

dispute as to any opinion, instruction, determination, certificate or valuation of the Engineer, the matter in dispute shall, in the first place, be referred in writing to the Engineer, with a copy to the other party. Such reference shall state that it is made pursuant to this clause. No later than the eighty fourth day after the day on which he received such reference the Engineer shall give notice of his decision to the employer and the contractor. Such decision shall state that it is made pursuant to the Clause.

Unless the contract has already been repudiated or terminated, the contractor shall, in every case, continue to proceed with the works with all due diligence and the contractor and the employer shall give effect forthwith to every such decision of the Engineer unless and until the same shall be revised, as hereinafter provided, in an amicable settlement or an arbitrator award.

If either the Employer or the contractor be dissatisfied with any decision of the Engineer or if the Engineer fails to give notice of his decision on or before the eighty fourth day after the day on which he received the reference, then either the Employer or the contractor may, on or before the seventieth day after the day on which he received notice of such decision, on or before the seventieth day after the day on which the said period of 84 days expired, as the case may be given notice to the other party, with a copy for information to the Engineer, of his intention to commence arbitration, as herein after provided, as to the matter in dispute. Such notice shall establish the entitlement of the party giving the same to commence arbitration, as hereinafter provided as to such dispute and subject to Sub Clause 25.4 no arbitration in respect thereof may be commenced unless such notice is given.

If the Engineer has given notice of his decision as to a matter in dispute to the Employer and the Contractor and no notice of intention to commence arbitration as to such dispute has been given by either the Employer or the Contractor on or before the seventieth day after the day on which the parties received notice as to such decision from the Engineer, the said decision shall be come final and binding upon the employer and the contractor. Request for arbitration by the contractor shall be entertained by the employer only after completion of work.

25.2 AMICABLE SETTLEMENT

Where notice of intention to commence arbitration as to a dispute has been given in accordance with Sub Clause 25.1 arbitration of such dispute shall not be commenced unless and attempt has first been made by the parties to settle such dispute amicably. Provided that, unless the parties otherwise agree, arbitration may be commenced on or after the fifty sixth day after the day on which notice of intention to commence arbitration of such dispute was given, whether or not any attempt at amicable settlement thereof has been made.

25.3

ARBITRATION:-

The arbitration on this tender shall be governed by the following conditions:-

Except where otherwise provided for in the sub contract all questions and disputes relating to the meaning of instructions herein before mentioned or as to any other question, claim, right matter of anything whatsoever, in any arising out of or relating to the sub contract, specification, 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 completion of abandonment thereof or any matter directly or indirectly connected with this agreement shall be referred to the sole arbitration of the Managing Director of NSC and if the

M.D is unable or unwilling to act as such, then the matter shall be referred to sole arbitration of such other person appointed by the M.D. NSC willing to act as such arbitrator. There will be no objection, if the Arbitrator, so appointed is an employee of NSC provided that the person shall not have been directly connected with the execution of the work of the project. In case the arbitrator so appointed is unable to act for any reasons. Managing Director, NSC in the event of such inability shall appoint another person to act as Arbitrator in accordance with the terms of the sub contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor. It is also a term of this contract that no person other than a person appointed by Managing Director, NSC as aforesaid should act as Arbitrator.

Subject as aforesaid the provision of the Arbitration Act, 1940 or any statutory modification or reenactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause. It is a term of the sub contract that the party seeking arbitration shall specify the dispute to be referred to arbitration under this clause together with the amount or amounts claimed in respect of each dispute(s). The arbitrator may from time to time with the consent of the parties enlarge the time for making and publishing the award. The work under the sub contract shall nevertheless continue during the arbitration/proceedings. The Arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties fixing the date of the first hearing. The Arbitrator shall give a separate reasoned award in respect of each reference referred to.

25.3.3 The award of the arbitrator shall be conclusive and binding on all parties to this contract.

CLAUSE : 26 CONTRACTOR TO INDEMNIFY GOVT. AGAINST PATENT RIGHTS

The contractor shall fully indemnify the Employer 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 Employer 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 expenses, 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 Employer if the infrigent of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer in this behalf.

