation Chemical, Anchors bolts, carry out Core drilling of foundation holes of required size and depth in concrete floor as per the layout drawing and anchoring the foundation bolt using chemical anchoring grout with proper fixtures to achieve the required position tolerances. The entire work has to be carried out at in BARC, Mysuru site. Details of the work are as follows:

#### **1 Supply, Inspection, Manufacturing and Testing of Foundation bolts of High Tensile Steel (zinc coated) full length threading with two hexagonal nuts and washer as per IS 1367.**

- 1.1 The contractor shall supply full quantity of foundation anchor Bolts.
- 1.2 Material of Anchor Bolt: High Tensile Steel (zinc coated) as per IS 1367 (part 3) Property Class 10.9
- 1.3 Size of anchor: M20 X 270 mm long, Pitch is 2.5 mm.
- 1.4 Anchor end: One end shall be chisel point and other end with chamfer
- 1.5 Material of nut: High tensile steel, as per IS 1367 (part 6) Property class 10
- 1.6 Coating: Zinc electroplated to thickness of minimum 5 microns and as per IS 1367 part 11 and shall be subjected to corrosion test (salt spray test) as per IS 1367 part 11.
- 1.7 The zinc coating shall continue to adhere to the base metal when subjected to the burnishing test specified in ISO 2819. The chromate coatings (hexavalent or others) shall be tested for adhesion in accordance with ISO 3613. All tests, including accelerated corrosion testing, shall be carried out at least 24 h after chromate conversion treatment.
- 1.8 When tested in accordance with the neutral salt spray (NSS) test specified in ASTM B117 for the times specified in ISO 2081, the test surface shall remain free from red corrosion products and from white corrosion products when examined by the unaided eye or corrected vision.
- 1.9 The limits for surface discontinuities on bolts and Nuts shall be as per ISO 6157.
- 1.10 The Bolts and Nuts shall be clearly finished, sound & free from defects which may affect their serviceability, and shall be consistent with the grade prescribed.
- 1.11 The packing of fasteners shall conform with IS 1367 Part 18 Industrial Fasteners - Threaded Steel Fasteners -- Technical Supply Conditions
- 1.12 Necessary test certificates for the above-mentioned bolt/Nut specifications both for material composition and mechanical strength from NABL approved laboratories to be submitted along with the bulk supply once the contract is awarded.

#### **2 Site Cleaning, Marking, Manufacturing of fixtures, templates and Diamond Core Drilling of foundation holes of dia: 25mm to a depth of 200 mm using diamond core drilling machine over concrete flooring.**

- 2.1 Complete anchor hole drilling shall be carried out using Diamond core drilling machine.
- 2.2 The foundation holes are to be drilled as per the layout locations shown in drawing.

- 2.3 The site shall be cleaned and the required marking as per drawing shall be carried out by the contractor on the exact location.
- 2.4 Necessary template for marking shall be fabricated by the party for marking purpose.
- 2.5 Type of flooring: The flooring to be drilled is made up of Ironite 40mm thick (equal to RCC grade) followed by 150mm thick RCC and 75mm PCC. The RCC is of grade M20 with reinforcement rods of size 8-10 mm.
- 2.6 Drilling of foundation holes of suitable size for chemical anchoring as per the chemical grout requirement (~dia 25mm) having a minimum depth of 200 mm using diamond core drilling machine shall be carried out.
- 2.7 Necessary clamping arrangements/Anchor bolts required to mount diamond core drilling machine have to be arranged by the contractor.
- 2.8 Drilling work shall be started only after markings inspected and approved by BARC representative.
- 2.9 Cleaning of the drilled hole: Proper cleaning of the drilled hole as per the chemical grout manufacturer's instruction shall be carried out. This involves hole cleaning by blower and brush for better bonding

### **3 Supply, Inspection, Testing and Chemical grouting of foundation bolts using high quality styrene free resins with fast curing low odor system for withstanding a pull-out test of 5.5 tons**