CLAUSE : 27 LUMP SUM PROVISIONS IN THE TENDER

When the estimate on which a tender is made includes lump sums in respect of parts of the work the contractor shall be entitled to payment in respect 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 items or if the part of the work in question is not, in the opinion of the Engineer capable of measurement, the Engineer may at his discretion pay the lump sum amount entered in the estimates and the certificate in writing of the Engineer 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 or work for which there is no such specification as is mentioned in Clause (1), such work shall be carried out in accordance with the district specification and in the event of there being no district specification, then in such case the work shall be carried out in all respect in accordance with the instructions and requirements of the Engineer.

CLAUSE : 29 WITHHOLDING AND LIEN IN RESPECT OF SUMS DUE FROM CONTRACTOR

29.1 Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the contractor the Engineer or Employer 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 or Employer 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 finalization or adjudication of any such claim. In the event of the security being in sufficient to cover the claimed amount or amounts or if not security has been taken from the contractor the Engineer or Employer 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 at any time there-after become payable to the contractor under the same contract or any other contract pending finalization or adjudication of any such claims.

It is an agreed terms of the contract that the sum of money or moneys so withhold or retained, under the lien referred to above by the Engineer or Employer will be kept withheld or retained as such by the Engineer/Employer till the claim arising out of or under the contract is determined by the Arbitrator, 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 limited company, the Engineer or Employer 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.

29.2 Employer shall have the right to cause and audit and technical examination of the work 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 is found to have been over paid in respect of any work done by the contractor under the contract or any work claimed by him 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 overpayment and it shall be lawful for the Employer to recover the same from him in the manner prescribed in sub-clause (I) 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 it, the amount of such under payment shall be duly made by the Employer.

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

29.3 LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS

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

It is an agreed term of the contract that the sum of money so withhold or retained under this clause by the Engineer or the Employer or till his claim arising out of in 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 not claim for interest or damage whatsoever on this account or on any other ground in respect of any sum of money withhold or retained under clause and duly notified as such to the contractor.

CLAUSE : 30
AREA

EMPLOYMENT OF COAL MINING OR CONTROLLED
MINING LABOUR NOT PERMISSIBLE.

The contractor shall not employ coal mining or controlled area labour falling

under any category whatsoever on or in connection with the work or recruit labour from area within a radius of 32 km (20 miles of the controlled area). Subject as above the Contractor shall employ imported labour on i.e deposit imported labour or labours imported by the Contractor from area from which import is permitted.

Where ceiling price for imported labour has been fixed by state or Regional Labour Committees not more than that ceiling price shall be paid to the labour by the Contractor.

The Contractor shall immediately remove any labourer who may be pointed out by the Engineer being a coal mining or controlled area labourer. Failure to do so shall

render the Contractor liable to pay to employer a sum calculated at the rate of Rs.10 per labourer. The certificate of the Engineer about the number of causal mining or controlled area labour and the number of days which they worked shall be final and binding on the contractor.

It is declared and agreed between the parties that the aforesaid stipulation in this clauses is one in which the public are interested within the meaning of the exception of Section 74 of Indian Contract Act 1872.

Explanation - Controlled Area means the following areas - Districts of Dhanbad, Hazaribagh, Jamtra- a sub-division under Santhal Pargana Commissionery, Districts of Bankuara, Birbhum, Bardwan district of Bilaspur.

Any other area which may be declared as controlled Area by or with the approval of the Central Government.

CLAUSE : 31 UN-FILTERED WATER SUPPLY

The Contractor(s) shall make his/their own arrangements for unfiltered water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions :

- i) That the water used by the contractor(s) shall be fit for construction purposes to the satisfaction of the Engineer.
- ii) The Engineer shall make alternative arrangements for supply of water at the risk and cost of contractor(s) if the arrangements made by the Contractor(s) for procurement of water are in the opinion of the Engineer unsatisfactory.

31.1 DEPARTMENTAL WATER IF AVAILABLE

Unfiltered water if available will be supplied to the Contractor by the Engineer subject to the following conditions:

- i) The water charges @ 1% shall be recovered on gross amount of the work done.
- ii) The Contractor (s) shall make his/their own arrangements of water connection and the laying of pipe lines from existing mains or source of supply.
- iii) The Department do not guarantee to maintain uninterrupted supply of water, and it will be incumbent on the Contractor(s) to make alternative arrangement of water at his/their own cost in the event of any temporary break down in water supply of the employee so that the progress of his/their work is not held up for want of water. No claim of damage or refund of water charges will be entertained on account of such break down.

CLAUSE : 32 ALTERNATE WATER ARRANGEMENTS

Where there is no piped water supply arrangement and the water is taken by the Contractor from the wells or hand pump constructed by the Employer no charges shall be recovered from the Contractor on that account. The contractor shall however, draw water at such hours of the day that does not interfere with the normal use for which the hand pump and wells are intended. He will also be responsible for all damage and abnormal repairs arising out of his use, the cost of which shall be recoverable from him. The Engineer shall be the final authority to determine the cost recoverable from the contractor on this account.

The Contractor shall be allowed to construct temporary wells in land for taking water for construction purposes only after he has got permission of the Engineer in writing. No charges shall be recovered from the Contractor on this account by the Contractor shall be required to provide necessary safety arrangements to avoid any accidents or damage to adjacent building road and service lines. He shall be responsible for any accident or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.

CLAUSE : 33 HIRE OF PLANT AND MACHINERY

- i) The contractor shall arrange at his own expense all tools, plants, machinery and equipment (hereinafter referred to as T & P) required for execution of the work except for the Plant & 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 Employer over and above the T & P stipulated for issue, the Employer will, if such item is available, hire it to the contractor at rates to be agreed upon between him and the Engineer. In such a case all the conditions hereunder for issue of T & P shall also be applicable to such T & P as is agreed to be issued.
- ii) Plant & Machinery when supplied shall be made over and taken back at the

- xi) The contractor shall have to engage a full time chowkidar to ensure watch & ward for the safety of machinery and materials supplied by the employer to the contractor related to this contract.

CLAUSE : 34 CONDITION RELATING TO USE OF ASPHALT MATERIALS

- i) The contractor undertakes to make arrangements 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 formulas before the process of the painting is started and shall hypothecate it to the Engineer. 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 authorised changes of specification & abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Engineer shall be made and the materials returned to the contractors. Although the materials are hypothecated to employer 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 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 : 35 EMPLOYMENT OF TECHNICAL STAFF AND EMPLOYEES

Contractors superintendence, supervision, technical staff and employees.

- i. The contractor shall provide all necessary superintendence during execution of the work and as 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 the name, qualifications, experience, age, address and other particulars along with certificates, of the principal technical representative to be in charge of the work. Such qualifications and experience shall not be lower than specified in schedule 'F'. The Engineer shall within 15 days of receipt of such communication intimate in writing his approval or otherwise of such a representative according to the provisions on the contractor in this respect. Such a principal technical representative shall be appointed by the contractor soon after receipt of the approval from Engineer and shall be available at site within fifteen days of start of work.

- xi) The contractor shall have to engage a full time chowkidar to ensure watch & ward for the safety of machinery and materials supplied by the employer to the contractor related to this contract.

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- 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.

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The contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer the name, qualifications, experience, age, address and other particulars along with certificates, of the principal technical representative to be in charge of the work. Such qualifications and experience shall not be lower than specified in schedule 'f'. The Engineer shall within 15 days of receipt of such communication intimate in writing his approval or otherwise of such a representative according to the provisions on the contractor in this respect. Such a principal technical representative shall be appointed by the contractor soon after receipt of the approval from Engineer and shall be available at site within fifteen days of start of work.

If the contractor (or any partner in case of firm/company) who himself has such qualifications, it will not be necessary for the said contractor to appoint such a principal technical representative but the contractor shall designate and appoint a responsible agent to represent him and to be present at the work whenever the contractor is not in a position to be so present. All the provisions applicable to the principal technical representative under the Clause will also be applicable in such a case to contractor or his responsible agent. The principal technical representative and/or the contractor shall on receiving reasonable notice from the Engineer or his designated representative(s) in charge of the work in writing or in person or otherwise, present himself to the Engineer and/or at the site of work, as required, to take instructions.

Instructions given to the principal technical representative or the responsible agent shall be deemed to have the same force as if these have been given to the contractor. The principal technical representative and/or the contractor or his responsible authorized agent shall be actually available at site during important stages of execution of work, recording of measurement of works and when ever so required by the Engineer, his designated representative in the site order book and shall affix his signature in token of noting down the instructions and in token of acceptance of measurements.