- 3.1 Chemical grout: It shall be styrene free rapid curing low odor two component based high quality chemical mortar. Dispenser with appropriate mixer nozzle for properly filling the hole shall be in the scope of contractor.
- 3.2 Chemical grout to be used shall be of high quality and shall withstand a pull-out test of minimum 5.5 tons. The chemical grout used shall have adequate gel time and curing time.
- 3.3 The contractor shall submit the complete technical details of chemical grout and shall get it approved by BARC Representative before initiating the work.
- 3.4 Fixture: It is the responsibility of the contractor to make suitable fixtures to maintain the center distances of the bolts before grouting. The center distances in the actual support (where these grouted bolts are to be located) are within  $\pm 0.2\text{mm}$  with a radial bolt hole clearance of 2.5mm. Fixtures are to be made to meet this requirement. Total thread length of each foundation anchor to be projected out of floor level is 80mm.
- 3.5 The chemical grout used shall be high performance and rapid curing type.
- 3.6 It shall be styrene free low odor two component based chemical mortar.
- 3.7 It shall be nonflammable.
- 3.8 It shall have high load bearing capacity in concrete and masonry for medium to heavy duty applications.
- 3.9 It shall not impart any expansion stresses on the base material
- 3.10 It shall be vibration resistant and corrosion resistant
- 3.11 It shall be based on high reactivity unsaturated resins monomers.
- 3.12 It shall have appropriate gel time and curing time values for suitable use in carrying out large number of anchoring.
- 3.13 Adhesives shall be injectable, cartridge-type based system, dispensed and mixed through a static mixing nozzle supplied by the manufacturer.
- 3.14 Acceptable installation procedure and performance temperature ranges along with manufacturer's literature shall be submitted prior to installation.
- 3.15 If fillers are used it shall be inert, shall be incorporated uniformly in one or both components. The filler shall be either non settling or readily dispersible in any component in which it is incorporated.

- 3.16 The adhesive used shall be capable to cure under humid conditions and bond to damp surfaces.
- 3.17 The chemical mortar used shall have following typical properties specified in below mentioned Table.

Sl. no	Property	Unit	Value
1.	Gel Time (100g at 20°C)	min	5-30
2.	Full curing time in dry base material	min	30-600
3.	Bond strength (minimum)	MPa	7
4.	Absorption 24h (max)	%	1.0
5.	Heat Deflection temperature (min)	°C	50
6.	Linear coefficient of Shrinkage on cure (24hrs)	%	0.5
7.	Compressive Yield strength (minimum)	MPa	60
8.	Compressive Modulus (minimum)	MPa	1400
9.	Elongation at break	%	0.5-1
10.	Storage temperature range	°C	5 to 35
11.	Shelf life (minimum)	months	6

#### 4 Applicable Documents:

- 4.1 **Drawing:** Typical layout drawing for Diamond core drilling is shown in A4-MD-165 R1. Detailed drawing shall be revealed in Prebid queries on request by bidders. The drawing shall be issued to successful bidder for commencement of work.
- 4.2 IS 1367-Technical Supply Conditions for Threaded Steel Fasteners
- 4.3 IS 1367- Part-3 Mechanical Properties of Fasteners Made of Carbon Steel and Alloy Steel — Bolts, Screws and Bolts
- 4.4 IS 1367- Part 6 Mechanical Properties and Test Methods for Nuts
- 4.5 IS 1367- Part 11 Threaded Steel Fasteners- Electroplated Coatings
- 4.6 ASTM E 488 Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements
- 4.7 ASTM E 4 - Practices for Force Verification of Testing Machines
- 4.8 ASTM E 74 - Practice for calibration of force measuring instruments for verifying the force indication of testing machines
- 4.9 ISO 2081:1986 - Metallic coatings — Electroplated coatings of zinc on iron or steel.
- 4.10 IS 2770 - Methods of Testing Bond in Reinforced Concrete
- 4.11 IS 11309 - Method for Conducting Pull-Out Test on Anchor Bars and Rock Bolts
- 4.12 IS-2102 (Part 1 and 2) - General Tolerances for Dimensions, Forms and Position.

The latest issues of the documents listed above constitute a Part of this specification to the extent specified herein. In the event of certain requirements of the specification, drawing or data listed above creates conflict, the decision will be at the discretion of the BARC.

#### 5 Testing And Acceptance Criteria

- 5.1 **Sample testing before bulk supply:** Random sample of Anchor bolts will be tested for checking its properties before bulk supply. The bulk supply can be executed after acceptance of sample testing. The testing procedures and acceptance criteria is mentioned below in detail.

- 5.2 Pull out test: Contractor should carry out pull out test after chemical grouting to ensure proper bonding of chemical grout for 50 numbers.
- The 50 number of grouting bolts shall be done specifically for destructive pull-out testing. The grouted bolts which are qualified in the pull out testing will be included in executed work quantity for payment by BARC.
  - The testing location will be identified and conveyed by BARC Representative in proximity to actual anchoring locations.
  - The bolt should withstand a pull-out test of minimum 5.5 tons load. In the event of more than 10% failures, the actual locations (1% of total) will be subjected to pull out test (5.5 tons load) at random.
  - In the event of more than 10% failures of actual locations as well, further 1% of actual locations will be subjected to pull out test (5.5 tons load) at random. This process will continue till the failure is less than or equal to 10%.
  - In the event of less than or equal to 10% failures among the destructive pull out testing samples, actual locations are still liable for pull-out test (5.5 tons load) as per the discretion of BARC.
- 5.3 The bolt should withstand a pull-out test of minimum 5.5 tons load. In the event of failure, the bolt to be re grouted and certified for another pullout test.
- 5.4 The grouted bolts, which do not qualify the pull out test, will not be included for payment by BARC.
- 5.5 The anchor stud and nut supplied shall be complying with IS 1367 property class 10.9 and 10 respectively. Relevant test reports for mechanical properties and chemical composition complying with relevant standards shall be submitted.
- 5.6 The load testing shall be carried out as per ASTM E-488 standard Test methods for strength of anchors in concrete and masonry elements.
- 5.7 Before delivery of the materials a copy of the manufacturer's Technical Data Sheet, attesting that material meet the requirements specified, shall be submitted to and approved by EIC as an alternate proof of performance. The contractor shall submit all the required Test Certificates as per relevant standards procedures complying with the specifications. Final acceptance shall be decided based on the reports and results obtained in field tests after completion of work.
- 5.8 Chemical adhesives shall be allowed to gain strength for the minimum time specified by the manufacturer's usage instructions before torque is applied to bolts and load is applied to the bonded anchor system.
- 5.9 Only Calibrated electronic load and displacement measuring devices, calibrated in accordance with 'ASTM E4 Practices for Force Verification' shall only be used. The equipment used shall be capable of measuring the forces with an accuracy of  $\pm 1\%$  of the anticipated ultimate load.
- 5.10 Tested bonded anchors shall be installed by suitably competent and experienced personnel, and in accordance with the requirements of drawing, in positions that are representative of the positions of the bonded anchors as required by the design.
- 5.11 Testing shall be conducted by a competent person who has experience in testing of bonded anchors and test reporting.
- 5.12 Bonded anchors shall be tested using testing equipment that has been calibrated as a minimum, on an annual basis at the required intervals in accordance with ASTM E 74. One week prior to testing the Contractor shall submit to the EIC calibration certificates conforming to the requirements of relevant standards for the jack and pressure gauges or other force measuring devices to be used.
- 5.13 The measuring equipment shall allow the applied force to be determined to an accuracy of  $\pm 2\%$ . If measurement of displacement is required, the measuring equipment shall

comply with AS 1391 and shall allow elongation to be determined with an accuracy of  $\pm 0.02$  mm, with measurements made directly on the anchor.

- 5.14 Arrangement of all the necessary test instruments, preparation of set up, sample preparations etc. required for qualifications of the pull-out tests are in the scope of contractor.
- 5.15 The Contractor has to submit Quality Assurance Plan (QAP) before commencement of work and get it approved from BARC Representative.

## **6 Precautions to be followed while executing the work**

- 6.1 Diamond core drilling shall be carried out using diamond drill bits of appropriate size to make a hole of suitable size and depth as required by specifications and blow out dust with air.
- 6.2 Brush the hole with an appropriately sized wire brush with stiff nylon or wire bristles, a minimum of 3-4 times in a twisting motion. If the bore hole ground is not reached with the brush, appropriate extension must be used.
- 6.3 Blow out the dust again with clean air. Starting from the bottom or back of the bore hole, blow the hole clean with compressed air (min. 6 bar) a minimum of 3-4 times until return air stream is free of noticeable dust. If the bore hole ground is not reached an extension must be used.
- 6.4 After cleaning, the bore hole has to be protected against re-contamination in an appropriate way, until dispensing the mortar in the bore hole. If necessary, the cleaning has to be repeated directly before dispensing the mortar. In-flowing water must not contaminate the bore hole again.
- 6.5 Prior to dispensing into the anchor hole, squeeze out separately a minimum of three full strokes and discard non-uniformly mixed adhesive components until the mortar shows a consistent colour.
- 6.6 The chemical adhesive shall be used within the time limit (working time or gel time) stated in the manufacturer's installation requirements. If a working interruption is longer than the recommended working time as well as for new cartridges, a new static-mixer shall be used.
- 6.7 Care must be taken while withdrawing static mixing nozzle so as to avoid creating air pockets. If the bore hole ground is not reached with the static-mixing nozzle, appropriate mixer nozzle extensions shall be used.
- 6.8 Each hole shall be checked visually to ensure that the chemical adhesive is injected to the correct depth (typically 2/3 of the hole depth) prior to insertion of the metal anchor rod.
- 6.9 Prior to inserting the anchor rod into the filled bore hole, the position of the embedment depth shall be marked on the anchor rods.
- 6.10 While pushing the threaded rod or reinforcing into the anchor hole positive distribution of the adhesive shall be ensured by turning it slightly until the embedment depth is reached. The anchor should be free of dirt, grease, oil or other foreign material.
- 6.11 If a popping or cracking sound is heard while inserting the anchor rod, air voids are present in the chemical adhesive. in such a case remove the anchor rod, allow the chemical adhesive to fully harden, re drill the hole and repeat the entire installation process.
- 6.12 Excessive chemical adhesive shall be removed from the concrete and anchor rod surfaces after inserting the anchor rod.
- 6.13 Ensure that the anchor is fully seated at the bottom of the hole and that excess mortar is visible at the top of the hole. If these requirements are not maintained, the application has to be renewed.