If the Engineer whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative or agent is effectively appointed or is effectively attending or fulfilling the provision of this clause, a recovery shall be effected from the contractor as specified in schedule 'F' and the decision of the Engineer as recorded in the site order book and measurement recorded in measurement book shall be final and binding on the contractor. Further, if the contractor fails to appoint a suitable technical representative or responsible agent and if such appointed persons are not effectively present or do not discharge their responsibilities satisfactorily, the Engineer shall have full powers to suspend the execution of the work until such date as a suitable agent is 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/responsible agent along with every on account bill/fixed bill and shall produce evidence if at any time so required by the Engineer.

The contractor shall provide and employ on the site only such technical assistance 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 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 to be undesirable. Such person shall not be

employed again at works site without the written permission of the Engineer and the persons so removed shall be replaced as soon as possible by competent substituted.

CLAUSE : 36 APPRENTICES ACT PROVISIONS TO BE COMPLIED WITH

The contractor shall comply with 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 a breach of contract and the 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 Act.

CLAUSE : 37

The whole work, may be spilt up between two or more contractors or accepted in part and not in entirely, if considered expedient.

CLAUSE : 38 LEVY/TAXES PAYABLE BY CONTRACTOR

i) Sales tax or any other tax on material in respect of this contract shall be payable by contractor and Employer shall not entertain any claim whatsoever in this respect.

ii) The contractor shall obtain necessary permit and have to deposit royalty for supply of the red bajri, stone, moorum etc. from local authorities.

iii) If pursuant to on under any law such notification or order any royalty, or the like becomes payable by the Employer 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 Employer and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from the dues of the contractor.

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 Engineer on behalf of the Employer shall have the option of terminating the contract without compensation to the Contractor.

CLAUSE : 40 IF RELATION WORKING IN NSC THEN THE CONTRACTOR NOT ALLOWED TO TENDER.

The contractor shall not be permitted to tender for works in the NSC in which his near relative is posted capacity between the grade of superintending Engineer and Assistant Engineer (both inclusive) and similar cadre officials of other discipline. 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 relative to any officer in the National Seed Corporation. Any breach of this conditions by the Contractor would render him liable to be removed from the work of these Corporations.

NOTE:

By the terms 'near relatives' is meant wife, husband, parents and grant parents, children and grand children, brothers and sisters, uncles, aunts and cousins and their corresponding in laws.

CLAUSE : 41 NO ENGINEER TO WORK AS CONTRACTOR WITHIN TWO YEARS OF RETIREMENT

No Engineer or other officer of Employer or client is allowed to work as a contractor without prior permission of Employer. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Employer aforesaid, before submission of the tender or engagement in the contractor's service as the case may be.

CLAUSE : 42 RETURN OF MATERIAL AND RECOVERY FOR MATERIAL

ISSUED EXCESS

- 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 Employer for use in the work shall be calculated on the basis and method given hereunder.
 - a) Quantity of cement & bitumen shall be calculated on the basis of quantity of cement & 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 constant executed for which standard constants for the consumption of cement of bitumen are not available in the above mentioned schedule/statement or can not be derived from the same shall be calculated on the basis of standard formula to be laid down by the Engineer.
 - b) Theoretical quantity of steel reinforcement of structural steel sections shall be taken as the quantity required as per design or as authorized by the Engineer, 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 & 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% of wastage due to cutting into pieces (except in the case of GI/MS sheets 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 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 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 schedules items, the decision of the Engineer regarding theoretical quantities of materials which should have been actually used, shall be final and binding on the contractor.

iii) The said action under this clause is without prejudice to the right of the Employer 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 DURING WAR LIKE SITUATION

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 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 operation the contractor shall, when ordered in writing by the Engineer, 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 removal of serviceable materials and for the construction of all works ordered by the Engineer 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 Engineer up to Rs.5,000/- and by the Employer concerned for a higher amount. The contractor shall be paid for the damage destruction suffered and for the restoring the material at the rates based on the analysis of rates tendered for in accordance with the provision of this agreement. The certificate of the Engineer regarding the qty. & quality 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 Officer or the Engineer, (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 reconstructions as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Engineer.

CLAUSE : 44 RELEASE OF SECURITY DEPOSIT AFTER LABOUR
CLEARANCE

Security deposit will be refunded on furnishing labour clearance certificate from Labour Officer by the contractor as per CPWD guidelines.