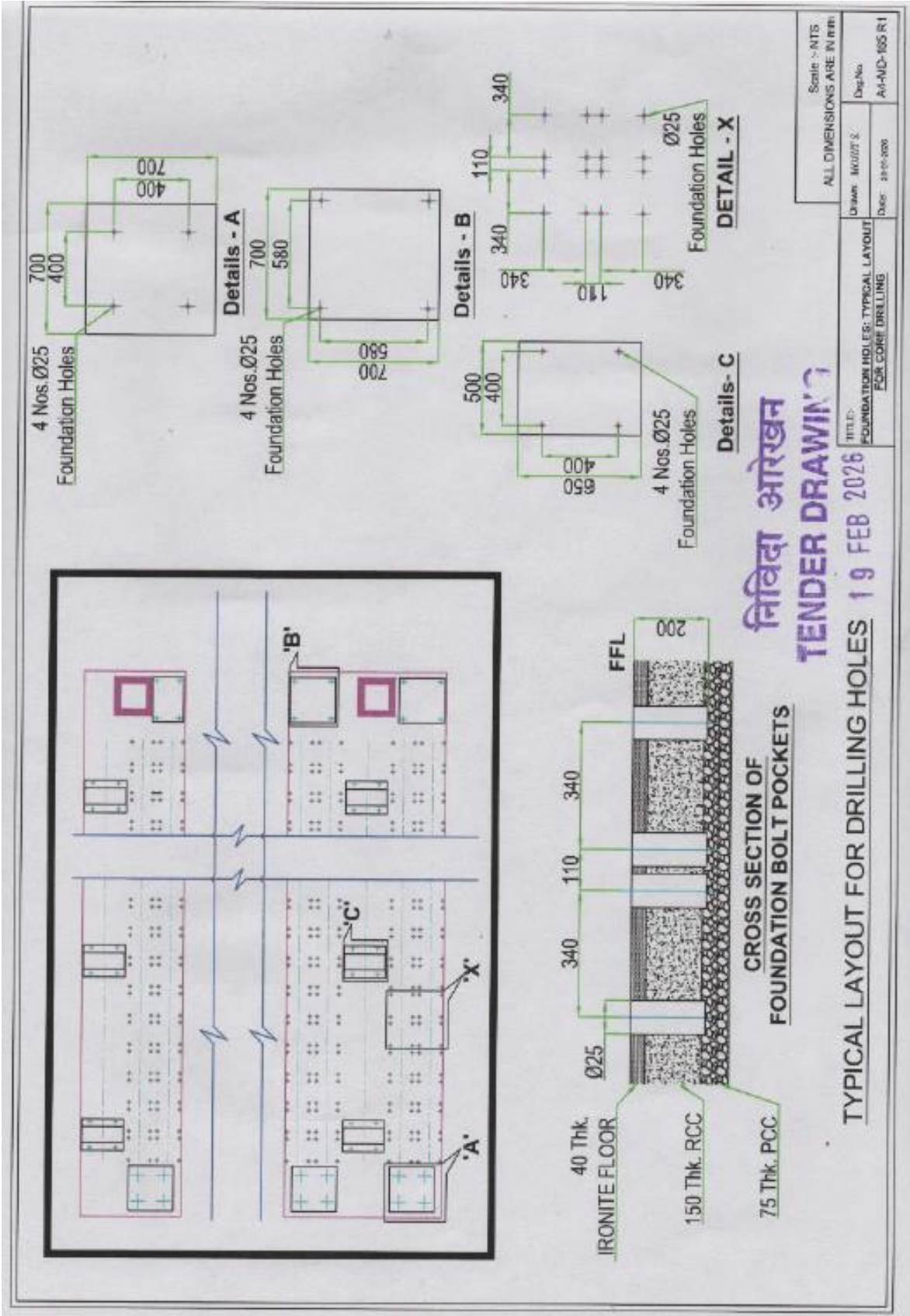
- 6.14 Allow the adhesive to cure to the specified time prior to applying any load or torque. Do not move or load the anchor until it is fully cured.
- 6.15 The entire procedure for placing chemical adhesives and anchor rods shall be in accordance with the manufacturer's installation requirements.

## **7 General Instructions and Conditions**

- 7.1 Disposal of concrete debris after drilling as per BARC norms is responsibility of Contractor.
- 7.2 All the tools / equipment/ fixtures required for this work shall be within the scope of contractor.
- 7.3 The entire work shall be inspected and certified by the department staff during its course of execution.
- 7.4 Strict discipline, all safety rules and security guidelines shall be followed while working at BARC site.
- 7.5 Necessary safety items such as gloves, goggles etc shall be within the scope of contractor.
- 7.6 The contractor shall obtain necessary safety clearance from Safety section of BARC, Mysuru before commencement of the work.
- 7.7 The contractor shall provide for proper packing of the bolts and chemical resins as required for preventing any type of damage or deterioration during their transit as well as its storage time in BARC, during the course of execution of this contract.
- 7.8 Inspection: Departmental Engineer will inspect every stage of Work and one departmental Supervisor will be available in field for monitoring the progress as well as for technical supervision. Any corrections required after inspection shall be carried out by the contractor.
- 7.9 The contractor should submit a detailed scheduling of activities to be followed for executing this contract before commencing the work.
- 7.10 Cleanliness: Keeping the area clean and tidy is of utmost importance. All the waste like used tissue papers, cotton waste, etc. shall be put in the waste material drums kept in the area. Under no circumstances, the waste shall be littered on the floor of the working area or the surroundings.
- 7.11 The contractor has to deploy required number of manpower, whenever requirement arises and as per the instruction from BARC representative. Conveyance (transportation) of all deputed personnel shall be at the contractor's cost.
- 7.12 The area where the work has to be carried out fall under region of category and hence special care and vigilance shall be maintained throughout while working therein.
- 7.13 The contract personnel shall work only under the supervision and guidance of department personnel.
- 7.14 Safety Precautions: The contractor shall carry out the works in compliance with prevailing safety regulations of BARC. The contractor should take care the safety of the equipment and components during the execution of works at site.

The contractor shall submit a detailed Quality Assurance Plan for carrying out this job in compliance with our requirements. The same shall be submitted and get it approved by BARC representative, before commencement of any work.

# Section VI Drawing



**SECTION-VII (i)****PROFORMA OF SCHEDULES**

<b>Name of the Work:</b>	<b>Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore</b>
<b>Tender No:</b>	<b>BARC/MYS/MD/AN/WT/2025/NIT</b>

**SCHEDULE 'A'**

Schedule of materials to be issued to the contractor

Sl. No.	Description of item	Rate at which the materials will be charged to contracted (issue rate & storage charges to be shown separately)			Place of issue
		Approx. Quantity	Unit	Rates	
1	2	3	4	5	6
1	Water	As required	-	Free Issue Material	At one point near site of work. ( Pipe/Hose for connecting the pipe from Outlet point to water tanker to be arranged by contractor)
2	Electricity	As required	kWh	Rs. 10 per kWh	At one point near site of work / nearest available power source.

Notes: (1) The contractor shall barricade the labour colony with a 3 meter high GI sheet providing sufficient illumination around the periphery, and having single entry/ exit gate. (2) The contractor shall provide round-the-clock security, with one Security personnel assigned for each 8-hour shift. (3) The facilities in the labour colony shall be provided by the contractor in accordance with the conditions mentioned in "Model Rules for the Protection of Health & Sanitary Arrangements for workers" and the "Safety code" of the Tender Document (Refer Section-III). (4) The contractor shall deploy a supervisor at all times in the labour colony to assist the department for security related issues. (5) Consumption of liquor and smoking are strictly prohibited in the construction site and labour colony. The contractor shall submit an undertaking to ensure compliance with this policy.

**SCHEDULE 'B'**

Schedule of quantities : Attached separately

**SCHEDULE 'C' (Applicable)**

Tools and plants to be hired to the contractor

Sl. No.	Description of item	Hire charges per day	Place of issue
1	2	3	4

**SCHEDULE 'D' (Not Applicable)**

Extra schedule for specific requirements / document for the work, if any.

**SCHEDULE 'E'**

<b>Name of the Work:</b>	<b>Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore</b>
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Location: : RMP, BARC, Yelwal, Mysore, Karnataka-571130

## PROFORMA OF SCHEDULES

<b>Name of the Work:</b>	<b>Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore</b>
<b>Tender No:</b>	<b>BARC/MYS/MD/AN/WT/2025/NIT</b>
Scope of work	: For detailed scope of work refer Technical Specification.
(i) Estimated cost of work	: ₹ 11,800,000 (+) GST
(ii) Earnest money	: ₹ 278,480
(iii) Performance Guarantee	: 3% of tendered value (i.e. value of the entire work as stipulated in the letter of award.)
(iv) Security Deposit	: 2.5% of tendered value (i.e. value of the entire work as stipulated in the letter of award.)