CLAUSE : 45 MONTHLY PROGRESS REPORT

The contractor shall submit in quadruplicate a monthly progress report to the Engineer before the second day of every month. The format of the report shall be decided in consultation with the Engineer, to meet the work schedule requirement.

CLAUSE : 46 QUALITY OF MATERIALS, PLANT AND
WORKMANSHIP

All materials, Plant and Workmanship shall be

- a) of the respective kinds described in the Contract and in accordance with the Engineer's instructions, and
- b) subjected from time to time to such tests as the Engineer may require at the place of manufacture, fabrication or on the Site or at such other place or places as maybe specified in the Contract or at all or any of such places.

The contractor shall provide such assistance, labour, electricity, fuels, stores, apparatus and instruments as are normally required for examining, measuring and testing any materials or Plant and shall supply samples of materials, before incorporation in the works, for testing as may be selected and required by the Engineer. The contractor shall bear the cost of samples, testing fee, if tested out side in laboratory for testing of material provided in the contract or any other material/test not provided in the contract and Engineer feel that the test of this kind is necessary.

CLAUSE : 47 OPPORTUNITIES/FACILITIES FOR OTHER
CONTRACTORS

Some work on the site may be done through other contractors. In the event of any such work, the Contractor shall have to work in full cooperation and in close coordination with other contractor(s). The contractor shall, in accordance with the requirements of the Engineer, afford all reasonable opportunities for carrying out the work of other contractors employed by the Engineer and their workmen and to the workmen of the Employer and of any other duly constituted authorities who may be employed in the execution of near the site of any work not included in the contract or

any contract which the Employer may enter into in connection with or ancillary to the works.

Any dispute that may arise in this connection will have to be amicably settled by the contractors amongst themselves. If they fail to do so, the matter shall be referred to the Engineer whose decision will be final and binding on all the parties, provided that if as a result of such a decision of the Engineer any financial obligations or liabilities arise amongst the contractors, the same shall be settled between themselves and the Engineer/Employer shall remain indemnified against any claim arising out of his decision.

If however pursuant to Sub-Clause (above) the Contractor shall, on the written request of the Engineer.

- a) make available to any such other contractor, or to the Employer or any such authority, any roads or ways for the maintenance of which the Contractor is responsible or
- b) permit the use, by any such, of Temporary works or Contractor's Equipment on the Site or
- c) provide any other service of whatsoever nature for any such the Engineer shall determine an addition to the contract price in accordance with Clause-12 and shall notify the contractor accordingly.
- d) The Contractor's attention is directed to the fact that during the contract period, other contractors and the Employer's departmental staff will be carrying out various works and maintenance including diversion of drains, roads, rails, oil pipe lines, electric cables and other services on and through areas in which the Contractor will be working. The contractor shall maintain close liaison with the Engineer to avoid the possibility of delay or inconvenience as a result of these operations and shall be deemed to have allowed for this in his tender.

CLAUSE : 48 DEFAULT OF CONTRACTOR IN COMPLIANCE

In case of default on the part of the contractor in carrying out such instruction within the time specified therein or, if none, within a reasonable time, the Engineer shall be entitled to employ and pay other persons to carry out the same and all costs consequent thereon or incidental thereto shall, after due consultation with the Employer be determined by the Engineer and shall be recoverable from the contractor by the Employer/Engineer and may be deducted by the Employer from any moneys due or to become due to the contractor and the Engineer shall notify the contractor accordingly with a copy of the Employer.

CLAUSE : 49 BRIBES/COMMISSION

Any bribe/commission, gift or advantage given promised by or on behalf of the contractor or his partner, agent or servant or any one, on his or their behalf to any officer, servant, representative or agent of the Engineer or to any person on his behalf in relation to the obtaining or to the execution of this or any other contract with the Employer shall in addition to any criminal liability which he may incur, subject to the contractor to the cancellation of this and all other contracts with the Employer and also to the payment of any loss or damage resulting from any such cancellation. The Employer shall be entitled to deduct the amounts so payable from any money otherwise due to the contractor under this or any other contract Any Question or dispute as to the commission of any offense under the present Clause shall be settled in accordance with the law for the time being in force and applicable in India.