# PROFORMA OF SCHEDULES

<b>Name of the Work:</b>	<b>Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore</b>		
<b>Tender No:</b>	<b>BARC/MYS/MD/AN/WT/2025/NIT</b>		
<b>SCHEDULE 'F'</b>			
<b>GENERAL RULES &amp; DIRECTIONS</b>		: Chief Engineer, BARC Mysuru	
<b>Definitions:</b>			
2(v) Engineer-in-Charge	: Officer appointed by Chief Engineer, BARC Mysuru		
2(viii) Accepting Authority	: Chief Engineer, BARC Mysuru		
2(x) Percentage on cost of materials and Labour to cover all overheads and profits	: 15%		
2(xi) Standard Schedule of Rates	: <b>BARC Schedule of Rates</b>		
2(xii) Department	: Bhabha Atomic Research Centre (BARC), Department of Atomic Energy, Government of India		
<b>Clause 1</b>			
Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance or Work Order	: 14 days		
Maximum allowable extension with late fee of 0.1% per day of Performance Guarantee amount beyond the period provided above	: 15 days		
<b>Clause 2</b>			
Authority for fixing compensation under Clause 2	: Chief Engineer, BARC Mysuru		
<b>Clause 2A</b>			
Whether Clause 2A shall be applicable	: No		
<b>Clause 5</b>			
Number of days from the date of issue of Work Order for reckoning date of start of Completion Period	: <b>15th day, after date of written order to commence the work. The date of commencement may be modified during award of work which shall be communicated in the work order.</b>		
Table of Mile Stone(s)	: Not Applicable ( In case of Maintenance Works)		
Table of Mile Stone(s) :			
SI No.	Description of Milestone	Time Allowed in days (from date of start)	Amount to be with-held in case of non achievement of milestone
1	1/8 th (of whole work) as assessed from the running payments	1/4 th (of Stipulated Completion period)	<b>In the event of non-achieving the necessary progress as assessed from the running payments, 1% of the tendered value of work will be withheld for failure of each milestone.</b>
2	3/8 th (of whole work) as assessed from the running payments	2/4 th (of Stipulated Completion period)	
3	3/4th (of whole work) as assessed from the running payments	3/4 th (of Stipulated Completion period)	
4	Full (of whole work) as assessed from the running payments	Full	

## PROFORMA OF SCHEDULES

<b>Name of the Work:</b>	<b>Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore</b>	
<b>Tender No:</b>	<b>BARC/MYS/MD/AN/WT/2025/NIT</b>	
Time allowed for execution of work	: 180 Calendar days including monsoon period.	
<b>Authority to decide:</b>		
(i) Extension of time	: Chief Engineer, BARC Mysuru	
(ii) Rescheduling of mile stones	: Superintending Engineer , BARC Mysuru	
<b>Clause 6, 6A</b>		
Clause applicable – (6 or 6A)	: Clause 6/ 6A is Applicable	
<b>Clause 7</b>		
Gross work to be done together with net payment/ adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment	: 20% of Tendered value ( However bill of lesser may also be accepted as per discretion of Engineer-in-Charge )	
<b>Clause 10A (Applicable)</b>		
List of testing equipment to be provided by the contractor at site lab.		
1 Pull-Out Test Equipment	2	
3	4	
<b>Clause 10B(ii)</b>		
Whether Clause 10B(ii) shall be applicable	: No	
<b>Clause 10C (Applicable)</b>		
Component of labour expressed as percent of value of work	: 20%	
<b>Clause 10CA (Not Applicable)</b>		
Materials covered under this clause (10 CA)	Nearest Materials for which All India Wholesale Price Index to be followed	Base Price of all the Materials covered under clause 10CA
Note: Base price for materials given above are for regulating operation of clause 10-CA. The tenderers are requested to consider prevailing market rates while quoting the rates.		
<b>Clause 10CC (Not Applicable)</b>		
Clause 10CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next column	: 180 Calendar days	
Schedule of component of other Materials, Labour, P.O.L. etc. for price escalation.		

# PROFORMA OF SCHEDULES

<b>Name of the Work:</b>	<b>Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore</b>		
<b>Tender No:</b>	<b>BARC/MYS/MD/AN/WT/2025/NIT</b>		
<b>Description of Component</b>	<b>Calculation of "W" (Cost of work for which escalation is applicable) will be based Schedule/ Group of Items</b>	<b>% Component expressed as percentage of Schedule/ Group of Items based on which "W" was calculated</b>	<b>Nearest Material/Commodity for which All India Wholesale Price Index to be followed/Labour Rates</b>

**Clause 11**

Specifications to be followed For execution of work	: Technical Specifications as given in the Tender Document.
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**Clause 12**

12.2 & 12.3	Deviation Limit beyond which clauses 12.2 & 12.3 shall apply
<b>Schedule/ Group of Items</b>	<b>Deviation Limit %</b>
Core Drilling and Chemical Anchoring of Bolts	10%

**Clause 16**

Competent Authority for deciding reduced rates	: Chief Engineer , BARC Mysuru
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**Clause 18**

List of mandatory machinery, tools & plants to be deployed by the contractor at site:	
1 Core Drilling Machine	3
2 Metal Fixtures	4

Note: (i) The above mentioned list of machinery, tools & plant to be deployed by the contractor at site are the minimum mandatory requirements. The contractor shall deploy additional machinery, tools & plant in order to maintain the progress of the work without any extra cost to the department. (ii) Also the above mentioned list of machinery, tools & plant shall be available at appropriate stage of execution. The decision of the Engineer in Charge regarding this matter shall be final and binding

**Clause 36 (i)**

<b>Requirement of Technical Representative(s) and recovery rate</b>

## PROFORMA OF SCHEDULES

Name of the Work:		Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore				
Tender No:		BARC/MYS/MD/AN/WT/2025/NIT				
Sl. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical/ Technical representative)	Minimum experience	Nos	Rate per month at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36(i)
<b>For works of Estimated Cost More than 100 Cr.</b>						
1	Graduate Engineer	Major Component	Project Manager	20 (and having experience of one similar nature of work)	1	Rs. 60,000/- per month
2	Graduate Engineer	Major Component	Deputy Project Manager	12 (and having experience of one similar nature of work)	2	Rs. 40,000/- per month
3	Graduate Engineer	Minor Component	Deputy Project Manager	12 (and having experience of one similar nature of work)	1	Rs. 40,000/- per month
4	Graduate Engineer or Diploma Engineer	Major Component	Project / site engineer	5 or 10 Years Respectively	4	Rs. 25,000/- per month
5	Graduate Engineer or Diploma Engineer	Minor Component	Project / site engineer	5 or 10 Years Respectively	2	Rs. 25,000/- per month

## PROFORMA OF SCHEDULES

<b>Name of the Work:</b>		<b>Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore</b>				
<b>Tender No:</b>		<b>BARC/MYS/MD/AN/WT/2025/NIT</b>				
6	Graduate Engineer	Major Component	Quality Engineer	8	1	Rs. 25,000/- per month
7	Graduate Engineer	Minor Component	Quality Engineer	8	1	Rs. 25,000/- per month
8	Diploma Engineer	Surveying	Surveyor	8	1	Rs. 15,000/- per month
9	Graduate Engineer	Major Component	Project Planning/billing	6	1	Rs. 20,000/- per month
10	Graduate Engineer	Minor Component	Project Planning/billing	6	1	Rs. 20,000/- per month
<b>For works of Estimated Cost More than 50 to 100 Cr.</b>						
1	Graduate Engineer	Major Component	Project Manager	20 (and having experience of one similar nature of work)	1	Rs. 60,000/- per month

## PROFORMA OF SCHEDULES

Name of the Work:		Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore				
Tender No:		BARC/MYS/MD/AN/WT/2025/NIT				
2	Graduate Engineer	Major Component	Deputy Project Manager	12 (and having experience of one similar nature of work)	1	Rs. 40,000/- per month
3	Graduate Engineer	Minor Component	Deputy Project Manager	12 (and having experience of one similar nature of work)	1	Rs. 40,000/- per month
4	Graduate Engineer or Diploma Engineer	Major Component	Project / site engineer	5 or 10 Years Respectively	1	Rs. 25,000/- per month
5	Graduate Engineer or Diploma Engineer	Minor Component	Project / site engineer	5 or 10 Years Respectively	1	Rs. 25,000/- per month
6	Graduate Engineer	Major Component	Quality Engineer	8	1	Rs. 25,000/- per month
7	Graduate Engineer	Minor Component	Quality Engineer	8	1	Rs. 25,000/- per month

## PROFORMA OF SCHEDULES

Name of the Work:		Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore				
Tender No:		BARC/MYS/MD/AN/WT/2025/NIT				
8	Diploma Engineer	Surveying	Surveyor	8	1	Rs. 15,000/- per month
9	Graduate Engineer	Major Component	Project Planning/billing	6	1	Rs. 20,000/- per month
10	Graduate Engineer	Minor Component	Project Planning/billing	6	1	Rs. 20,000/- per month
<b>For works of Estimated Cost More than 20 to 50 Cr.</b>						
1	Graduate Engineer	Major Component	Project Manager	20 (and having experience of one similar nature of work)	1	Rs. 60,000/- per month
2	Graduate Engineer	Major Component	Deputy Project Manager	12 (and having experience of one similar nature of work)	1	Rs. 40,000/- per month
3	Graduate Engineer or Diploma Engineer	Major Component	Project / site engineer	5 or 10 Years Respectively	1	Rs. 25,000/- per month