CLAUSE : 50 DRAWINGS AND PHOTOGRAPHS OF THE WORKS

The contractor shall not disclose of drawings furnished to him and works on which he is engaged without the prior approval of the Engineer in writing. No photograph of the works or any part thereof or plant employed thereon shall be taken or permitted by the contractor to be taken by any of his employees or any employees of his sub contractors without the prior approval of the Engineer in writing and no such photographs shall be published or otherwise circulated without the approval of the Engineer in writing.

SAFETY CODE

Suitable scaffolds should be provided for workmen for all works that can not 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)

ii) Scaffolding or staging more than 3.6 m (12 feet) above the ground or floor, swung or suspended from an overhead support of erected with stationery support shall have a guard rail properly attached or 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 with 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 fastened as to prevent it from swaying from the building or structure.

iii) 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 hoarded and should have adequate width and should be suitably fastened as described in (ii) above.

iv) Every opening in the floor of building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitably fencing or railing whose minimum height shall be 90 cm (3 feet).

v) Safe means of access shall be provided to all working platform and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m (30 feet) in length while the width between side rails rung ladder shall in no case be less than 29 cm (11-1/2") for ladder up to and including 3m (10 feet) in length. For longer ladders with width should be increased at least 1/4" for each additional 30cm (12") of length uniform step, spacing shall not exceeding 30cm (12"). Adequate precaution shall be taken to prevent danger from electrical equipment. No materials on any of the site of work shall be 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 proceeding at law that may be brought by any person 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 proceedings to any such person or which may, with the consent of the contractor, be paid to compromise any claim by any such person.

vi) Excavation & 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 30m (100 feet) in length or fraction

thereof ladder shall extend 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 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 trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.

vii) Demolition : Before demolition work is commenced and also during the process of the work:

a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.

b) 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.

c) 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.

viii) All necessary personal safety equipment as considered adequate by the Engineer 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:-

a) Workers employed on mixing asphalt materials, cement and lime mortars shall be provided with protective footwear and protective goggles.

b) Those engaged in white washing and mixing or stacking or cement bags or any materials which is injurious to the eyes shall be provided with protective goggles.

c) Those engaged in welding works shall be provided with welder's protective eye shields.

d) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

e) When workers are employed in sewers and manholes, which are in active use, the contractor shall ensure that the manhole cover are opened and 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 :-

ix (a) Entry for workers into the line shall not be allowed except under supervision of the Engineer or his authorized representative.

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 give indication of their presence.

d) Presence of oxygen should be verified by lowering a doctor 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 man 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 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 account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account 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 may decide the time up to which a workers 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. Non sparking gas engines also could be used but they should be placed at least 2 meters away from the opening and on the lowered side protected from wind so that they will not be 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 Gum boots 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 lamps before working inside the sewer lines.

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 by 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 regarding the steps in this regard to be taken in an individual case will be final.
- x) The contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever, an above the age of 18 years 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 ready made 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 scraped.
 - c) Overalls shall be supplied by the contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.
 - xi) An Additional clause (viii) (i) of NSC safety code in the contract 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:
 - (a) White lead, sulphate of lead or product containing there pigment shall not be used in painting operation except in the form of pastes or paint ready for use.
 - (b) Measures shall be taken, wherever required in order to prevent danger arising from the application of paint in the form of spray.
 - (c) Measures shall be taken wherever required, to prevent danger arising out of from the application of a paint in the form of spray.
 - (d) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
 - (e) Over all shall be worn by working painters during the whole of working period.
 - (f) Suitable arrangement shall be made to prevent clothing put off during working hours being soiled by painting materials.
 - (g) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by Competent Authority.
 - (h) Engineer may require when necessary medical examination of workers.
 - (i) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.

xii) 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.

xiii) Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions:

a. (i) These shall be of a good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept in good working order.

(ii) Every rope used in hoisting or lowering materials or as a means of suspension shall be durable quality and adequate strength, and free from patent defects.

b. 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 signal to operator.

c. 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 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.

d. In case of departmental machines, the safe working load shall be notified by the Elect/. Engineer. As regards contractor's machine the contractor shall notify the safe working load of the machine to the Engineer whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.

xiv) Motors, gearing transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safe guard. Hoisting appliances should be provided with such means as shall 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 displayed. When workers employed on electrical installations which are already energized 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.

xv) 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 near places of work.