## PROFORMA OF SCHEDULES

Name of the Work:		Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore				
Tender No:		BARC/MYS/MD/AN/WT/2025/NIT				
4	Graduate Engineer or Diploma Engineer	Minor Component	Project / site engineer	5 or 10 Years Respectively	1	Rs. 25,000/- per month
5	Graduate Engineer or Diploma Engineer	Major Component	Project Planning /quality/ billing Engineer	2 or 5 Years Respectively	1	Rs. 15,000/- per month
6	Graduate Engineer or Diploma Engineer	Minor Component	Project Planning /quality/ billing Engineer	2 or 5 Years Respectively	1	Rs. 15,000/- per month
<b>For works of Estimated Cost More than 10 to 20 Cr.</b>						
1	Graduate Engineer	Major Component	Project Manager	10 (and having experience of one similar nature of work)	1	Rs. 30,000/- per month
2	Graduate Engineer or Diploma Engineer	Major Component	Project / site engineer	5 or 10 Years Respectively	1	Rs. 25,000/- per month
3	Graduate Engineer or Diploma Engineer	Major Component	Project Planning /quality/ billing Engineer	2 or 5 Years Respectively	2	Rs. 15,000/- per month

## PROFORMA OF SCHEDULES

<b>Name of the Work:</b>		<b>Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore</b>				
<b>Tender No:</b>		<b>BARC/MYS/MD/AN/WT/2025/NIT</b>				
4	Graduate Engineer or Diploma Engineer	Minor Component	Project Planning /quality/ billing Engineer	2 or 5 Years Respectively .	2	Rs. 15,000/- per month
<b>For works of Estimated Cost More than 5 to 10 Cr.</b>						
1	Graduate Engineer	Major Component	Project Manager	5 (and having experience of one similar nature of work)	1	Rs. 25,000/- per month
2	Graduate Engineer or Diploma Engineer	Major Component	Project Planning /quality/ billing Engineer	2 or 5 Years Respectively .	1	Rs. 15,000/- per month
3	Graduate Engineer or Diploma Engineer	Minor Component	Project Planning /quality/ billing Engineer	2 or 5 Years Respectively .	1	Rs. 15,000/- per month
<b>For works of Estimated Cost More than 1.5 to 5 Cr.</b>						
1	Graduate Engineer or Diploma Engineer	Major Component	Project Manager cum planning /quality/site/ billing Engineer	2 or 5 Years Respectively .	1	Rs. 15,000/- per month
1	Graduate Engineer or Diploma Engineer	Minor Component	Quality/site/ billing Engineer	2 or 5 Years Respectively .	1	Rs. 15,000/- per month

## PROFORMA OF SCHEDULES

<b>Name of the Work:</b>	<b>Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore</b>
<b>Tender No:</b>	<b>BARC/MYS/MD/AN/WT/2025/NIT</b>

### For works of Estimated Cost More than 15 Lakh to 1.5 Cr.

1	Graduate Engineer or Diploma Engineer	Major Component	Project Manager cum planning /quality/site/ billing Engineer	2 or 5 Years Respectively	1	Rs. 15,000/- per month
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### For works of Estimated Cost up to 15 Lakhs

1	Diploma Engineer	Major Component	Project Manager cum planning /quality/site/ billing Engineer	5 Years Respectively	1	Rs. 15,000/- per month
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Note: i) Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers. ii) This is the mandatory minimum strength required and shall be progressively deployed as per the instructions of the Engineer-in-Charge. iii) The Contractor can deploy more than the mandatory minimum strength (i.e adequate Nos. of technicians, site supervisors, accounts & office staff), considering the contractual obligations. iv) The contractor has to submit deployment schedule of all the Technical Representatives before commencement of the work to the Engineer in Charge.

#### Clause 42 (Not Applicable)

(I) Schedule / statement for determining theoretical quantity of cement & bitumen shall be on the basis of Technical Specifications/ BARC Schedule of Rates.

(II) Variations permissible on theoretical quantities

#### (a) Cement

For works with estimated cost put to tender not more than Rs.5 Lakhs	: 3% plus / minus
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For works with estimated cost put to tender more than Rs.5 Lakhs	: 2% plus / minus
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(b) Bitumen all works	: 2.5% plus only & nil on minus side
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(c) Steel Reinforcement and structural steel Sections for each diameter, section and category	: 2% plus / minus
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(d) All other materials	: Nil
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### RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

		<b>Rates in figures and words at which recovery shall be made from the contractor</b>	
<b>Sl. No.</b>	<b>Description of item</b>	<b>Excess beyond permissible variation</b>	<b>Less use beyond the permissible variation</b>

## PROFORMA OF SCHEDULES

<b>Name of the Work:</b>	<b>Core Drilling and Chemical Anchoring of Bolts at BARC, Mysore</b>		
<b>Tender No:</b>	<b>BARC/MYS/MD/AN/WT/2025/NIT</b>		
<b>Special Instructions to Tenderers</b>			
<b>Clause-53</b> Special Payment terms applicable for this tender	: Nil		
<b>Clause-54.a</b> Applicability of Contractor's All Risk Policy Clause	: No		
<b>Clause-57</b> Whether Sub-Contracting is allowed for this tender	: No		
<b>In case Sub-Contracting is allowed, details of portions (s) of the Contract that can be sub-contracted</b>	: Not Applicable		